CSCL 3172. Music as Discourse. (3 cr) Close examination of widely varying musical forms and styles, "classical" and "popular," in relation to human subjectivity and configurations of culture, ideology, and power.

CSCL 3173W. The Rhetoric of Everyday Life. (3 cr) How discourse reproduces consciousness and persuades us to accept that consciousness and the power supporting it. Literary language, advertising, electronic media, film, visual and musical arts, built environment and performance. Techniques for analyzing language, material culture, and performance.

CSCL 3174. Poetry as Cultural Critique. (3 cr) Examines the status of "poetry" in several cultures of the Americas bringing together techniques of close reading and broad cultural inquiry.


CSCL 3176. Oppositional Cinemas. (4 cr) The ways diverse national cinemas engage the international hegemony of Hollywood cinema. The cinematic struggle against imperialism and the role of race, class, and gender in the domain of international cultural production.

CSCL 3177. On Television. (4 cr) Key debates in the history, theory, and criticism of television. Focuses on critical/creative "readings" of television's past/present forms. TV's influence on film, music, and digital media.

CSCL 3179. Reading Literary Movements. (3 cr) Literary movement that emerges when a group of writers puts forth a new definition of literature. Literary movements created by scholars after the fact. Focuses on one or two related movements (e.g., surrealism and dadaism).

CSCL 3181. EAST Asian Cinemas. (4 cr) East Asian cinemas. Structure/content of films from China, Japan, Hong Kong, Taiwan, Korea, Thailand, Vietnam. Historical representation, aesthetic strategies, narrative content. Race, class, gender, revolution, colonialism.

CSCL 3321W. Theories of Culture. (3 cr) Examination of three prevalent theoretical perspectives on culture — philosophical, anthropological, and aesthetic — as they converge in the work of writers who have contributed to our contemporary conception of cultural diversity.

CSCL 3331. Science and the Humanities. (3 cr) The sciences and humanities battle over "truth" and "reality," while technology recasts the world of knowledge and work. The question of texts-as-truth also facilitates the ongoing religious attacks on science in this millenial moment.


CSCL 3412W. Psychoanalysis and Literature Part I: The Essential Freud. (3 cr) Theoretical writings of Sigmund Freud; basic concepts of psychoanalytic criticism; dream and interpretation; genre of the case study; Freud's ideas concerning the constitution of ethnicity, culture, identity, and gender; fantasy vs. reality; psychoanalysis of the author/character/culture.


CSCL 3421. Culture and the Production of Modern Identity I: 1690-1750. (3 cr) History of cultural, perceptual and/or conceptual changes in Western societies, 1600 to 1750, concerning new and conflicting understandings of the human imagination, subjectivity, identity, and the body; addressed through philosophy, literature, visual arts, music, pedagogical and medical treatises, and manners.

CSCL 3422. Culture and the Production of Modern Identity II: 1750-1900. (3 cr) History of cultural, perceptual and/or conceptual changes in Western societies, 1750 to 1900, concerning new and conflicting understandings of the human imagination, subjectivity, identity, and the body; addressed through philosophy, literature, visual arts, music, pedagogical and medical treatises, and manners.


CSCL 3459W. The Body and the Politics of Representation. (3 cr) Western representation of the human body, 1500 to present. Body's appearance as a site and sight for production of social and cultural difference (race, ethnicity, class, gender). Visual arts, literature, music, medical treatises, courtesy literature, erotica.

CSCL 3461. Monsters, Robots, Cyborgs. (3 cr) Historical/critical reading of figures (e.g., uncanny double, monstrous aberration, technological hybrid) in mythology, literature, and film, from classical epic to sci-fi, cyberpunk, and Web.

CSCL 3472. Gay Men and Homophobia in American Culture. (3 cr) The historical experience of gay men, the social construction of same-sex desire in American society since 1700, studied in a broad context of cultural history and discourse, including literature and the arts, journalism, science and medicine, religion, and law.

CSCL 3557W. Close Reading. (3 cr) History/theory of "close reading" (i.e., the most intense encounter between reader and text) exemplified through critical texts. Students perform close readings of various texts.

CSCL 3621W. Colonial and Postcolonial Literatures and Theory: 1700 to the Present. (3 cr) Readings in colonial/postcolonial literatures/ theory from at least two world regions: Africa, the Americas, the Arab world, Asia, Europe, and the Pacific. Cultural/psychological dynamics and political economy of world under empire, decolonization, pre- vs. post-coloniality, globalization.

CSCL 3631. Jewish Writers and Rebels in German, Austrian, and American Culture. (3 cr) [GER 3631, JST 3631] Pre-requisite knowledge of German required; cr toward major or minor requires reading in German; Literary/cultural modes of writing used by Jewish writers in Germany, Austria, and America to deal with problems of identity, anti-Semitism, and assimilation. Focus on 20th century. All readings (novels, poetry, stories) in English.

For definitions of course numbers, symbols, and abbreviations, see page 300.
Course Descriptions

CSCL 3771. Basic Concepts of Literary Study. (3 cr)
Concepts used when carrying out work of reading/ interpreting how analysis works: aspects of distinction between text/text/context, other concepts. How to understand/judtify literary interpretation. Course does not engage in the reading of literature.

CSCL 3910. Topics in Cultural Studies and Comparative Literature. (3 cr [max 24 cr])
Topics specified in Class Schedule.

CSCL 3910N. Topics in Cultural Studies and Comparative Literature: Honors. (3 cr [max 12 cr])
Topics specified in Class Schedule.

CSCL 3920. Topics in Cultural Studies and Comparative Literature. (2 cr [max 3 cr])
Topics specified in Class Schedule.

CSCL 3979. Issues in Cultural Pluralism. (3 cr)
Critical/comparative basis for study of racial, ethnic, and cultural communities, primarily in the U.S. Perspectives on identity, citizenship, democracy, and power.

CSCL 3993. Directed Study. (1-3 cr [max 3 cr]; Prereq – #, Δ, Δ)
Guided individual reading or study.

CSCL 4944H. Honors Thesis. (3 cr [max 33 cr]; Prereq – Candidate for magna or summa honors in CSCL, consent of CSCL honors advisor/college approval)
Magna or summa honors thesis.

CSCL 4993. Directed Study. (1-3 cr [max 6 cr]; A-F only)
Guided individual study.

CSCL 5147. Teaching as Dialogue. (3 cr)
Teaching and the teacher are the subject. Entering into dialogue is the method. Issues with the politics of teaching, the means of entering into dialogue, questions of judgment, and the idea of self-teaching as the goal of teaching.

CSCL 5154W. Theoretical Constructions of Space. (3 cr)
Inquiry into theories of space drawn from various disciplines including anthropology, architecture, geography, history, landscape design, philosophy, planning, and sociology. Focus on sociopolitical interests that are served and sustained; emphasis on opportunities and implications for personal identity.

CSCL 5256W. Suburbia. (3 cr)
Suburbia from origins in 18th-century England to the present. Historical changes and present challenges, especially in America. Ideology, mythology, planning, development, geography, transportation, the family. Specific sites and designs; representations in film, television, popular literature, and music.

CSCL 5301. Society, Ideology, and the Production of Art. (3 cr; §5255S 5301)
Recent critical theories on the relation of the arts to social and ideological forces; selected artifacts from Western culture (Renaissance to 20th century; high, popular, and mass culture). Music, visual art, literature.

CSCL 5302. Aesthetics and the Valuation of Art. (3 cr; §5255S 5302)
Society, ideology, and aesthetic value considered in light of recent critical theories of visual art, music, and literature. Meditations of place, social class, gender and ideology on aesthetic judgment in post-Renaissance Western culture.

CSCL 5331. Discourse of the Novel. (3 cr; §GL 5321)
Comparative study of the novel, 18th century to present. Its relations to ordinary language practices, emergent reading publics, technologies of cultural dissemination, problems of subjectivity, and its role in articulating various cultural relations.

CSCL 5555. Introduction to Semiotics. (3 cr; §GL 5555)
Problems of the nature of the sign; sign function; sign production; signifying systems as articulated in philosophy, linguistics, anthropology, psychoanalysis, and art theory. Application of semiotics to various signifying practices (literature, cinema, daily life).

CSCL 5711. Sociocriticism. (3 cr)
Sustained consideration of the modern tradition of sociological reflection on literature. Early and late Birmingham School, Frankfurt School, Bakhtin circle, and the various French initiatives associated with both Les Temps Modernes and Tel Quel.

CSCL 5835. Richard Wagner’s “Der Ring des Nibelungen”: Music, Myth, and Politics. (3 cr; Prereq – #)
Literary and musical analysis and historical context of the four works of Wagner’s “Ring”: Das Rheingold, Die Walküre, Siegfried, Götterdämmerung. Critical assessment of Wagner’s achievement and influence.

CSCL 5910. Topics in Cultural Studies and Comparative Literature. (3 cr [max 24 cr])
Topics specified in Class Schedule.

CSCL 5993. Directed Study. (1-3 cr [max 9 cr]; Prereq – #, Δ, Δ)
Guided individual reading or study.

Curriculum and Instruction (CI)

Department of Curriculum and Instruction

College of Education and Human Development

CI 1001. Introduction to the Elementary School. (3 cr; A-F only)
Three modules focus on important aspects of contemporary urban elementary school teaching: the principal’s role, the teacher’s role, and the students. Central to each module are school-based visits, observations, and interviews.

CI 3401. Children’s Literature: Pre-K Through Grade 5. (3 cr; A-F only; Prereq – 1010)
Introduction to children’s literature as field of study and as part of pre-K through elementary school curriculum. Classic and recently published books in all genres. Research in children’s reading interests/reactions to literature. Methods of implementing literature-based instruction/assessment.

CI 5111. Introduction to Elementary School Teaching. (3 cr; A-F only; Prereq – Foundations of ed major or elem ed initial lic)
Curriculum organization, instruction, management, assessment, professional decision making.

CI 5181. Clinical Experience in Elementary School Teaching. (3-8 cr [max 16 cr]; S-N only; Prereq – Foundations of education and elem ed initial licensure only)
Students spend full days in the elementary classroom gradually assuming responsibility for teaching the class. Students prepare a portfolio based on criteria given. One seminar per week.

CI 5401. Literature for the Elementary School. (3 cr; A-F only; Prereq – Children’s lit course or #)

CI 5451. Literacy Development in the Primary Grades. (2 cr; A-F only; Prereq – Elem teaching exp or #)
Theory/practice of integrated teaching of reading, literature, writing, and language in primary classroom settings. Uses national/state language arts standards and assessment protocols to examine primary literacy curricula.

CI 5504. Elementary School Science: Materials and Resources. (3 cr; Prereq – Elem teaching exp or #)
Examination of the teacher’s role in inquiry teaching; the current science curriculum; and resources for teaching science in the elementary school.

CI 5701. Teaching Social Studies in the Elementary School. (2 cr; A-F only; Prereq – 5111 or equiv, elem ed initial licensure only)
Content and organization of elementary social studies programs; programs of understanding, improving the learning situation, and effective use of materials.

CI 5821. Teaching Mathematics in the Elementary School. (2 cr; A-F only; Prereq – Elem ed initial licensure only)
Principles of learning pertinent to the modern program of mathematics in elementary grades. Objectives, content, philosophy, instructional materials, and methods of instruction and evaluation.

Dance (DNCE)

Department of Theatre Arts and Dance

College of Liberal Arts

DNCE 1001. Modern Dance Technique 1. (1 cr)
Expressive body movement: alignment, proprioceptiveness, body mechanics, weight, momentum, line, and intent.

DNCE 1002. Modern Dance Technique 2. (1 cr; Prereq – 1001, A)
Continuation of 1001. Expressive body movement: alignment, proprioceptiveness, body mechanics, weight, momentum, line, and intent.

DNCE 1010. Modern Dance Technique 3. (2 cr [max 4 cr]; Prereq – #)
Continuation of physical training. Theory of space, time, and energy. Correct placement, power from pelvic center, rotation/turnout, muscular tonality, articulation of joints, clarity of emotional intent, physical stretch, strength, and stamina.

DNCE 1020. Modern Dance Technique 4. (2 cr [max 4 cr]; Prereq – 1010, A)
Continuation of 1010. Correct placement, power from pelvic center, rotation/turnout, muscular tonality, articulation of joints, clarity of emotional intent, physical stretch, strength, and stamina.

DNCE 1101. Ballet Technique 1. (1 cr)
Principles, basic technique, and vocabulary of ballet; barre, center, and allegro.

DNCE 1102. Ballet Technique 2. (1 cr; Prereq – 1101, A)
Continuation of 1101. Principles, basic technique, and vocabulary of ballet; barre, center, and allegro.

DNCE 1110. Ballet Technique 3. (2 cr [max 4 cr]; Prereq – #)
Continuation of ballet training. Correct placement, line and historical development; barre, center, and allegro.

DNCE 1120. Ballet Technique 4. (2 cr [max 4 cr]; Prereq – 1110, A)
Continuation 1110. Ballet training; correct placement, line and historical development. Barre, center, and allegro.

DNCE 1201. Jazz Technique 1. (1 cr)
Jazz dance technique and its origins. Warm-up, center-floor work, and across-the-floor combinations.

DNCE 1202. Jazz Technique 2. (1 cr; Prereq – 1201, A)
Continuation of 1201. Jazz dance technique and its origins. Warm-up, center-floor work, and across-the-floor combinations.

DNCE 1210. Jazz Technique 3. (1 cr [max 2 cr]; Prereq – #)
Jazz technique. Body isolations, placement, and musicality.

DNCE 1220. Jazz Technique 4. (1 cr [max 2 cr]; Prereq – 1210, A)
Continuation of 1210. Jazz technique; body isolations, placement, and musicality.

DNCE 1301. Tap Technique 1. (1 cr)
Learning fundamental terms, basic rhythm structures, stock steps, and standard time steps.

DNCE 1302. Tap Technique 2. (1 cr; Prereq – 1301 or #)
Fundamental terms, basic rhythms and syncopation, stock steps, and standard time steps; clarity of sound and rhythm.

DNCE 1311. International Folk Dance 1. (1 cr)
Basic folk steps including the schottische, polka, waltz, and grapevine; technical emphasis on footwork and partnering.
DNCE 1312. International Folk Dance 2. (1 cr. Prereq–1311, A) Continuation of 1311. Basic folk steps including the schottis,有问题的单词/短语，需要技术性脚注；技术性脚注包括；技术性脚注包括；技术性脚注包括。

DNCE 1313. African Based Movement. (1 cr) Varied movement of African diaspora, primarily but not limited to West African region and continent of Africa. Traditional movement. Movement inspired by Africa, the Caribbean, and African diaspora at large. In-class movement participation, one movement midterm, one two-page paper.

DNCE 1315. Flamenco. (1 cr) Basic terminology and movement styles of Spanish Flamenco dance technique. Focuses on arm movements and footwork. Basic choreography. One class period is devoted to viewing videos of traditional Flamenco dance.


DNCE 1321. Ballroom 1. (1 cr) Principles of partnering, elementary steps of the foxtrot, waltz, tango, cha-cha, rumba, and tango.


DNCE 1323. Swing Dance. (1 cr) Traditional swing dances popular in the United States from 1930s through early 1960s. Each week new movements/figures are taught and previous dances reviewed. Students are expected to change partners.

DNCE 1325. Latin Dance. (1 cr) Basic vocabulary, lead/follow techniques of most popular Latin social dance styles. Salsa, Cha-Cha, Rumba, Merengue. First half of class focuses on basic footwork/partnering; second half focuses on rhythm and musical styling.


DNCE 1349. Contact Improvisation. (1 cr) Safe, clinical introduction to principles of contact improvisation. Rolling point of contact, supporting/being supported, falling/recovering, connecting with center as source/support for movement. Classes include warm-up.

DNCE 1362. Dance for Musical Theatre. (2 cr; A-F only. STH 1382) Movement based lab. Dance skills in musical theatre performance. Focuses on various styles/disciplines of dance throughout its culturally diverse heritage. Character development necessary to execution of various dance styles.


DNCE 1402. Dance History. (3 cr. Prereq–1401) “Way of knowing” in dance history by reading the works of critics, historians, and philosophers who address questions of nature of dance.

DNCE 1500. Topics in Dance. (1-3 cr [max 10 cr]) Topics specified in Class Schedule.

DNCE 1601. Dance Improvisation. (1 cr; A-F only. Prereq– Concurrent registration in a modern dance technique course, A) Individual ways of moving linked to fundamental elements of dance: time, space, and energy. Metered time, musical phrasing. Movement speed, shape, and quality. Creative process, individual movement vocabulary, structural devices in dance.

DNCE 1626. Music for Dance. (3 cr. Prereq–A) Elements of music theory, form, analysis, and history necessary for the potential dancer, choreographer, and musician to better understand each art.

DNCE 3010. Modern Dance Technique 5. (2 cr [max 4 cr]. Prereq–A; audit registration not permitted) Application of principles of space, time, energy. Alignment, power from pelvic center, rotation/turnout, muscular tonality, joint articulation, clarity of intent, stretch, strength, stamina.


DNCE 3210. Jazz Technique 5. (1 cr [max 2 cr. Prereq–A; audit registration not permitted) Continuation of jazz technique. Rhythm structures, longer phrases, greater physical speed, attack/control.


DNCE 3301. Tap Technique 3. (1 cr. Prereq–1302 or #) Tap techniques and creative development through improvisational studies.

DNCE 3302. Tap Technique 4. (1 cr. Prereq–3301 or #) Tap techniques and rhythm structures.

DNCE 3337. Body Mind Centering. (2 cr) Improvisational movement explorations, hands-on re-patterning work. Direct experience of the way mind (desire, attention, intention) is expressed through various body systems. Students use imagery, touch, and anatomical information to access a range of inner sensations and movement experiences. Emphasizes each individual’s unique experience of the body.

DNCE 3401W. Dance History 1. (3 cr) History/theory of dance in varied forms/aspects. From origins of dance as movement-form, through early Renaissance. First half of year-long survey.


DNCE 3487W. Ethnic Dance Traditions in American Society. (3 cr) Traditional dances as preserved and transformed by Native Americans, African-Americans, Latinos, Asian-Americans, and European-Americans in the United States. Interpretation of roles of dance in these cultures.

DNCE 3488W. Dance as Cultural Practice. (3 cr) Study of dance as art, ritual, social activity, and entertainment in selected cultures of Asia, Africa, Eastern Europe, the Middle East, and the Americas.

DNCE 3500. Topics in Dance. (1-3 cr [max 10 cr]) Topics specified in Class Schedule.

DNCE 3601. Dance Composition 1. (3 cr Prereq–1200, 1601, concurrent regis in a modern dance technique course, A) Movement, vocabulary in relation to theme, space, time, energy, and body parts; solo, duet, and trio forms.

DNCE 3602. Dance Composition 2. (3 cr. Prereq–3601, A; concurrent regis in a modern dance technique course) Movement, vocabulary in relation to theme, space, time, energy, and body parts. Solo, duet, and trio forms.


DNCE 3622. Dance Production II. (2 cr. A-F only. Prereq–3621, dance major, A) Continuation of 3621. Students produce the spring Student Dance Concert.

DNCE 3700. Performance. (1 cr [max 4 cr. Prereq–Concurrent enrollment in a technique course, audition, A) Creation or reconstruction of a dance theatre work under the direction of a guest artist or faculty member. Work is performed at the end of the rehearsal period.


DNCE 4443. Philosophy and Aesthetics. (3 cr. Prereq–3402–4302) Major developments in Western philosophical thought on dance and dance theory from its beginnings to the present.

DNCE 445W. (Re)Writing the Dancing Body. (3 cr) Movement of verbal expression best capture the meaning created by primarily non-verbal artistic forms. Chapters from text and issues are discussed/debated in class. Writing during every class period.

DNCE 4601. Dance Composition 3. (3 cr. Prereq–3602, concurrent regis in a modern dance technique course, A) Continuation of movement vocabulary through improvisation, analysis of form and structure, experimentation with tone and performance persona. Effects of lights/costumes/text/props/music; development of larger ensemble works.
Course Descriptions


DNCE 4901. Senior Seminar. (2 cr; S-N only. §TH 4901. Prereq—DNCE or TH major; offered fall semester only) Development of senior project, alone or in groups, under guidance of faculty members.

DNCE 5010. Modern Dance Technique 7. (2 cr [max 4 cr]) Prereq—A; audit registration not permitted) Continuation of technical development. Performance range/style. Students study with various guest artists.


DNCE 5337. Body-Mind Centering II. (2 cr. Prereq—[3337 or equal]) Embodied consciousness. How knowledge is created. How mind/body are indissolubly linked. How body gives rise to states of consciousness that influence and often unconsciously control opinions, feelings, thoughts, and actions.

DNCE 5500. Topics in Dance. (1-3 cr [max 10 cr]) Topics specified in Class Schedule.


DNCE 5700. Performance. (1 cr [max 4 cr]) Prereq—[technique course, A] Technique, improvisation, choreography, music, design, and technical production as they relate to dance performance.

DNCE 5858. Teaching Dance. (4 cr. Prereq—1020, A, #) Methods, principles, and techniques of teaching dance.

DNCE 5970. Directed Studies. (1-4 cr [max 10 cr] Prereq—#, A, #) Guided individual study.

Danish (DAN)

Department of German, Scandinavian, and Dutch College of Liberal Arts

DAN 1001. Beginning Danish. (5 cr. §DAN 4001) Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.).

DAN 1002. Beginning Danish. (5 cr. §DAN 4002. Prereq—1001) Continues the presentation of all four language modalities (listening, reading, speaking, writing), with a proficiency emphasis. Topics include free-time activities, careers, and the Danish culture.

DAN 1003. Intermediate Danish. (5 cr §DAN 4003. Prereq—1002) Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments.

DAN 1004. Intermediate Danish. (5 cr §DAN 4004. Prereq—1003) Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments.


DAN 4001. Beginning Danish. (2 cr. §DAN 4001. Prereq—1004 in another language or passing score on LPE or grad student) Meets concurrently with 1001. See 1001 for course description.

DAN 4002. Beginning Danish. (2 cr. §DAN 4002. Prereq—1004 in another language or passing score on LPE or grad student) Meets concurrently with 1002. See 1002 for course description.

DAN 4003. Intermediate Danish. (2 cr §DAN 4003. Prereq—1004 in another language or passing score on LPE or grad student) Meets concurrently with 1003. See 1003 for description.

DAN 4004. Intermediate Danish. (2 cr §DAN 4004. Prereq—1004 in another language or passing score on LPE or grad student) Meets concurrently with 1004. See 1004 for course description.

Dental Hygiene (DH)

Preventive Sciences

School of Dentistry

DH 1191. Dental Hygiene Care Process. (6 cr; A-F only. Prereq—DH student) Assessment principles related to medical and oral health status, dental hygiene clinical procedures, and development of instrumentation and hypertension screening skills.

DH 1203. Dental Specialties. (2 cr; S-N only. Prereq—DH student) Various dental specialties and the dental hygienist’s role in services provided.

DH 2111. Dental Anatomy. (2 cr; A-F only. Prereq—DH student) All deciduous and permanent teeth, including tooth form, function, and relationship to oral health. Calcification, eruption, and exfoliation patterns. Ideal static occlusion, dental terminology, and tooth annotation systems. Lab includes identification/ annotation of teeth and restoration, in wax, of portions of a typodont tooth.

DH 2121. The Dental Hygiene Care Process Clinical Application I. (5 cr; A-F only. Prereq—DH student) Dental hygiene care process, assessment principles related to medical and oral health status, dental hygiene clinical procedures, and development of instrumentation skills.

DH 2132. Head and Neck Anatomy. (1 cr; A-F only. Prereq—DH student) Anatomical structures of head/neck as they relate to practice of dental hygiene.

DH 2191. Independent Study. (0-6 cr [max 6 cr]. Prereq—DH student) Individually arranged study, instruction, or research with faculty to meet student needs/interests.


DH 2212. Dental Hygienist-Patient Relationship. (2 cr; A-F only. Prereq—DH student) Use of clinical research and evidence-based clinical decision making when communicating scientifically based clinical therapy and treatment modalities. Promotion of active participation by patient in clinical decision making.


DH 2233. Dental Hygiene Care Process: Clinical Application. (1 cr; S-N only. Prereq—DH student) Clinical experience in dental hygiene patient care.


Students participate in educational/clinical experiences with diverse patient populations in community outreach clinics.

DH 3225. Extramural Clinical Dental Hygiene. (0-6 cr; max 6 cr; S-N only. §DENT 6434. Prereq–DH student)
Small class discussions with senior dental and senior dental hygiene students. Integration of more advanced clinical procedures into patient care. Development of principles of patient management, practice management, and dental marketing. Development of a philosophy of practice. Mentoring the transition from dental and dental hygiene school to practice/ planning for lifelong learning.

DH 4227. Advanced Dental Hygiene Clinical Experience I. (0-6 cr; max 6 cr; Prereq–DH student)
Development of skills in ultrasonic scaling/ assessment, treatment planning, documentation, implementation/evaluation of dental hygiene care.

DH 4228. Advanced Dental Hygiene Clinical Experience II. (0-6 cr; max 6 cr; Prereq–DH student)
Development of skills in ultrasonic scaling/ assessment, treatment planning, documentation, implementation/evaluation of dental hygiene care.

DH 4229. Oral and Maxillofacial Radiology Clinic IV. (3 cr; A-F only. Prereq–DH student)
Exposing patient radiographs, interpretation, panoramic/extraradical technique, quality assurance procedures.

DH 4231. Periodontology III Lecture. (1 cr; A-F only. §DENT 6613. Prereq–DH student)
Clinical procedures associated with surgical phase of periodontal therapy. Evaluation of periodontal treatment, maintenance phase, and relationship between periodontics and other dentistry disciplines. Roles of clinical research in periodontics.

DH 4232. Community Outreach. (1 cr; S-N only. Prereq–DH student)
Dental hygiene education in various community settings.

DH 4233. Legislative, Social, Economic, and Practice Factors in Oral Health. (2 cr; A-F only. Prereq–DH student)
Current status/trends in dentistry in relation to health care promotion, regulation, and delivery and political/litigious process.

DH 4238. Patient Care Group IV. (1 cr; S-N only. §DENT 6635. Prereq–DH student)
Small class discussions with senior dental and senior dental hygiene students. Integration of more advanced clinical procedures into patient care. Advanced principles of patient management, practice management, and dental marketing. Development of a philosophy of practice. Mentoring the transition from dental and dental hygiene school to practice/ planning for lifelong learning.

DH 4241. Extramural Clinical Dental Hygiene. (0-6 cr; max 6 cr; A-F only. Prereq–DH student)
Students participate in educational/clinical experiences with diverse patient populations in community outreach clinics.

DH 4242. Extramural Clinical Dental Hygiene. (0-6 cr; max 6 cr; A-F only. Prereq–DH student)
Students participate in educational/clinical experiences with diverse patient populations in community outreach clinics.

DH 4292. Curriculum Development in Dental Hygiene. (3 cr)

DH 4293. Course Development in Dental Hygiene. (0-4 cr; max 4 cr; A-F only)
Principles/practice of course development, testing, and evaluation.

DH 4294W Directed Research. (0-4 cr [max 4 cr])
Critical literature review and/or individual empirical research project leading to a written report, and/or intensive observation/participation in the clinical research center.

DH 4295. Instructional Methods in Dental Hygiene. (0-4 cr; max 4 cr; A-F only)
Application of principles of learning, learning styles, teaching styles, and instructional methods. Microteaching of selected instructional skills.

DH 4296. Issues in Dental Hygiene. (0-3 cr; max 3 cr; A-F only)
Design Institute (DESI)

College of Design

DESI 3010. Travels in Typography: Design Institute Seminar. (3 cr; A-F only)
Using collection in James Ford Bell Library, students study rare book/map collections and undertake hands-on exercises on history of type, including developments in typesetting, calligraphy, and letterpress printing.

DESI 3040. Introduction to Furniture Design: Design Institute Case Study Seminar. (3 cr; A-F only. Prereq–Design minor or #)
Furniture design as discipline, not as method. Material, sensual, and aesthetic, both sublime and mundane. Objects that mediate our environment. History, design criteria, technology, craft. Group case-study, research presentation, individual making/presenting of a concept-prototype.

DESI 3050. Streetlife Urban Design Seminar. (3 cr; A-F only)
The street as part of network of urban systems/fragments: sidewalks, private interiors, curbs, terraces, boulevards, parking lots, bus stops, public institutions, urban architectures, utility lines, storm/ sewer systems, groundwater, satellite communication systems, gardens, and lighting. Readings in urban studies, geography, design, economics and art history. Students review case studies, envision possible transformations of streets/streetlife.

DESI 4001. Design Minor Seminar. (3 cr; A-F only. Prereq–Design minor)
Students share ideas/conclusions with one another and create a summary statement (eg., document, multimedia display, designed object) of a significant learning insight.

DESI 4002. Design Institute Seminar: Topics. (3 cr [max 6 cr]; A-F only)
Offerings vary. See Design Institute for descriptions.

DESI 4050. Design Institute Seminar: Mapcity. (3 cr [max 6 cr]; A-F only. Prereq–Design minor or #)
Develops alternative cartography that reveals the city in ways conventional maps don’t. Classic texts explore urban representation and more recent material in cartographic criticism. Student mapping projects include producing a map of Twin Cities, alternative city atlas, and (as part of competition in conjunction with Twin Cities Design Celebration) wearable cartography. Readings, quizzes, projects presented in class.

DESI 5100. Design Institute Directed Study. (1-3 cr [max 9 cr]; A-F only)
Guided independent study in design.

Design, Housing, and Apparel (DHA)

Department of Design, Housing, and Apparel

College of Design

DHA 1100H. First Year Honors Colloquium. (1-2 cr [max 4 cr]; A-F only. Prereq–Honors)
Diverse ways of knowing about world, fields of study organized to understand human environment, their place within academic/career pathways that cross within intellectual traditions/professional fields.

DHA 1101V. Honors: Introduction to Design Thinking. (4 cr)
Theories/processes that underpin design thinking. Interactions between humans and their natural, social, and designed environments where purposeful design helps determine quality of interaction. Design professions.

DHA 1101W. Introduction to Design Thinking. (4 cr; A-F only. Prereq–1101V)
Theories/processes that underpin design thinking. Interactions between humans and their natural, social, and designed environments where purposeful design helps determine quality of interaction. Design professions.

DHA 1170. Special Topics in Design, Housing, and Apparel. (1-4 cr [max 16 cr]; A-F only)
In-depth investigation of specific topic, announced in advance.

DHA 1171. Freshman Seminar in Design, Housing, and Apparel. (1-3 cr [max 4 cr]; A-F only. Prereq–Fr)
Topic in design, housing, or apparel. Small-group seminar.

DHA 1201. Clothing Design, Merchandising, and the Consumer. (3 cr; A-F only)
An orientation to the apparel business covering the multiple steps in the process of creating and merchandising apparel, and the ethical positions reflected in decision making at each step.

DHA 1221. Clothing Assembly Fundamentals. (3 cr; A-F only. Prereq–Pre-clothing design major or #)
Methods/applications of clothing assembly, from micro to macro perspective.

DHA 1311. Foundations: Drawing and Design in Two and Three Dimensions. (4 cr; A-F only. Prereq–DHA major or pre-major)
Design elements/principles in context of observational drawing. Integrative approach to two-dimensional design, three-dimensional design, and drawing. Broad conceptual framework for design exploration. Emphasizes perceptual aspects of visual forms.

DHA 1312. Foundations: Color and Design in Two and Three Dimensions. (4 cr; A-F only. Prereq–DHA major or pre-major)
Color theory and its application in two- and three-dimensional design. Emphasizes effective use of color by studying traditional color systems, perception, and interaction. Lectures, demonstrations, extensive studio work, critiques.

DHA 1315. Foundations: The Graphic Studio. (4 cr; A-F only. Prereq–DHA major or pre-major or #)
Graphical design process. Creative procedure, terminology, typesetting, computer applications. Digital illustration, page layouts, image scanning/ manipulation.

DHA 1601. Interior Design Studio I. (4 cr; A-F only. Prereq–DHA-pre-major or #)
Theories used to solve interior design problems related to human behavior. Design process, Communication skills that are required for interior design profession.

DHA 1602. Interior Design Studio II. (4 cr; A-F only. Prereq–[DHA-pre-major], 1601 with grade of at least C)
Introduction to interior design programming as method for understanding behaviors(requirements of humans in spaces. Use of color in three-dimensional environments. Developing communication skills. Problem-solving.

DHA 1905. Freshman Seminar. (1-3 cr [max 6 cr]; A-F only. Prereq–Fr)
Special topics. Topics vary by term. See Class Schedule.

DHA 2100H. Freshman/Sophomore Honors Colloquium. (2 cr [max 4 cr]; A-F only. Prereq–[Fr or soph], honors)
Special Topics. Topics vary by term. See Class Schedule.

DHA 2211. Illustration for Clothing Design. (2 cr; A-F only. Prereq–Pass portfolio review or #)
Development of illustration skills specific to garments/textiles. Exploration of various traditional media/CAD applications. Critique/analysis of visual communication of clothing design concepts.

DHA 2213. Textile Analysis. (4 cr; A-F only. Prereq–DHA major or pre-major or #)
Physical, chemical, and biological characteristics of fibers, yarns, textile structures, and finishes. Their effect on performance/appearance of textile products, including clothing, interior, and industrial textiles.

DHA 2214. Softline Analysis. (3 cr; A-F only. Prereq–2213)
Physical characteristics of softline products related to function for target market. Class experiences based on methods of analysis, including visual inspection, quality, construction, costing, and fit-sizing.

DHA 2221. Clothing Design Studio I. (4 cr; A-F only. Prereq–1211, 1201 [2211 or pass sewing proficiency exam], DHA major or pre-major)
Theories/methods in designing clothing for various user groups. Relation of a 2-dimensional pattern shape to a 3-dimensional body. Introduction to flat-pattern draping.

DHA 2222. Clothing Design Studio II. (4 cr; A-F only. Prereq–2221 with a grade of at least C, DHA major, pass portfolio review)
Design process in developing clothing for a specific user group. Advanced principles/methods of developing patterns for the body, including advanced flat pattern, draping, fitting. Computer aided design tools for illustration, patternmaking.

DHA 2311. Drawing and Illustration. (3 cr; A-F only. Prereq–1311, 1312, DHA major or pre-major)
Advanced drawing skills. Illustration concepts/techniques. Illustration assignments for concepts, stories, and ideas.

DHA 2334. Computer Applications I: Digital Composition for Design. (3 cr; A-F only. Prereq–DHA major or pre-major, 1311, 1312, 1315)
Composition of visual elements in electronic realm. Use of computer to design for traditional media, digital environments.

DHA 2345. Typographic Design. (3 cr; A-F only. Prereq–DHA major, pass portfolio review)
History of typographic forms, principles of composition, expressive potential of type. Design process from problem-solving through exploration, experimentation, selection, critique, and refinement. Readings, research, exercises, design production.

DHA 2351. Graphic Design I: Text and Image. (3 cr; A-F only. Prereq–2345, DHA major, pass portfolio review)
Composition of visual information using grid structures to integrate text/image. Informational/ expressive aspects of graphic design, hierarchical relationships of text elements. Methods of text layout that enhance communication.

DHA 2385W. Design and Factors of Human Perception. (4 cr; A-F only. Prereq–DHA major, pass portfolio review)
Introduction to human-factor variables of design. Color perception, type legibility, and other aspects of the human interface with designed objects. Students develop design prototypes. Methods to evaluate effectiveness of designed projects.

DHA 2401. Introduction to Housing. (3 cr; A-F only)
Physical, social, economic, psychological aspects of housing design/construction. Housing as process/product in context of the individual, the family, the community. Effects of federal, state, local governmental policies, economic trends.

DHA 2402. Residential Technology. (3 cr; A-F only)
Survey of technological systems in housing. Emphasizes conservation/reservation of natural resources and energy sources. Human factor considerations in kitchen design.

DHA 2463. Housing and Community Development. (3 cr; A-F only)
Meaning/significance of neighborhood/community, residential neighborhood planning, impact of housing on neighborhood conditions. Gentrification, displacement, racial segregation, suburbanization, community-based revitalization.


For definitions of course numbers, symbols, and abbreviations, see page 300.
DHA 4345. Advanced Typographic Design. (4 cr; A-F only. Prereq–2251, DHA major or grad student or #) Expression of visual communication of words. Fundamental legibility of “invisible art,” overt expression through type. Students complete extended typographic project.

DHA 4351. Design Process: Photography. (3 cr; A-F only. Prereq–1311, 1312, DHA major or grad or pre-major) Relationship between photography, design projects. Composition, developing of film, printing.


DHA 4354. Graphic Design IV: Integrative Campaigns. (4 cr; A-F only. Prereq–3353, DHA major) Multi-faceted graphic communication campaign project involving substantial investigation and concept development. Project supports a unified concept for an identified client and is aimed at a specific market or interest group.

DHA 4355. Graphic Design Portfolio. (2 cr; S-N only. Prereq–[4353 or 4365], DHA major) Preparation of professional portfolio. Discussion of professional issues.

DHA 4356W. Graphic Design Senior Seminar. (4 cr; A-F only. Prereq–4354, DHA major) Students complete senior research/design project involving social, conceptual, and technical aspects. Capstone course.

DHA 4461. Housing Development and Management. (3 cr; A-F only. Prereq–[2401, 2402, 2463] or grad student or #) Housing development process/financing. Management of multifamily housing. Emphasizes housing for low-income families and special populations (e.g., elderly residents).

DHA 4465. Housing in a Global Perspective. (3 cr; A-F only. Prereq–[2401, 2463] or grad student or #) Housing, its relationship to global patterns of social/economic development examined in comparative framework. Emphasizes housing low income populations in rapidly growing cities of developing countries.

DHA 4607. Interior Design Studio VII. (4 cr; A-F only. Prereq–3600 with grade of at least C-. 3614, DHA major) Advanced interior design problems dealing with large space scales. Historical precedent, adaptive reuse, renovation.

DHA 4608. Interior Design Thesis. (4 cr; A-F only. Prereq–4615W with grade of at least C-. DHA major) Comprehensive independent interior design project developed from student-conducted research/program developed in 4615W.

DHA 4615W. Interior Design Research. (2 cr; A-F only. Prereq–[4607 or 44607], DHA major) Research methods for programming interior design solutions. Developing a comprehensive program. Issues that affect interior design research/practices.

DHA 5111. History of Decorative Arts. (4 cr; A-F only. Prereq–quantity varies by survey course or #) In depth study of textiles, ceramics, metal, and glass from selected historical periods. Focus on the Goldstein Gallery collections.


DHA 5170. Special Topics in Design, Housing, and Apparel. (1-4 cr [max 8 cr]; A-F only) In-depth investigation of a single specific topic, announced in advance.

DHA 5185. Human Factors in Design. (3 cr. Prereq–Grad student or sr or #) Theories/methods that influence the assessment of physical, social, and psychological human factors. Development of user needs with application to designed products that interact with human body.

DHA 5193. Directed Study in Design, Housing, and Apparel. (1-4 cr [max 4 cr]; A-F only. Prereq–#) Independent study in design, housing, and apparel under tutorial guidance.

DHA 5196. Field Study: National/International. (1-10 cr [max 10 cr]; A-F only) Faculty-directed field study in a national or international setting.

DHA 5215. Product Development: Softlines. (4 cr; A-F only. Prereq–[2213] or clothing design major or retail merchandising major or grad student or #) Product development for apparel and other sewn products. Developing products in a laboratory studio setting for effectiveness, reliability, and marketability. Team approach using merchandising and design principles to develop products for specific markets.

DHA 5216. Retail Promotion and Consumer Decision Making. (4 cr; A-F only. Prereq–[1201, 2213], [jr or sr or grad student]).DHA major or minor] or A) Consumer behavior concepts as related to apparel. Application to understanding/developing retail promotional strategies: advertising/promotion.

DHA 5341. Interactive Design I. (3 cr; A-F only. Prereq–[4334], [DHA major or grad student], pass portfolio review or #) Design of interactive multi-media projects. Experience developing interactive presentations and electronic publishing. Software includes hypermedia, scripting, digital output.

DHA 5342. Interactive Design 2: Interface Design. (3 cr; A-F only. Prereq–[4384 or 5341], [DHA major or grad student] or #) Introduction to design/usability of interface between humans and technology. Evaluation of visual elements that control/organize dealings with computers that are used to direct work. Students develop designs, evaluate their effectiveness through usability testing.

DHA 5382. Digital Sound and Video. (3 cr; A-F only. Prereq–[5384 or 5341], [DHA major or grad student] or #) Design solutions involving time-based media. Emphasizes sound/video. Electronic publishing via Internet.

DHA 5383. Digital Illustration and Animation. (4 cr; A-F only. Prereq–[5384 or 5341], [DHA major or DHA grad student], [jr or sr or grad student] or #) Advanced computer design. Focuses on integration of design knowledge with Macintosh computer applications. Students use software to create digital illustrations. 2D/3D digital animations. Technical/aesthetic investigation of processes inherent to 2D/3D motion graphics. Adobe Illustrator, After Effects, Macromedia Flash, 3D animation software.

DHA 5386. Fundamentals of Game Design. (3 cr; A-F only. Prereq–[2401 or 2463], DHA major, [jr or senior or grad student] or #) Games of all kinds. Theoretical/practical aspects of making games. Investigation of design process. Rules, strategies, methodologies. Analysis of interactivity, choice, action, outcome, rules in game design. Social interaction, story telling, meaning/ideology, semiotics. Signs and cultural meaning.

DHA 5388. Design Planning, Analysis, and Evaluation. (3 cr; A-F only. Prereq–[4354, DHA major] or grad or #) Preliminary research, including theoretical, applied, and legal aspects. Planning/design/methodologies. Design prototyping, testing, and analysis.

DHA 5399W. Theory of Electronic Design. (3 cr; A-F only. Prereq–[DHA major, sr or grad student or #, offered alternate yrs] Theories, methodologies, histories of electronic design, its impact on visual communications. Digital artifacts, processes, paradigms.

DHA 5463. Housing Policy. (3 cr; A-F only. Prereq–2401, 2463 or #) Explore the institutional and environmental settings that make up housing policy in the United States. Examine competing ideas about solving the nation’s housing problems through public intervention in the market. Federal and local public sector responses to housing problems will be evaluated.

DHA 5467W. Housing and the Social Environment. (4 cr; A-F only. Prereq–[2401 or #) Housing choices in context of social environment. Emphasizes special needs of elderly, disabled, minorities, large families, female-headed households, and low-income households. Students conduct a post-occupancy evaluation of housing.

DHA 5469. Understanding Housing: Assessment and Analysis. (3 cr; A-F only. Prereq–[2401, 2463] or #) How to formulate housing research problems and analyze/present information about housing characteristics/conditions. Students develop housing-related research/grant proposals, use/design cartographic/graphic information about housing, and give a presentation on a research project.

DHA 5471. Housing Studies Certificate Seminar. (2 cr; A-F only. Prereq–Admitted to Housing Studies Certificate Program Integrative seminar and “capstone” to Certificate program. Students prepare an individual career plan that focuses on application of housing studies to community/workplace.

DHA 5481. Housing for the Elderly and Special Populations. (3 cr; A-F only. Prereq–[2401, [jr or sr or grad student] or #) Introduction to changing housing needs of individuals/families across life span. Emphasizes housing needs of children, older adults, and persons with disabilities.

DHA 5484. Housing Issues. (3 cr; A-F only. Prereq–[2401, 2463] or #) Housing issues in nonmetropolitan areas. The housing concerns of specific rural populations (e.g., low income, elderly persons, American Indians, migrant workers) are identified and comparisons with urban housing issues are made.

**Dutch (DTCH)**

**Department of German, Scandinavian, and Dutch College of Liberal Arts**

**DTCH 1001. Beginning Dutch. (5 cr. §DTCH 4001)** Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.).

**DTCH 1002. Beginning Dutch. (5 cr. §DTCH 4002. Prereq–1001)** Continues the presentation of all four language modalities (listening, reading, speaking, writing), with a proficiency emphasis. Topics include free-time activities, careers, and Dutch culture.

**DTCH 1003. Intermediate Dutch. (6 cr. §DTCH 4003. Prereq–1002)** Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments.

**DTCH 1004. Intermediate Dutch. (6 cr. §DTCH 4004. Prereq–1003)** Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments.
EAS 3013. Introduction to East Asian Art. (3 cr. §HIST 3013)
A selective examination of representative works of art produced in China, Korea, and Japan from the neolithic era to modern times. Nearly every major type of object and all major styles are represented.

EAS 3211. East Asia I. (3 cr. §EAS 3211, GEOG 3211, GEOG 3215, GEOG 5211, GEOG 5215)
Physical and human geography of Japan, mainland China and Taiwan, North and South Korea; population pressure, economic and urban development, and international relations.

EAS 3461. Introduction to East Asia I: The Imperial Age. (4 cr. §HIST 3461)
Comparative survey of early history of China, Japan, Korea, and Vietnam; early Chinese thought; diffusion of Confucianism, Buddhism, and other values throughout East Asia; political and social history of region to 1600.

EAS 3462. Introduction to East Asia II: 1600-2000. (3-4 cr. §HIST 3462)
Formation/decline of early modern Asian empires. Western imperialism and Asian nationalism. Social revolution, economic modernization, and cultural change in China, Japan, Korea, and Vietnam.

EAS 3464. China in the Song, Yuan, and Ming Dynasties. (3 cr. §HIST 3464, HIST 5464)
China during the Song (976-1279), Yuan (1279-1368) and Ming (1368-1644) dynasties, political institutions and social structures. Attention to primary sources and how historians ask and answer questions about the past.

EAS 3465W. China in the Ming and Qing Dynasties. (3 cr. §HIST 3465W, HIST 5465)
The political and social history of China from about 1600 until the end of the Qing dynasty in 1911. Topics include ethnicity, daily life, legal structures, city life, and peasantry.

EAS 3510. Topics in Dutch Culture. (3 cr. §HIST 3510)
In-depth study of authors or topics from various periods in Dutch literature (e.g., 19th-century Dutch novels, colonial novels, literature of Golden Age).

EAS 3510. Topics in Dutch Culture. (3 cr. §HIST 3510)
In-depth study of authors or topics from various periods in Dutch literature (e.g., 19th-century Dutch novels, colonial novels, literature of Golden Age).

EAS 3610. Dutch Literature in Translation. (3 cr. §HIST 3610)
Translations in or study of Dutch literature. All primary/secondary literature is read in English translation.

EAS 3693. Directed Studies. (1-5 cr. §HIST 3693)
Guided reading in or study of Dutch literature, culture, or advanced language skills.

DTCH 4001. Beginning Dutch. (2 cr. §DTCH 1001)
PreReq–1004 in another language or passing score on LPE or grad student
Meets concurrently with 1001. See DTCH 1001 for description.

DTCH 4002. Beginning Dutch. (2 cr. §DTCH 1002)
PreReq–1004 in another language or passing score on LPE or grad student
Meets concurrently with 1002. See 1002 for description.

DTCH 4003. Intermediate Dutch. (2 cr. §DTCH 1003)
PreReq–1004 in another language or passing score on LPE or grad student
Meets concurrently with 1003. See 1003 for description.

DTCH 4004. Intermediate Dutch. (2 cr. §DTCH 1004)
PreReq–1004 in another language or passing score on LPE or grad student
Meets concurrently with 1004. See 1004 for description.

DTCH 5490. Topics in Dutch Literature. (3 cr. §HIST 5490)
Topics may focus on a specific author, group of authors, genre, period, or subject matter. Topics specified in Class Schedule.

DTCH 5993. Directed Studies. (1-4 cr. §HIST 5993)
Guided individual reading or study.

Course Descriptions

East Asian Studies (EAS)
Institute of International Studies

East Asian Studies (EAS)

College of Liberal Arts

Course Descriptions

EAS 1462. Introduction to East Asia in Modern Times: 1600-2000. (4 cr. §HIST 1462)

EAS 3970. Supplemental Discussion in East Asian Studies. (1 cr. §HIST 3970)
Extra discussion section with T.A.

EAS 4473. Chinese Politics. (3 cr. §EAS 4473, POL 4473)
Focuses on fundamental conflicts in Chinese society; the democracy movement, human rights, class divisions, gender struggles, environmental issues, and capitalist vs. socialist development strategies. Secondary topics include Chinese foreign relations and domestic and foreign political issues in Taiwan.

EAS 4662. Comparative East Asian Development: A New Model for Growth and Prosperity?. (3 cr. §EAS 4662)
Social and cultural reasons for the rapid growth and relative equity of Japan, South Korea, Taiwan, Hong Kong, Singapore and more recently, China. Relation of these examples to more general theories of development.

EAS 5940. Topics in Asian History. (1-4 cr. §HIST 5940)
Selected topics such as cultural, economic, intellectual, political, and social history.

Ecology, Evolution, and Behavior

Department of Ecology, Evolution and Behavior

College of Biological Sciences


EEB 3361. Visions of Nature: The Natural World and Political Thought. (4 cr. §CSSG 3361, EEB 3361. Prereq–Soph or Jr or Sr; biological sciences students may not apply these credits toward major) Theories about the organization of nature, human nature, and their significance for the development of ethics, religion, political and economic philosophy, civic, and environmentalism in Western and other civilizations.

EEB 3963. Modeling Nature and the Nature of Modeling. (3 cr. §ESE 3963, Prereq–Recommended; biological sciences students may not apply these credits toward major) Hands-on modeling experiences in context of biological applications. Reviews calculus concepts. Students carry out modeling steps, from developing the model, to analytical analysis, to developing computer code, to running the models.


EEB 4016W. Ecological Biogeography. (3 cr. Prereq–Biology 3007) Biotic regions of world in general and North America in detail. Ecological principles of distribution, interpretations of regional/temporal patterns in distribution of vegetation, taxonomic groups of plants/animals. Includes one weekend field trip.

EEB 4129. Mammalogy. (4 cr. A-F only. §FW 4129. Prereq–Biology 1001 or Biology 1012) Evolutionary and biogeographic history of mammals. Recognize, identify, and study natural history of mammals at the ordinal level, North American mammals at familial level, and mammals north of Mexico at generic level. Minnesota mammals at specific level. Includes lab.
Course Descriptions

EEB 4134. Introduction to Ornithology. (4 cr; Prereq—BIOL 1007 or BIOL 2012) Strata, communities, behavior, analysis, distribution, migration, ecology, habitats, identification of birds. Lecture, lab, week days field walks. One weekend field trip.

EEB 4329. Primate Ecology and Social Behavior. (3 cr; A-F only. Prereq—BIOL 1007 or BIOL 1009 or BIOL 3411 or ANTH 1007 or #) Primate as a model system to explore basic questions in animal/human behavior. Factors influencing sociality and group composition. Matings systems. Prevalence of altruistic, cooperative, and aggressive behavior. Strength of social bonds in different species. Evolution of intelligence/culture.

EEB 4601. Limnology. (3 cr; A-F only. Prereq—CHEM 1022) Description and analysis of lakes and other aquatic environments beginning with lake origins and progressing through lake physics, chemistry, and biology. Interrelationships among these topics and effects of human activities.

EEB 4605. Limnology Laboratory. (1 cr; A-F only. SGED 4605. Prereq—4601 or #) Field and lab methods used to obtain information on environmental conditions in aquatic environments and measure the abundance of aquatic organisms, especially plankton. Field/lab instruments, sampling devices, microscopy, water chemistry, data analysis.

EEB 4607. Plankton Ecology. (4 cr; A-F only. Prereq—4601 or GEO 4601) Planktonic bacteria, algae, and animals in lakes, reservoirs, and oceans with special attention to processes that cause variations of abundance.

EEB 4609W. Ecosystem Ecology. (3 cr; Prereq—Biol 3407 or #) Regulation of energy and elements cycling through ecosystems. Dependence of cycles on kinds/numbers of species within ecosystems. Effects of human-induced global changes on functioning of ecosystems.

EEB 4611. Biogeochemical Processes. (3 cr; Prereq—[CHEM 2301, BIOL 2032 or MCB 2032 or WPB 2032 or BIOL 3301 or MCB 3301], PHYS 1201 or #) Application of biochemistry, ecology, chemistry, and physics to environmental issues. Current issues in biogeochemistry. Impact of humans on biogeochemical processes in soils, lakes, oceans, estuaries, tropics, forests, deserts, and extreme environments (e.g., early Earth, deep sea vents, thermals springs).

EEB 4631. Global Ecology. (4 cr; A-F only. Prereq—[college level ecology course, 2 semesters of [chemistry, high-school physics]] or #) Interactions between biosphere/lithosphere, atmosphere/oceans throughout Earth history. How climate is influenced on long time scales (evolution of photosynthesis) and on decadal time scales (forest clearance). Earth as an interacting ecosystem. Evaluating future effects of accumulating greenhouse gases.

EEB 4793W. Directed Studies: Writing Intensive. (1-7 cr [max 7 cr]. S-N only. Prereq—#, A) Individual study on selected topics or problems. Emphasizes readings, use of scientific literature. Written report.

EEB 4794W. Directed Research: Writing Intensive. (1-6 cr [max 42 cr]. S-N only. Prereq—#, A) Laboratory or field investigation of selected areas of research, including written report.

EEB 4801. Field Limnology. (4 cr; Prereq—CHEM 1022, [3001 or BIOL 3407] or #) Description/analysis of lakes, streams, and other aquatic environments. Lake origins, physics, chemistry, and biology. Focuses on how different forcings, including human ones, affect biological dynamics and ecological interactions. Field work emphasizes comparative approach to differences in northern Minnesota’s lakes, bogs, and streams.


EEB 4814. Plant Community Ecology. (4 cr; A-F only. Prereq—Beginning biology) Communities represented in Itasca Park and vicinity with emphasis on vegetation, patterns of distributions of communities, their interaction with environment and dynamic relationships, methods of community, and description and analysis.

EEB 4817. Vertebrate Ecology. (4 cr; Prereq—Beginning biology) Field studies on vertebrate populations, their relationships to local environments, habitat analysis, and ecological research methods. Students work individually or in teams to investigate behavioral/ecological aspects of selected vertebrates. Lectures, field trips.


EEB 4839. Field Studies in Mammalogy. (4 cr; A-F only. Prereq—[college-level biology course that includes study of animals or #] A) Techniques for studying small mammals, lectures and field projects emphasize identification, distributions, community interactions, ecophysiology, and population ecology.

EEB 4842. Arctic Field Ecology. (4 cr; A-F only. Prereq—Basic courses in [ecology, organismal biology], approved application) Arctic natural history/ecology explored via a four-week trip to Northwestern Territories of Canada. Students travel by van, air, and inflatable canoes; design their own research projects; help with ongoing studies in landscape/riparian ecology; learn field skills/techniques associated with ecological studies in Arctic regions; and work directly with local Inuit people about traditional ecological knowledge.

EEB 4844. Field Ornithology. (4 cr; A-F only. Prereq—General biology including techniques, A) Introduction to biology of breeding birds through use of field techniques at Lake Itasca Forestry and Biological Station. Daily field work emphasizes identification, behavioral observations, netting/censusing.

EEB 4993. Directed Studies. (1-7 cr [max 7 cr]. S-N only. Prereq—#, A) Individual study on selected topics or problems. Emphasizes selected readings, use of scientific literature.

EEB 4994. Directed Research. (1-6 cr [max 42 cr]. Prereq—#, A) Laboratory or field investigation of selected areas of research.

EEB 5008. Forest Response to Quaternary Climate Change. (2 cr; A-F only. Prereq—BIOL 3407, EEB 4631 or GEO 4631 concurrent registration EEB 5009) Forest responses to past climate change at the population, community, and ecosystem level. Response to natural and human disturbance, range shifts and invasions. Limitations to the speed of response to rapid climate changes.

EEB 5009. Quaternary Vegetation History and Climate. (3 cr. Prereq—[GEO 4631 or GEO 4633], BIOL 3407 or #) History of vegetation/climate change in Quaternary period. Importance of mechanistic understanding on interpretation of historical events. Vegetation distribution/climate. Mechanisms of climate change and long-term vegetation dynamics. Vegetation and climate reconstructions. Modeling in paleoecology and paleoclimatology. Case studies in North America and other parts of globe. Human impacts on vegetation and climate.

EEB 5011. Pollen Morphology. (2 cr. Prereq—BIOL 3007, PBIO 4321 or #) Morphology and nomenclature of pollen grains and pteridophyte spores, survey of pollen and spores of major plant families, lab techniques.

EEB 5013. Quaternary Plant Macrofossils. (2 cr. Prereq—PBIO 4321 or 4511 or #) Morphology of seeds, fruits, and other macroscopic remains likely to occur in Quaternary deposits, survey of fossils of major plant families, lab techniques.

EEB 5032. Population and Quantitative Genetics. (4 cr. A-F only. Prereq—[BIOL 4003 or GEO 3022], intro statistics) or # Fundamentals of quantitative genetics. Genetic/ environmental influences on expression of quantitative traits. Approaches to characterizing genetic basis of trait variation. Processes that lead to change in quantitative traits. Applied/evolutionary aspects of quantitative genetic variation.

EEB 5042. Quantitative Genetics. (3 cr. Prereq—[BIOL 4003 or GEO 3022] or #; a course in statistics is recommended) Fundamentals of quantitative genetics. Genetic/ environmental influences on expression of quantitative traits. Approaches to characterizing genetic basis of trait variation. Processes that lead to change in quantitative traits. Applied/evolutionary aspects of quantitative genetic variation.

EEB 5051. Analysis of Populations. (3 cr. Prereq—[GEO 5001 or #]) Factors involved in the regulation, growth, and general dynamics of populations. Data needed to describe populations, population growth, population models, and regulatory mechanisms.

EEB 5053. Ecology: Theory and Concepts. (4 cr. Prereq—BIOL 3407 or #) Classical and modern mathematical theories of population growth, interspecific interactions, ecosystem dynamics and functioning, with emphasis on underlying assumptions and on effects of added biological reality on robustness of predictions, stability, interspecific interactions, ecosystem structure and functioning.

EEB 5122W. Plant Interactions with Animals and Microbes. (3 cr. A-F only. Prereq—BIOL 2012 or 3002, 3407 or 3409) Ecological and environmental implications of mutualistic and antagonistic interactions between plants, animals and microbes at organismal, population, and community levels.


ECON 1902. Freshman Seminar. (3 cr [max 6 cr]; A-F only, Prereg–Fresman) Topics specified in Class Schedule.


ECON 3021. Survey of Economic Ideas. (3 cr. §ECON 4022. Prereq–1101, 1102 or equiv, not open to ECON majors) A historical and analytical treatment of how important economic ideas developed over time, and their relationship to prevailing economic conditions and politics. Economic ideas from Adam Smith to the present.


ECON 3033. Current Economic Issues. (3 cr. [max 6 cr] §ECON 4033, Prereg–1101, 1102 or equiv; not open to ECON majors) Current controversies over economic policies used to deal with some economic problems. Students focus in part on a specific issue of their choice. Different economic issues are discussed each time the course is offered (every three years).

ECON 3041. Prospective World Economy. (3 cr. §ECON 4041. Prereg–[1101, 1102 or equiv or ECON major with CLA adviser approval]) What economic future holds. What can be done about global issues. How to improve economic prospects of countries.

ECON 3101. Intermediate Microeconomics. (4 cr. §APEC 3001, ECON 3101H, ECON 3105. Prereg–1101, 1102 or equiv, MATH 1271 or equiv) Behavior of households, firms, and industries under competitive and monopolistic conditions; factors influencing production, price, and other decisions of the firm; applications of the theory. Economic efficiency and distribution of well-being.

ECON 3101H. Honors Course: Intermediate Microeconomics. (4 cr. §APEC 3001, ECON 3101, ECON 3105. Prereg–1101, 1102 or equiv, MATH 1271 or equiv, honors) Behavior of households, firms, and industries under competitive and monopolistic conditions; factors influencing production, price, and other decisions of the firm; applications of the theory. Economic efficiency and distribution of well-being.

ECON 3102. Intermediate Macroeconomics. (4 cr. §APEC 3005, ECON 3102H. Prereg–3101, 3102 or equiv) Determinants of national income, employment, and price level; effects of monetary and fiscal policies; emphasis on a general equilibrium approach. Applications of the theory, especially to current macroeconomic policy issues.

ECON 3102H. Honors Course: Intermediate Macroeconomics. (4 cr. §APEC 3006, ECON 3102, ECON 3101. Prereg–3101 or equiv, honors) Determinants of national income, employment, and price level; effects of monetary and fiscal policies; emphasis on a general equilibrium approach. Applications of economic efficiency and distribution of well-being.

ECON 3105. Managerial Economics. (4 cr. §APEC 3001, ECON 3101, ECON 3101H, Prereg–1101, [1102 or equiv]; MATH 1271 or equiv, not open to ECON majors) Theories of the firm. Managerial decision problems. Demand theory. Production technology and cost concepts. Pricing/output decisions under different market structures. Investment behavior. Government regulation.

ECON 3501. Labor Economics. (3 cr. §ECON 4531. Prereg–1101, 1102 or equiv; not open to ECON majors) Role of labor in economy; labor as factor of production, population, and labor force; economics of labor markets; labor market institutions; theories of wages and employment; unions and collective bargaining; public policy.
Course Descriptions

ECON 3001, Industrial Organization and Antitrust Policy. (3 cr. §ECON 4631, ECON 4631H. Prereq.–1101, 1102 or equiv; not open to ECON majors) Industrial organization and market structures. Relations between market structure, economic efficiency, and welfare. Purposes and effects of antitrust and related legislation. Industrial policy.

ECON 3011, Environmental Economics. (3 cr. Prereq.–1101, 1102 or equiv; not open to ECON majors) Dependency of the economy on the environment; alternative visions of the future and issues on which actual outcome will depend, particular attention to global warming; future generations and sustainability; economic incentives for environmental protection and degradation; economic aspects of environmental policies.

ECON 3701, Money and Banking. (3 cr. §ECON 4721, ECON 4721H. Prereq.–1101, 1102 or equiv; not open to ECON majors) Historical development, present characteristics, and economic roles of financial institutions. Commercial banking, the Federal Reserve System, and monetary policy.

ECON 3801, Elements of Public Economics. (3 cr. §ECON 4821. Prereq.–[1102 or equiv]; not open to ECON majors) Competing views on proper role of government in economy. Effects of tax/spending policies. Private agents’ response to government actions. Optimal policies. Applications primarily to U.S. federal government.

ECON 3951, Major Project Seminar. (2 cr. Prereq.–3101, 3102 or equiv, BNGC 2021) Students produce a significant piece of written work in economics. Project should demonstrate critical thinking, collection and analysis of data, problem solving, effective interpretation of findings. Students should attain understanding and proficiency in modes of inquiry in economics.

ECON 3960, Topics in Economics. (3 cr [max 6 cr]. Prereq.–1101, 1102 or equiv) Topics specified in Class Schedule.

ECON 3991, Independent Study. (1-3 cr [max 3 cr]. A-F only. Prereq.–1101, 1102, #) Students confirm topic of study with faculty supervisor or with director of undergraduate studies before beginning (otherwise no credit).

ECON 3993, Directed Studies. (1-3 cr [max 3 cr]. Prereq.–1101, 1102 or equiv; #) Guided individual reading or study in areas not available in regular course offerings.

ECON 4021, Economics, Ethics, and Economic Philosophy. (3 cr. Prereq.–1101, 1102 or equiv) Types of economics. Ethics and its economic applications. Bases of different economic philosophies. Topics vary by semester. Examples: relationships between freedoms/reponsibilities, economics/ethics of stakeholder concept, different concepts of property rights or justice.

ECON 4022, Survey of Economic Ideas. (3 cr. §ECON 3021. Prereq.–3101, 3102 or equiv) Historical and analytical view of how important economic ideas developed and their relationship to prevailing economic conditions and politics. Economic ideas from Adam Smith to the present.

ECON 4031, American Economic Problems. (3 cr. §EIP 4001, ECON 3031. Prereq.–3101, 3102 or equiv) Discussion of American economic problems and relationships. Relevance of simple economic principles to economic problems in the United States.

ECON 4033, Current Economic Issues. (3 cr [max 6 cr]. §ECON 3033. Prereq.–3101, 3102 or equiv) Current controversies over economic policies used deal with some economic problems. Students focus in part on a specific issue. Different economic issues are discussed every time the course is offered (every three years).

ECON 4041, The Prospective World Economy. (3 cr. §ECON 3041. Prereq.–3102 or equiv) Considers what the economic future holds, what can be done now to deal with global issues, and how to improve economic prospects of countries.

ECON 4100W, Undergraduate Writing in Economics. (1 cr [max 2 cr]. A-F only. Prereq.–3101, [¶4831 or ¶economics honors course], #) Research essay.

ECON 4109H, Honors Course: Game Theory and Applications. (4 cr. Prereq.–3101, 3102 or equiv, MATH 1271-1272 or equiv) Games; normal form and extensive form; wars of attrition; games of timing; bargaining applications in industrial organization, macroeconomics, and international economics.

ECON 4113, Introduction to Mathematical Economics. (4 cr. Prereq.–3101, 3102 or equiv, MATH 1271-1272-2243 or equiv) Development of selected models of economic behavior in mathematical terms. Topics selected to illustrate the advantages of a mathematical formulation.

ECON 4161, Microeconomic Analysis. (2 cr. Prereq.–3101 or 5151 or equiv), MATH 2243, MATH 2263, #) Theories of consumer demand, producer supply, and market equilibrium. General equilibrium and welfare. May include topics such as externalities, economics of information/uncertainty. Seven-week course. Meets with 8001.

ECON 4162, Microeconomic Analysis. (4 cr; A-F only. Prereq.–4161, #) Theories of consumer demand, producer supply, and market equilibrium. General equilibrium and welfare. May include topics such as externalities, economics of information/uncertainty, and game theory. Seven-week course. Meets with 8002.

ECON 4163, Microeconomic Analysis. (2 cr. Prereq.–4162, #) Theories of consumer demand, producer supply, and market equilibrium. General equilibrium and welfare. May include topics such as externalities, economics of information/uncertainty, and game theory. Seven-week course. Meets with 8003.

ECON 4164, Microeconomic Analysis. (2 cr. Prereq.–4163, #) Theories of consumer demand, producer supply, and market equilibrium. General equilibrium and welfare. May include topics such as externalities, economics of information/uncertainty, and game theory. Seven-week course. Meets with 8004.

ECON 4165, Macroeconomic Theory. (2 cr. Prereq.–3102, [Math 2243, Math 2263] or equiv), #) Dynamic general equilibrium models: solving for paths of interest rates, consumption, investment, and prices. Seven-week course. Meets with 8105.

ECON 4166, Macroeconomic Theory. (2 cr. Prereq.–4165, #) Dynamic general equilibrium models: solving for paths of interest rates, consumption, investment, and prices. Seven-week course. Meets with 8106.


ECON 4171, History of Economic Thought. (3 cr. Prereq.–3101, 3102 or equiv) Primarily a critical reading course. Topics include Smith, Ricardo, Marx, neoclassicists, Keynes, the mercantilist and physiocratic doctrines; and modern theory.


ECON 4261, Introduction to Econometrics. (4 cr; A-F only. Prereq.–3101 or equiv), [¶MATH 1271, MATH 1272] or equiv), Math 2243, Math 2263. [¶ECON 4101, STAT 4102 or] [¶STAT 5101, STAT 5102]; MATH 4242 strongly recommended) Review of basic linear regression model, its variants. Time series/simultaneous equation models. Material may include panel data, censored/truncated regressions, discrete choice models.

ECON 4262, Econometric Analysis. (2 cr. Prereq.–4261) Review of basic linear regression model, its variants. Time series/simultaneous equation models. Material may include panel data, censored/truncated regressions, discrete choice models.


ECON 4307, Comparative Economic Systems. (3 cr. §ECON 4337. Prereq.–1101, 1102 or equiv; not open to ECON majors) Functions of economic systems; market economy vs. centrally planned economy. Post socialist transitions in Eastern Europe, Russia, and China and reforms undertaken. Initial conditions and strategies for reforms; results of reforms in terms of key economic indicators.

ECON 4311, Economy of Latin America. (3 cr. Prereq.–[1101, 1102] or equiv) Economic evolution in Latin America since 1950. Trade liberalization, poverty, inflation, development strategies in selected Latin American countries. Theory/applications of important issues.


ECON 4315, The Japanese Economy. (3 cr. Prereq.–1101, 1102 or equiv) Economic development following contact with western civilization. Issues covered include trade, development and growth, population growth, capital formation, international economic relations, agricultural and industrial policies; role of the government in the economy, and current issues of interest.


ECON 4337, Comparative Economic Systems. (3 cr. §ECON 4337. Prereq.–3101, 3102 or equiv) Functions of economic systems; market economy versus centrally planned economy. Comparison of different economic systems. Post socialist transitions in Eastern Europe, Russia, and China. Initial conditions and strategies for reforms; results of reforms in terms of key economic indicators.

ECON 4421W. Economic Integration of the Americas. (3 cr. Prereq—ECON 3101, 3102 or equiv or #) Analysis of economic relationships among countries in the Western Hemisphere. Modeling the impact of NAFTA and similar regional trade accords. Prospects for further integration. Comparison with European integration.


ECON 4432W. International Finance. (3 cr. Prereq—ECON 3101, 3102 or equiv or ECON 4431 or 4439 or equiv recommended) Balance of payments; international financial markets; exchange rate determination; international monetary system; international investment and capital flows; financial management of the multinational firm; open economy macroeconomic policy.

ECON 4531. Labor Economics. (3 cr. §ECON 3501) Economic analysis of labor markets and their operations; population and labor force; labor market institutions; wage and employment theories; unions and collective bargaining; public policy.

ECON 4560. Economics of Discrimination. (3 cr. Prereq—ECON 3101, 3102 or equiv; STAT 3011, STAT 3022 recommended) Theory and empirical evidence of labor/consumer markets discrimination. Race/gender differentials. Effects of anti-discrimination policies such as affirmative action. Use of economic models, formal statistical analysis.


ECON 4721. Money and Banking. (3 cr. §ECON 3701, ECON 4721H. Prereq—ECON 3101 or equiv) Theories of money demand and money supply. Financial intermediation and banking; banking practices and regulation, role of the Federal Reserve system. Monetary policy.

ECON 4721H. Honors Course: Money and Banking. (4 cr. §ECON 3701, ECON 4721. Prereq—ECON 3101 or equiv; MATH 1271) Theories of money demand and money supply. Financial intermediation, banking, nonbank financial institutions, banking practices, bank regulation, international banking, role of Federal Reserve system. Monetary policy.

ECON 4731. Macroeconomic Policy. (3 cr. Prereq—ECON 3101, 3102 or equiv) Monetary vs. fiscal policy debate in the context of the underlying macroeconomic theory controversy. Comparison of Keynesian, Monetarist, and Classical theories; rational expectations; policy ineffectiveness; time inconsistency; rules vs. discretion; budget deficits; unemployment and inflation.


ECON 4751. Financial Economics. (3 cr. §ECON 4751H. Prereq—ECON 3101 or equiv, MATH 1271 or equiv, 1 sem statistics) Financial decisions of firms and investors. Determination of interest rates and asset prices. Role of risk and uncertainty. Emphasis on economic models rather than the details of financial institutions.

ECON 4751H. Honors Course: Financial Economics. (4 cr. §ECON 4751. Prereq—ECON 3101, 3102 or equiv, MATH 1271 or equiv; [MATH 3011 or equiv]) Efficiency of financial markets. Theoretical concepts, empirical evidence.

ECON 4821. Public Economics. (3 cr. §ECON 3801. Prereq—ECON 3801; Prereq—ECON 3101, 3102 or equiv) Comparing views on the proper role of government in the economy. Effects of tax and spending policies, taking into account private agents’ response to government actions and the ways government officials may use their powers; optimal policies. Applications primarily to U.S. government.

ECON 4831. Cost-Benefit Analysis. (3 cr. §ECON 4611H. Prereq—ECON 3101 or equiv) Principles for evaluation of benefits/costs of public projects or programs. Issues connected with definition/measurement of benefits/costs. Rate of return, rate of discount. Market imperfections, risk, and uncertainty. Case studies of applications of theory.

ECON 4960. Topics in Economics. (3 cr. [max 6 cr] Prereq—ECON 3101, 3102 or equiv; MATH 1271 [may change based on topic] Topical topics specified in Class Schedule.

ECON 4991. Independent Study. (1-4 cr. [max 4 cr.] Prereq—ECON 3101, 3102 or equiv) For honors thesis, #. Guided individual reading or study in areas not available in regular course offerings.

ECON 5109H. Game Theory for Engineers. (4 cr. A-F only. Prereq—ECON 3501, ECON 4721) Game theory, applications to engineering problems. Nash equilibrium.

ECON 5151. Elements of Economic Analysis: Firm and Household. (3 cr. Prereq—ECON 3101, 3102 or equiv; MATH 1271 or equiv; MATH 2243 or equiv; grad or #) Determinants of national income, employment, and price level; aggregate consumption, investment, and asset holding.

ECON 5312. Growth, Technology, and Development. (3 cr. Prereq—ECON 3101, 3102 or equiv; MATH 1271 or equiv, MATH 2243 or equiv, grad or #) Determinants of national income, employment, and price level; aggregate consumption, investment, and asset holding.

Education and Human Development (EDHD) College of Education and Human Development


Course Descriptions


EDHD 3001. Exploring the Teaching Profession. (1 cr [max 4 cr]. S-N only. Prereq–Early admit for init lm/Med program, q) Self as teacher, the culture of teaching, students as learners, learning contexts, societal influences on teaching/schools.

EDHD 5001. Learning, Cognition, and Assessment. (3 cr. EPSY 3119 Prereq–MED/initial licensure or C LA music ed or preteaching major or #, psych course recommended) Principles of learning, cognition, cognitive development, classroom management, motivation, instruction, assessment. Approaches include behaviorism, cognitive and social constructivism, human information processing theory. Topics include intelligence, knowledge acquisition, reasoning skills, scholastic achievement, standardized testing, reliability, validity, student evaluation, performance assessment, portfolios, demonstrations. Applications to instruction and organization of curricular materials.

EDHD 5003. Developmental and Individual Differences in Educational Contexts. (3 cr. A-F only. Prereq–Jr or cr or post-bacc or MED/initial licensure or C LA music ed or preteaching major or FCE or agriculture or kinesiology or #) Emphasizes dynamic systems perspective. Developmental transitions in childhood/adolescence. Interactions between student, environment, and task. Accommodations/adaptations for students in special education.

EDHD 5005. School and Society. (2 cr. A-F only. Prereq–Jr or or or MED/initial licensure or C LA music ed or major or preteaching major or #) Readings in history, philosophy, social sciences, and law revealing diverse educational values in a pluralistic society. Multiple expectations of schools. Civil liberties, rights, community. Varying cultural backgrounds of students, family circumstances, exceptional needs.

EDHD 5007. Technology for Teaching and Learning. (1.5 cr. A-F only. Prereq–MED/initial licensure or C LA music ed major or preteaching major or #, basic computer skills) Diverse educational technology in K-12 classrooms. Effective use of technology. Computer technologies used to stimulate personal productivity/communication and to enhance teaching/learning processes.

EDHD 5009. Human Relations: Applied Skills for School and Society. (1 cr. A-F only. Prereq–MED/initial lic or C LA music ed or preteaching or #) Issues of prejudice/disposition in terms of history, power, social reception. Knowledge/skills acquisition in cooperative learning, multicultural education, group dynamics, social influence, leadership, judgment/decision making, prejudice reduction, conflict resolution, teaching in diverse educational settings.


EDPA 3010. Special Topics for Undergraduates. (1-3 cr [max 9 cr]) Inquiry into educational policy and administration problems and issues.

EDPA 3021. Introduction to Historical Foundations of Modern Education. (3 cr. §EDPA 5021, HUM 3021, HUM 4021) Analysis/interpretation of important elements in modern education derived from pre-classical sources: Greeks, Romans, Middle Ages, Renaissance, Reformation, Enlightenment, Industrial Revolution.

EDPA 3023. Introduction to History of Western Educational Thought. (3 cr. §EDPA 5023, HUM 3023, HUM 4023) Great educational classics of Western civilization: Plato, Aristotle, Quintilian, Montaigne, Milton, Locke, Rousseau, others.


EDPA 3102. Maximizing Study Abroad Through Culture and Language Strategies: Pre-Departure Preparation. (1 cr. Prereq–#) Preparation for overseas sojourn: understanding culture, ways cultures differ in values, seeing oneself as a member of a culture or cultures.

EDPA 3103. Maximizing Study Abroad Through Culture and Language Strategies: In-Country Experience. (1 cr. Prereq–3102 or #) Reflect on activities/readings of study abroad experiences overseas. E-journaling, written activities, group interaction using various formats.

EDPA 3104. Maximizing Study Abroad Through Culture and Language Strategies: Re-Entry. (1 cr. Prereq–3103 or #) Reflect upon personal study abroad experience through readings/activities to ease transition back into the United States and to maximize learning from study abroad experience.

EDPA 3202W. Leadership, You, and Your Community. (3 cr. SPA 3961W. Prereq–[3101W, PA 1961W) with grade of at least C. [300 or at least 60 cr]) Leadership and leadership capacities from multicultural/multidimensional perspectives. Students examine their own views on leadership. Leadership theory/practice, group dynamics/behavior, applying knowledge to real-world situations.

EDPA 3203. Introduction to Women in Leadership. (3 cr) Sex discrimination, female career patterns, women leaders, inclusive conceptualizations of managerial/administrative theory.

EDPA 3304. Strategic Leadership for Future Societies. (3 cr) Emerging leadership implications of selected short-/long-range trends. Construction of context-relevant effective leadership scenarios for selected institutions in real/hypothetical societies.

EDPA 3305. Learning About Leadership Through Film and Literature. (3 cr) Readings from leadership studies, literature, and film. Ethical dilemmas. Different styles of leadership and their consequences. Intersection of public/private in exercising leadership. Competing loyalties/pressures felt by leaders/followers. Fundamental questions about nature/desirability of leadership.

EDPA 3402. Leadership Minor: Field Experience. (2 cr; A-F only) SPA 3971. Prereq–[3302W or PA 3961W] with grade of at least C. Students integrate lessons learned from core leadership courses, choose from a variety of settings (e.g., community organizations, corporations, University student organizations, education).

EDPA 4303W. Leadership in the World. (3 cr. A-F only) SPA 4961W. Prereq–[3402W or PA 3971]) Leadership theory, community building, social change, interdisciplinary approaches to complex global issues. Students finalize portfolios, submit scholarly products to demonstrate understanding of personal/positional leadership in changing global context. Capstone course.

EDPA 5001. Formal Organizations in Education. (3 cr) Classical/current theories of organizations. Applications to education and related fields.

EDPA 5021. Historical Foundations of Modern Education. (3 cr. §EDPA 5021, HUM 5021, HUM 4021) Analysis and interpretation of important elements in modern education derived from pre-classical sources: Greeks, Romans, Middle Ages, Renaissance, Reformation, Enlightenment, Industrial Revolution.

EDPA 5023. History of Western Educational Thought. (3 cr. §EDPA 5023, HUM 5023, HUM 4023) Great educational classics of Western civilization: Plato, Aristotle, Quintilian, Montaigne, Milton, Locke, Rousseau, others.


EDPA 5028. Education Imagery in Europe and America. (3 cr) Images and ideas of education expressed in the visual arts of Western civilization (antiquity to 20th century) in relation to concurrent educational thought and practice: symbolism, myth, propaganda, didacticism, genre, caricature.
EDPA 5032. Comparative Philosophies of Education. (3 cr) Exploration of the principal philosophies in educational thought today, e.g., realism, idealism, pragmatism, and postmodernism. Practice in philosophical critique.

EDPA 5036. Ethics, Morality, and Values in Education. (3 cr) Application to key issues of professional practice. Moral education, virtues, principles.

EDPA 5041. Sociology of Education. (3 cr) Structures and processes within educational institutions; linkages between educational organizations and their social contexts, particularly related to educational change.

EDPA 5044. Introduction to the Economics of Education. (3 cr) Costs and economic benefits of education, with a focus on K-12, educational markets, prices, and production relationships; investment and cost-benefit analysis.


EDPA 5056. Case Studies for Policy Research. (3 cr, A-F only) Qualitative case study research methods and their applications to educational policy and practice. Emphasis on designing studies that employ open-ended interviewing as primary data collection technique.


EDPA 5061. Ethnographic Research Methods. (3 cr) Practice in aspects of field methodology below the level of full field study; detailed reading; analysis of studies in anthropology and education for methodological content.

EDPA 5064. Divergent Perspectives in Educational Policy and Practice. (3 cr) Examines fundamental and current issues in the field of education. Participants learn how to approach an issue from multiple perspectives, develop skills to identify and analyze its component parts, and examine personal belief systems to place a given issue within a personal context.

EDPA 5070. Special Topics: School Leadership. (1-3 cr [max 15 cr] or Prereq–Broadband Internet access, a newer computer) Skills/knowledge necessary to respond to multiple challenges of reduced budgets, increased accountability requirements, and growing concerns about impact of technology investments in education.

EDPA 5080. Special Topics: Educational Policy and Administration. (1-3 cr [max 24 cr]) Topical issues in educational policy/administration.

EDPA 5087. Seminar: Educational Policy and Administration. (1-3 cr [max 24 cr]) Shared responsibility of students/instructor in presentation of topics.

EDPA 5095. Problems: Educational Policy and Administration. (1-3 cr [max 24 cr]) Course or independent study on specific topic within department program emphasis.

EDPA 5096. Internship: Educational Policy and Administration. (1-3 cr [max 24 cr]) Internship in elementary, secondary, general, or postsecondary administration, or other approved field related setting.

EDPA 5101. International Education and Development. (3 cr) Introduction to comparative and international development education, contemporary theories regarding the role of education in the economic, political, and sociocultural development of nations; examination of central topics and critical issues in the field.

EDPA 5102. Knowledge Formats and Applications: International Development Education Contexts. (3 cr) Analyzes the interrelationships of “knowledge capital” (noetic symbolic resources) and culture through intrinsic, cross-, and multicultural perspectives. Distinguishes knowledge from information and data, focusing on national and international developments occurring along basic and applied knowledge paths.

EDPA 5103. Comparative Education. (3 cr) Examination of systems and philosophies of education globally with emphasis upon African, Asian, European, and North American nations. Foundations of comparative study with selected case studies.

EDPA 5104. Strategies for International Development of Education Systems. (3 cr; A-F only, Prereq–Grad student) Strategies for improving quality/efficiency of schooling in developing countries. Introduction to current research on what policy/programmatic interventions have proven most successful in increasing access, raising quality, and improving efficiency of education in developing countries.

EDPA 5121. Educational Reform in International Context. (3 cr) Critical policy analysis of educational innovation and reform in selected countries. Use theoretical perspectives and a variety of policy analysis approaches to examine actual educational reforms and their implementation.

EDPA 5124. Critical Issues in International Education and Educational Exchange. (3 cr) Analysis of comprehensive policy-oriented frameworks for international education; practices of U.S. and other universities; conceptual development of international education and its practical application to programs, to employment choices, and to pedagogy.

EDPA 5128. Anthropology of Learning. (3 cr, §ANTH 5128) Cross-cultural perspectives in examining educational patterns; the implicit and explicit cultural assumptions underlying them. Methods and approaches to cross-cultural studies in education.

EDPA 5132. Intercultural Education and Training: Theory and Application. (3 cr) Examination of intercultural education; formal and nonformal education programs intended to teach about cultural diversity, promote intercultural communication and interaction skills, and teach students from diverse background more effectively.

EDPA 5134. Futures Research for Educational Leaders. (3 cr, Prereq–Grad student) Perspectives/methods of futures research. Historical/anticendent and contemporary influences on futures research. Futures research as social technology vs social (inexact) science. Primary toolbox of futures Research. Emerging potentials of futures research.

EDPA 5136. Scenario and Story Planning for Educational Reform. (1 cr. Prereq–Broadband Internet access, a newer computer) How to anticipate/shape forces/events that could impact future educational design, policy, practice, and administration. Designing, analyzing, comparing multiple scenarios/stories under different initial conditions, including assumptions, information content, and contexts.

EDPA 5141. Global Youth Policy and Leadership: Comparative Youth Policy and Leadership. (3 cr. Prereq–Grad student or A-F only) Comparative approach to public responses at global level to youth development and leadership issues. Social systems such as education, health, employment and recreation. Role of individuals, communities, governments, and international organizations directed to provide programs/services to young persons.

EDPA 5142. Global Youth Policy and Leadership: Strategic Projections, Visions, and Alternative Futures. (3 cr. Prereq–Grad student or A-F only) Address strategic trends in global youth development, including positive/negative implications. Attention to reconciling positive/negative trends with normative scenarios with respect to presence, absence, and projected likelihood of suitable policies, workable collaborations, and funding.

EDPA 5301. Contexts of Learning: Historical, Contemporary, and Projected. (3 cr; A-F only) Contextual understanding of education as a social institution. Education is studied as one institution among the several that constitute its dynamic context.


EDPA 5303. Managing the Learning Organization. (3 cr, A-F only) Examines schools, colleges, and other human service organizations centered on learning. Focuses on perspectives and skills needed to manage organizations effectively.

EDPA 5304. Educational Leadership for Equity, Opportunity, and Outcome. (3 cr) Implications of multiple contexts in which leadership occurs. Role of followers. Complexities of collaborative structures and of shared governance.

EDPA 5305. Leadership and Vision in School Technology. (1 cr. Prereq–Broadband Internet access, a newer computer) How to create a shared vision for comprehensive integration of technology into educational environments. Ways to foster environment/culture conducive to realizing that vision.

EDPA 5306. Staff Technology Development and Support. (1 cr. Prereq–Broadband Internet access, a newer computer) How to lead an organization in designing, implementing, evaluating, improving, and sharing approaches to staff development. Technology-related development. Facilitating staff development through use of technology.

EDPA 5307. School Management and Technology. (1 cr. Prereq–Broadband Internet access, a newer computer) Various organizational/management issues impacted by information technology. Focuses on hardware, software, and database technologies designed to facilitate management/operations of school organizations.

EDPA 5308. Emerging Issues and School Technology. (1 cr. Prereq–Broadband Internet access, a newer computer) Needs of schools/administrators to remain on forefront of information technologies. Focuses on anticipated technological trends years/decades ahead.

EDPA 5309. Electronic Communication Tools and Environments for Schools. (1 cr. Prereq–Broadband Internet access, a newer computer) Various electronic communication channels, information environments to facilitate educational organizations’ operations/communications. Focuses on networked environments, integration with handheld computers, and outreach to internal/external stakeholders.
Course Descriptions

EDPA 5310. Data-Driven Decision Making I. (1 cr.)
Prereq–Broadband Internet access, a newer computer;
data-driven decision making for schools/administrators.
Focuses on data collection/analysis needs of educational organizations and on use of appropriate software/databases to collect, manage, analyze, and report school information.

EDPA 5311. Data-Driven Decision Making II. (1 cr.)
Prereq–Broadband Internet access, a newer computer;
Continuation of 5310. Data-driven decision making for schools/administrators. Hands-on training in students’ own organizations in using technology to analyze data to make educational decisions.

EDPA 5312. School Technology Policy Issues. (1 cr.)
Prereq–Broadband Internet access, a newer computer;
Various state/national policy issues related to educational technology. Focuses on “digital divide” in schools/communities, federal educational technology policy initiatives, and state/federal educational technology legislation.

EDPA 5313. Legal and Ethical Issues in School Technology. (1 cr.)
Prereq–Broadband Internet access, a newer computer;
Social, legal, and ethical issues related to school technology. How to model responsible decision-making related to technology issues.

EDPA 5314. School Technology Safety and Security. (1 cr.)
Prereq–Broadband Internet access, a newer computer;
School safety/security issues impacted by information technology. Network/data security, Physical safety of students, employees, and facilities. Computer recycling/repurpose; appropriate ergonomics environments for students/employees.

EDPA 5315. School Technology Leadership Multimedia Project. (1 cr.)
Prereq–[Mac or PC] with 256 MB RAM, [Windows NT 2000 or XP or Mac OS 9 or 10], Pentium [2 or faster], Internet connection, [Netcpe or Internet Explorer], virus protection software. School Technology Leadership @ or #.
Students focus on individualized school technology leadership topic of choice, deliver a multimedia presentation of project results. Regular consultation with faculty, peer mentors, and outside mentors.

EDPA 5321. The Principalship. (3 cr.)
Role of the principal: qualifications, duties, and problems.

EDPA 5322. School Superintendency. (3 cr.)
Role/responsibility of superintendent in school district. Emphasizes real life experiences, leadership potential as CEO. Purposes, power, politics, practices of position. Interplay of internal school forces, external community forces analyzed in multiple contexts. Manifestations of leadership in public, high-profile appointment.

EDPA 5323. Women in Leadership. (3 cr.)
Prereq–technology access
Women in leadership, in context of larger systems and their own lives. Supporting equity/equality across areas of difference.

EDPA 5324. Financial Management for Elementary-Secondary Education. (3 cr.)
Provides an overview of state/local school finance systems, budgets, and state/federal governmental fund accounting, and interpretation of financial information. For graduate students pursuing licensure as elementary-secondary principals and superintendents.

EDPA 5325. Analytical Tools for Educational Leadership. (1 cr.)
Prereq–I
Technological/analytical tools associated with data-driven decision-making processes in K–12 school environments.

EDPA 5326. Data Analysis for Educational Leadership. (2 cr.)
Prereq–[5225 or equiv.]
Advanced technological/analytical tools associated with data-driven decision-making processes in K–12 school environments.

EDPA 5328. Introduction to Educational Planning. (3 cr.)
Principles, tools, comparative practices, and emerging issues in K–12 higher education settings; decision making models; strategic and project planning; barriers to effectiveness; and change management processes.

EDPA 5332. Leadership Development Seminar. (3 cr.)
Assessment and development of skills required of the leader in planning, decision making, and human relations. Introduction to contemporary issues in educational administration.

EDPA 5336. Laboratory in Decision Making. (3 cr.)
Contributions of recent research and theory to effective administration. Analysis of administrative behavior in realistic settings; relations of administration to human behavior.

EDPA 5341. The American Middle School. (3 cr.)
Focus on the uniqueness of the early adolescent and appropriate learning situations. For educators working with middle-level students.

EDPA 5344. Legal Aspects of Elementary and Secondary Education. (3 cr.)
Overview of legal foundations of elementary/secondary education. Statutory themes, relevant case law, emergent policy issues. Implications for educational organizations and for administrative practice.

EDPA 5346. Politics of Education. (3 cr.; A-F only)
Prereq–postbac, MEd, or grad student
Political dimensions of policy formulation/implementation in education. Use of power/influence in shaping educational policies and in resolving conflicts over scarce resources. Analysis of consequences/cross-impacts.

EDPA 5348. Administration of Human Resources in Education. (2 cr.; Prereq–Designated for students working on licensure for dir of community educ or superintendent or K–12 principal or dir of special educ)
Effective personnel practices. Skills required for effective administrator/leader. Emphasizes human resources administration, including employee recruitment, selection, orientation/support, supervision, and performance appraisal of school district personnel.

EDPA 5352. Projective Leadership for Strategic Learning Communities. (3 cr.)
Explores many trends and changes facing society, culture, and education from a strategic learning community perspective; helps students “futurate the present.”

EDPA 5356. Disability Policy and Services. (3 cr.)
Policy, research, and current practices related to education, health, and social services that support children, youth, and adults with special needs, and that support their families. Federal, state, and local perspectives.

EDPA 5361. Project in Teacher Leadership. (3 cr.; max 6 cr.; S-N only)
Prereq–MEd student in Teacher Leadership Program
Create, implement, evaluate, and present a leadership project designed to initiate positive change in educational environments. Review of related literature, proposal development, project development, implementation and evaluation, critical reflection, sharing learning outcomes.

EDPA 5364. Context and Practice of Educational Leadership. (3 cr.; A-F only)
Current research/practice on educational leadership. Focuses on creating school cultures conducive to continuous improvement/change. Strategies for personal/organizational leadership in PK–12 settings.

EDPA 5368. Special Services Policy and Administration. (3 cr.)
Prereq–LI
Legislative, procedural, executive, and judicial actions that affect services, families, and children with special needs at all levels of government: federal, state, and local. For administrators, supervisors, and other professionals responsible for managing general, special, and alternative education programs.

EDPA 5372. Youth in Modern Society. (3 cr.)
Youth in advanced societies and as a social entity; functions and roles in industrial society, family, education, politics and government, economy and work, welfare and religion; organizations, social movements, and subcultures; empirical research and cross-cultural perspectives.

EDPA 5374. Leadership for Professional Development. (4 cr. Prereq–Postbacalaureate, at least 3 yrs teaching experience)
Designing, implementing, evaluating staff development in preK–12 settings. Research-based standards for effective staff development. Need for embedded time for collaborative learning, evaluating staff/student outcomes.

EDPA 5376. Organizational Approaches to Youth Development. (3 cr.)
Defining youth development within framework of formal and informal organizations; organizational systems responsible for youth development in the community; policy issues surrounding these systems.

EDPA 5378. Experiential Learning: Theory and Practice. (3 cr.)

EDPA 5381. The SaERCh for Children and Youth Policy in the U.S. (3 cr.)
Review of contemporary policy issues affecting children and youth in the U.S. and South Africa; identify national standards, norms and principles of youth development; conflicting expectations facing policy-makers; and search for the critical content of youth policy.

EDPA 5384. Collaboration in Heterogeneous Classrooms and Schools. (3 cr.; A-F only)
Policy, research, practice base for addressing range of student abilities/backgrounds in diverse schools. Collaborative approaches to curricular, instructional, social support.

EDPA 5385. Licensure Seminar. (1 cr.)
Prereq–Designed for students working on licensure in PK-12 administration)
Preparation for licensure program. Program overview, preassessment, reflective practice, APA writing, exit panel review, administrative employment interview.

EDPA 5386. Portfolio Seminar. (1 cr.; max 4 cr.; S-N only)
Development of electronic administrative licensure portfolio as part of process to earn endorsement for license as a school superintendent, K–12 principal, director of special education, or director of community education.

EDPA 5387. Administration of Teaching and Learning. (1 cr.)
Administration of teaching/learning as a system in an inclusive school system. Multiple experts present components of system. Focuses on questions an administrator must address when functioning as leader of learning.

EDPA 5388. Master(ful) Schedule Building. (2 cr. Prereq–M3387)
Scheduling models. Strategies for personalizing schools. Hands-on “infinite campus student system.” Master schedule is built online.

EDPA 5389. Administration of Community and Alternative Education Programs. (3 cr.)
Competencies of leadership, community relations, communication, community assessment, program development, program evaluation. Philosophy/administration of community/alternative education programs.

EDPA 5391. Special Education Law. (1 cr.)
Prereq–Designed for students working on licensure in PK-12 administration)
Competencies of leadership, policy, and political influence. Legal/regulatory applications focusing on special education law.
EDPA 5396. Field Experience in PK-12 Educational Administration. (3 cr; max 6 cr; S-N only. Prereq—Pro). Field experience or internship arranged for students seeking licensure as PK-12 principal/supervisor. Content/credit depend on licensure requirements specified in individual field experience agreement.

EDPA 5501. Principles and Methods of Evaluation. (3 cr; EPSY 5243) Introduction to program evaluation. Planning an evaluation study, collecting and analyzing information, reporting results; evaluation strategies; overview of the field of program evaluation.


EDPA 5524. Evaluation Colloquium. (1 cr; max 24 cr; S-N only; EPSY 5246, 5501 or EPSY 5243) Informal seminar of faculty and advanced students. Issues/problems of program evaluation.

EDPA 5701. U.S. Higher Education. (3 cr) U.S. higher/postsecondary education in historical/contemporary perspective. Emphasizes structure, history, and purposes of system as a whole.

EDPA 5704. College Students Today. (3 cr; EPSY 5451) Issues involving population of students in colleges/universities. College student development theory, students' expectations/interests. How college affects student outcomes. Role of curricular/extracurricular activities. Student-faculty interaction.

EDPA 5721. Racial and Ethnic Diversity in Higher Education. (2-3 cr; max 3 cr) Review of research. Theoretical frameworks, methodological perspectives, and research strategies used to study students, staff, and faculty; historical perspectives.

EDPA 5724. Leadership and Administration of Student Affairs. (2-3 cr; max 3 cr; EPSY 5421) Scope, administration, coordination, and evaluation of programs in college and university student affairs.

EDPA 5727. Developmental Education Programs and Postsecondary Students. (2-3 cr; max 3 cr; Prereq—Bachlor's degree) Focuses on populations served by developmental education programs in the United States and abroad. Defines developmental education. Historical perspective for need for developmental education, student development theories that guide practice in developmental education. Identifying student needs. Model programs, best practices for student retention. Current issues in the field.

EDPA 5728. Two-Year Postsecondary Institutions. (2-3 cr; max 3 cr) Present status, development, functions, organization, curriculum, and trends in postsecondary, but nonbaccalaureate, institutions.

EDPA 5732. The Law and Postsecondary Institutions. (3 cr) Analysis of court opinions and federal regulations affecting postsecondary educational institutions.

EDPA 5734. Institutional Research in Postsecondary Education. (2-3 cr; max 3 cr; A-F only; Prereq—J5701, EPSY 5231 or EPSY 8261; grad status or #) Scope, role, administration, research strategies, and evaluation of institutional research in postsecondary institutions. Overview of research methodologies, disciplinary foundations of institutional research. Use of institutional, state, and national databases in addressing full range of institutional missions/functions.

EDPA 5795. Plan B Research Design. (3 cr; max 6 cr; A-F only; Prereq—Grad student) Foundation to design Plan B research project relevant to student's professional interests. Literature review strategies to establish conceptual framework for project. Relates research question to design alternatives and to associated qualitative/quantitative analysis techniques. Issues such as human subjects and APA guidelines for preparing research papers.

EDPSY 1600. Special Topics: Developing Special Educational and Human Service Programs. (1-4 cr; max 15 cr; Prereq—#) Explores the concepts, issues, and practices in developing special education and human services for persons with disabilities. Appropriate for persons in paraprofessional positions.

EDPSY 1905. Freshman Seminar. (1-3 cr; max 6 cr; Prereq—Fr) Interdisciplinary seminar. Topics specified in Class Schedule.

EDPSY 3101. Creativity and Intelligence: An Introduction. (3 cr) Classic/contemporary theories of creativity/intelligence, their development, implications for behavioral/social sciences and psychological/educational practices.

EDPSY 3111W. Introduction to Critical Thinking. (3 cr) Prominent issues and research findings related to critical thinking. How to critically evaluate controversies/arguments in editorials and published essays. Applications of critical thinking to various fields.

EDPSY 3119. Learning, Cognition, and Assessment. (3 cr; A-F only; SEEH 5001) Principles of learning, cognition, cognitive development, classroom management, motivation, instruction, and assessment. Topics: behaviorism, cognitive and social constructivism, human information processing theory, intelligence, knowledge acquisition, reasoning skills, scholastic achievement, standardized testing, reliability, validity, student evaluation, performance assessment, and portfolios.

EDPSY 3132. Psychology of Multiculturalism in Education. (3 cr; A-F only) Course critically examines social and cultural diversity in the United States, confronting social issues of poverty, handgun, homophobia, racism, sexism, violence, violence, and so on, and presenting models for change. Students examine how and why prejudices develop.

EDPSY 3133. Practicum: Service Learning, Psychology of Multiculturalism in Education. (1 cr; max 3 cr; Prereq—[3132 or 3131] and #) Thirty hours of service learning in multicultural communities. Students work with children, youth, or adults in ESL tutoring or after-school youth programs. Sensitivities/competencies related to multicultural issues in U.S. society.

EDPSY 3134W. Social Diversity and Deculturalization in Education. (3 cr) How educational practices affect cultures of minority-status peoples in the United States. Emphasizes historical/contemporary educational issues of deculturalization related to assimilation, segregation, integration, and educational labeling, achievement, and interaction of students.


EDPSY 3300. Special Topics in Educational Psychology. (1-4 cr; max 9 cr) Current issues in educational psychology or related coursework in areas not normally available through regular curriculum offerings.

EDPSY 4300. Special Topics in Educational Psychology. (1-3 cr; max 3 cr) Current issues in educational psychology or related coursework in areas not normally available through regular curriculum offerings.

EDPSY 5101. Intelligence and Creativity. (3 cr; A-F only) Contemporary theories of intelligence and intellectual development and contemporary theories of creativity and their implications for educational and psychological research.

EDPSY 5112. Knowing, Learning, and Thinking. (4 cr; A-F only) Principles of human information processing, memory, and thought; mental operations in comprehension and problem solving; developing expertise and automaticity; emphasis on applied settings.

EDPSY 5113. Psychology of Instruction and Technology. (3 cr) Introduction to adult learning and instructional design. Application of core foundational knowledge to development of effective learning environments for adults. Topics include philosophy, learning theories, instructional models, development and experience, individual differences, evaluation, assessment, and technology.

EDPSY 5114. Psychology of Student Learning. (3 cr; A-F only) Principles of educational psychology: how learning occurs, why it fails, and implications for instruction. Topics include models of learning, development, creativity, problem-solving, intelligence, character education, motivation, diversity, special populations.

EDPSY 5115. Psychology of Adult Learning and Instruction. (3 cr) Survey of adult learning/instruction. Emphasizes instructional design, learning theories, experience, individual differences, evaluation, tests/measurement, technology. Implications for curricular/instructional design in higher education, continuing education, professional/business related training.

EDPSY 5117. Problem Solving and Decision Making. (3 cr; A-F only) Strategies, rules, methods, and other cognitive components involved in problem solving and decision making, implications for educational practices, and applied domains.

EDPSY 5118. Language: Psycholinguistic Research and Educational Application. (3 cr; A-F only) Psycholinguistic study of language. Psychological processes involved in language use, mechanisms that guide these processes. Failures of these mechanisms. How language operates.

EDPSY 5135. Human Relations Workshop. (4 cr) Experiential course address issues of prejudice and discrimination in terms of history, power, and social perception. Includes knowledge and skills acquisition in cooperative learning, multicultural education, group dynamics, social influence, effective leadership, judgment and decision-making, prejudice reduction, conflict resolution.

EDPSY 5141. Aggression in Schools. (3 cr; A-F only; Prereq—5xxx course in [developmental or educational] psychology) Development of aggression in schools. Aggression defined, compared to cooperative/prosocial behavior. Theories, methods, gender/individual differences.

EDPSY 5151. Cooperative Learning. (3 cr) Participants learn how to make cooperative learning in their setting. Topics include theory and research, teacher’s role, essential components that make cooperation work, teaching social skills, assessment procedures, and collegial teaching teams.

EDPSY 5152. Psychology of Conflict Resolution. (3 cr) Overview of the field of conflict resolution. Major theories, research, major figures in the field, factors influencing quality of conflict resolution are covered. The nature of conflict, the history of field, and intrapersonal, interpersonal, intergroup conflict, negotiation, mediation are discussed.
Course Descriptions

EPSY 5154. Organization Development and Change. (3 cr) Overview of organizational development and change. Normative models of effective organizations, entry and contracting skills, diagnosis procedures and intervention procedures (data feedback, skills training, continuous improvement, mediation).

EPSY 5155. Group Dynamics and Social Influence. (3 cr) Overview of the field of group dynamics with emphasis on social influence. Major theories, research, and figures in the field are covered. Group goals, communications, leadership, decision making, problem solving, conflicts, power, uniqueness theory, deindividuation, and minority influence will be covered.

EPSY 5157. Social Psychology of Education. (3 cr; A-F only) Overview of social psychology and its application to education. Participants study the major theories, research, and major figures in field. Class sessions include lectures, discussions, simulations, role-plays, and experiential exercises.

EPSY 5158. Using Power and Influence to Effect Change. (3 cr; Prereq—3xxx course in social sciences or #) How people can influence others and avoid manipulation. Factors that shape extent to which influence is successful. Indirect/direct influence processes, minority influence, motivation, behavior management, conformity, group dynamics.

EPSY 5191. Education of the Gifted and Talented. (3 cr; A-F only) Theories of giftedness, talent development, instructional strategies, diversity and technological issues, implications for educational practices and psychological inquiry, and international considerations.

EPSY 5200. Special Topics: Psychological Foundations. (1–4 cr [max 30 cr]) Focus on special topics in psychological and methodological concepts relevant to advanced educational theory, research, and practice not covered in other courses.

EPSY 5216. Introduction to Research in Educational Psychology and Human Development. (3 cr; A-F only. Prereq—5261 or intro statistics course) Designing/conducting a research study. Reviewing literature, formulating research problem, using different approaches to gather data, managing/analyzing data, reporting results.

EPSY 5221. Principles of Educational and Psychological Measurement. (4 cr; Prereq—5261 or equiv) Concepts, principles, and methods in educational/psychological measurement. Reliability, validity, item analysis, scores, score reports (e.g., grades). Modern measurement theories, including item response theory and generalizability theory. Emphasizes construction, interpretation, use, and evaluation of assessments regarding achievement, aptitude, interests, attitudes, personality, and exceptionality.

EPSY 5222. Measurement and Analysis: K-12 Education Accountability. (4 cr; Prereq—5221 or 5261 or PSY 5261 or #) Methods of educational accountability. Meaning of student/school accountability. Measurement of educational inputs, processes, and results. Data analysis, data use for school improvement.

EPSY 5231. Introductory Statistics and Measurement in Education. (4 cr; EPSY 5264, EPSY 5261) Students develop an understanding of basic statistics and measurement concepts and tools and apply them to the collection, analysis, and interpretation of data.

EPSY 5243. Principles and Methods of Evaluation. (3 cr; §EPSY 5501) Introductory course in program evaluation; planning an evaluation study, collecting and analyzing information, reporting results; overview of the field of program evaluation.

EPSY 5244. Survey Design, Sampling, and Implementation. (3 cr; Prereq—5221 or 5261 or 5261 or equiv) Introductory and graduate students. Survey methods, including mail, phone, and Web-based/e-mail surveys. Principles of measurement, constructing questions/forms, pilot testing, sampling, data analysis, reporting. Students develop a survey proposal and a draft survey, piloting survey, and developing sampling/data analysis plans.

EPSY 5246. Evaluation Colloquium: Psychological Foundations. (1 cr [max 8 cr]; S-N only. §EDPA 5524 or EPSY 5501) Informal seminar of faculty and advanced students interested in the issues and problems of program evaluation.

EPSY 5247. Qualitative Methods in Educational Psychology. (3 cr, Prereq—Grad student) Introduction to qualitative methods of inquiry. Contrasting different research traditions (e.g., case study, phenomenology, ethnography, social interactionism, critical theory). Practice with field notes, observations, and interviewing. Use of NVIVO to track/code data.


EPSY 5262. Interim Statistical Methods. (3 cr, Prereq—5261 or 5261 or equiv) Application of statistical concepts/procedures. Analysis of variance, covariance, multiple regression. Experimental design: completely randomized, block, split plot/repeated measures.

EPSY 5271. Becoming a Teacher of Statistics. (3 cr, Prereq—5261 or equiv) Current methods of teaching first courses in statistics. Innovative teaching methods, materials, and technological tools. Types of first courses, reform recommendations, goals for student learning, recommended content, teaching methods, technology, student assessment.

EPSY 5272. Statistics Teaching Internship. (3 cr; S-N only. Prereq—Grad student, #) Supervised teaching experience.

EPSY 5273. Methodology Teaching Internship. (1 cr [max 2 cr]; S-N only. Prereq—Grad student, #) Supervised teaching experience as part of a course in statistics, measurement, or evaluation.

EPSY 5281. Introduction to Computer Operations and Data Analysis in Education and Related Fields. (3 cr; S-N only) Introductory computer literacy course to familiarize students with personal computers and computing resources at the University. Applications include electronic communications, spreadsheets, graphical presentation, and data analysis.

EPSY 5300. Special Topics in Educational Psychology. (1–2 cr [max 6 cr]) Current issues in educational psychology or related areas not normally available through regular curriculum offerings.

EPSY 5400. Special Topics in Counseling Psychology. (1–4 cr [max 8 cr]) Theory, research, and practice in counseling and student personnel psychology. Topics vary.

EPSY 5401. Counseling Procedures. (3 cr, Prereq—Upper div student) Emphasis on the counseling relationship and principles of interviewing. Case studies, role playing, and demonstration. For individuals whose professional work includes counseling and interviewing.

EPSY 5412. Introduction to Developmental Counseling and Guidance. (3 cr; Prereq—#) Contemporary models of counselors as advocates for all students. Emphasizes prevention and systems intervention with counselors involved in the developmental guidance curriculum, school change, staff and community collaboration, individual student planning, and normal/abnormal developmental issues and diverse populations.

EPSY 5415. Child and Adolescent Development and Counseling. (4 cr, A-F only; Prereq—Grad student or MED student or K-12 (counseling endorsement or licensure) student) Development, issues, and needs of children, kindergarten through high school ages. Counseling/developmental theories, family, culture, and environment. Cultural diversity, legal/ethical issues in counseling children/adolescents.

EPSY 5421. Leadership and Administration of Student AffAirS. (3 cr; §EPSY 5524) Theoretical approaches, administrative structure, and evaluation methods used in college/university student affairs.

EPSY 5422. Principles of Group Work: Theory and Procedures. (3 cr; Prereq—Advanced undergrad or grad student in the helping professions) Principles and practices of group work for educators and the helping professions. Discussion of various types of groups (e.g., counseling support, task, psychoeducational). Applications to various settings and populations (e.g., schools and community agencies).

EPSY 5432. Foundations of Individual/Organizational Career Development. (3 cr) Introduction to individual and organizational career development theory and practice. Examines critical issues in work patterns, work values, and workplaces in a changing global society, with implications for career planning, development, and transitions, emphasizing personal and organizational change. For nonmajors: serves students in adult ed, HRD, IR, college student advising, and other related fields.

EPSY 5433. Counseling Women Over the Life Span. (3 cr) Counseling students who are at-risk. Counseling skills and interventions to facilitate career development of girls and women of different life stages and backgrounds (school girls to older women); developmental issues from a systematic integrative life planning framework; facts, myths, and trends regarding women’s changing roles.

EPSY 5434. Counseling Adults in Transition. (3 cr; Prereq—Advanced undergrad or grad student in the helping professions) Psychological, physical, and social dimensions of adult transitions (e.g., family and personal relationships, career). Adult development theories, stress and coping, and helping skills and strategies as they relate to adult transition.

EPSY 5451. College Students Today. (3 cr; §EPSY 5704) Issues involving diverse populations of students in colleges/universities. Student development theory, students’ expectations/interests, how college affects student outcomes. Role of curricular/extra-curricular activities and of student-faculty interactions.


EPSY 5601. Survey of Special Education. (2 cr) Introduction to programs and services provided to people with disabilities in special education settings. Emphasis on the needs of families, to the roles and responsibilities of teachers, and to related service providers.

EPSY 5604. Transition from School to Work and Community Living for Persons with Special Needs. (2 cr) Design of training programs to promote independent living. Vocational and community adjustment for persons with disabilities and who are at-risk. Curriculum materials, methods, and organizational strategies for adolescents and adults, families, and community service providers.
Course Descriptions

EPSY 5609. Family-Centered Services. (2 cr; A-F only) Methods for collaborating with families in the education of children with disabilities. Focus on family-centered approach to design of educational plans and procedures. Specific emphasis on multicultural perspectives of family life and expectations for children.

EPSY 5612. Understanding of Academic Disabilities. (3 cr; A-F only) Introduction to issues related to the education of students with academic disabilities (learning disabilities, mild mental intellectual disabilities, and emotional/behavioral disabilities) including history, definition, assessment, classification, legislation, and intervention approaches.

EPSY 5613. Foundations of Special Education I. (3 cr; A-F only. Prereq—Child development course, 5601 or equiv) Emphasis on the organization of educational programs and services for people with disabilities and their families. First course for students seeking to become licensed teachers in special education.

EPSY 5614. Foundations of Special Education II. (3 cr; A-F only. Prereq—5613) Emphasis on assessment, planning, and implementing educational programs for people with disabilities. Second course for students seeking to become licensed teachers in special education.

EPSY 5615. Advanced Academic Interventions. (3 cr; A-F only. Prereq—5612) Develop knowledge and skills in designing, implementing, and evaluating Individual Education Plans (IEPs) for students eligible for special education service in learning disabilities, emotional/behavioral disorders, and mild mental intellectual disabilities.

EPSY 5616. Behavior Analysis and Classroom Management. (3 cr) Introduction to assumptions, principles, and procedures of behavioral approach to analyzing behavior and programs for classroom management. Emphasis on specifying problems, conducting observations, intervening, and evaluating behavioral change.

EPSY 5621. Functional/Basic Academic Interventions in Mental Retardation. (3 cr; A-F only. Prereq—5613, 5614) Methods and materials course emphasizing functional approaches to promoting academic learning in students with mild to moderate mental retardation and moderate to severe mental retardation.

EPSY 5622. Programs and Curricula for Learners with Severe Disabilities. (3 cr. Prereq—5616) Emphasis on developing programs and curricula for students with moderate, severe, and profound developmental delays, as well as severe multihandicapping conditions. Special consideration given to preparing children and youth for integrated community environments.


EPSY 5626. Seminar: Developmental Disabilities and Instructional Management. (3 cr Prereq—5621, 5622 or #) Data-based strategies for school and nonschool instruction of learners with developmental disabilities including assessment, design, implementation, and evaluation of curriculum and instruction: curriculum content, concept and task analysis, classroom arrangements, natural and instructional cues, corrections, and consequences.

EPSY 5635. Education of Students with Physical and Health Disabilities. (3 cr; A-F only. Prereq—5621 or #) Introduction to the instructional needs of students with physical and health disabilities and their characteristics; the educational implications of physical disabilities; assessment procedures and appropriate educational interventions for learners with physical and health disabilities.

EPSY 5636. Education of Multihandicapped Learners with Sensory Impairments. (3 cr. Prereq—5613, 5614) Characteristics of learners with visual and auditory impairments; design of instructional programs to remediate or circumvent disabilities, including use of prosthetic devices; related areas of performance affected by sensory impairments.

EPSY 5641. Foundations of Education for Individuals Who Are Deaf/Hard of Hearing. (3 cr) Historical and current issues related to education of individuals who are deaf or hard of hearing. Implications of causes of hearing loss, social and cultural relationships, philosophies of education, characteristics and legislative guidelines and their applicability to education of individuals who are deaf or hard of hearing.


EPSY 5647. Aural and Speech Programming for Persons Who Are Deaf/Hard of Hearing. (3 cr) Study of the speech, hearing, communication, and learning mechanisms, causes of hearing loss, and rehabilitation. Emphasis on instructional practices, aural rehabilitation in the educational setting, adaptive technology, and adaptations to optimize functional skills with individuals who are deaf or hard of hearing.


EPSY 5649. Models of Instructional Programming With Deaf and Hard of Hearing Students. (3 cr. Prereq—5641, 5644 or #) Design/development of portfolios for various models of educational service delivery systems for individuals with hearing loss. Emphasizes consultation skills, curriculum management/modifications, material/technology applications, support service adaptations.

EPSY 5656. Social and Interpersonal Characteristics of Students with Disabilities. (3 cr; A-F only) Emphasis on children and youth of school age and on the ways in which their emotional, social, and behavioral disorders affect their functioning in school and on ways in which their behaviors disturb others.

EPSY 5657. Interventions for Social and Emotional Disabilities. (3 cr; A-F only. Prereq—5616, 5656) Development of comprehensive behavioral programs for students with social and emotional disabilities. Instructing students with social and emotional disabilities.


EPSY 5671. Literary Braille. (3 cr; A-F only) Mastery of literary braille code including all contractions and short-form words used in Grade 2 English Braille: American Usage. Use of specialized braille writing equipment including, braille writer, slate and stylus, and computer programs with six-key input.

EPSY 5672. Advanced Braille Codes. (2 cr; A-F only) Mastery of the Nemeth code for braille mathematics transcription including elementary math computation, algebra, geometry, trigonometry, and symbolic logic notation. Introduction to foreign languages, computer notation, music, and raised line drawing techniques.

EPSY 5674. Techniques of Orientation, Mobility, and Independence for Students with Visual Disabilities. (3 cr; A-F only. Prereq—5675 or #) Introduction to techniques to gain skills in pre-cane techniques, orientation to learning environments, and adaptations for activities of daily living and independence. Introduction to mobility maps, consideration of cane, guide dog, and telescopic aids to mobility.

EPSY 5676. Case Management for Children with Visual Disabilities. (3 cr; A-F only. Prereq—5671, 5673, 5675) Advanced course evaluating and managing cognitive, psychosocial, physical, and academic needs of students. Consideration of parent, teacher, and student in counseling and educational program management.

EPSY 5681. Education of Infants, Toddlers, and Preschool Children with Disabilities: Methods and Materials. (3 cr. A-F only. Prereq—5625) Overview of the methods and materials available to maximize the developmental and educational outcomes for young children, birth to age 5, with disabilities and their families in home, community, and school based-settings.

EPSY 5701. Practicum: Field Experience in Special Education. (1-6 cr [max 12 cr; A-F only. Prereq—5614, 5657, 5658] A-F or S/N grad [or letter grade]) or (0) Observations and supervised support of teaching practice in schools or agencies serving children with disabilities in integrated programs.

EPSY 5702. Practicum in Autism Spectrum Disorder. (3 cr. Prereq—5616, 5661, 5663, one of 5622 or 5644 or SLHS 5606), or matriculated in Autism Spectrum Disorder certificate program, #) Four hundred hours of supervised work in settings where individuals with Autism Spectrum Disorder are served. On-site supervision is provided by qualified professionals. A University supervisor conducts on-site observations. Bi-weekly seminars.

EPSY 5703. Practicum in Applied Behavior Analysis. (3 cr. Prereq—5657, 5657, PSY 4011, Applied Behavior Analysis Certificate student, #) Four hundred hours of supervised experience in applied behavior analytic intervention with individuals with significant challenging behavior and learning difficulties. On-site supervision is provided by qualified professionals. A University supervisor conducts on-site observations. Bi-weekly seminars.

For definitions of course numbers, symbols, and abbreviations, see page 300.
Course Descriptions

EPSY 5720. Special Topics: Special Education. (1-4 cr [max 12 cr]; Prereq–∆)
Lab and fieldwork approach, often assuming a product orientation, e.g., generation of action plan, creating set of observation field notes, collecting data in some form. Provides opportunities for educational personnel to study specific problems and possibilities related to special education.

EPSY 5740. Special Topics: Interventions and Practices in Educational and Human Service Programs. (1-4 cr [max 8 cr]; Prereq–∆)
Concepts, issues, and practices related to the community inclusion of children, youth, and adults with developmental disabilities through weekly seminar and extensive supervised experience working with individuals within the community.

EPSY 5851. Student Teaching: Deaf/Hard of Hearing. (1-8 cr [max 10 cr]; Prereq–∆)
Students participate in educational programming for infants, children, and youth who are deaf or hard of hearing, as well as in onsite, directed experiences under the supervision of master teachers of deaf and hard of hearing students.

EPSY 5752. Student Teaching: Learning Disabilities. (1-8 cr [max 10 cr]; S-N only. Prereq–∆)
Supervised experience in teaching or related work in schools or other agencies serving children and adolescents with learning disabilities.

EPSY 5753. Student Teaching: Early Childhood Special Education. (1-6 cr [max 8 cr]; S-N only. Prereq–∆, completion of all course requirements for license in ECSE)
Supervised experience in teaching or related work in schools, agencies, or home settings with infants, toddlers, and preschoolers with disabilities and their families.

EPSY 5754. Student Teaching: Social and Emotional Disabilities. (1-8 cr [max 8 cr]; A-F only. Prereq–∆)
Teach students with social and emotional disorders at public schools and other appropriate sites. Attend a weekly seminar on student teaching competencies.

EPSY 5755. Student Teaching: Developmental Disabilities, Mild/Moderate. (1-8 cr [max 6 cr]; A-F only. Prereq–∆)
Supervised teaching, or special practicum project, in schools or other agencies serving students at elementary/secondary levels who have mild to moderate developmental disabilities.

EPSY 5756. Student Teaching: Developmental Disabilities, Moderate/Severe. (1-6 cr [max 6 cr]; A-F only. Prereq–∆)
Supervised teaching, or special practicum projects, in schools or other agencies serving students at elementary/secondary levels who have moderate to severe developmental disabilities.

EPSY 5757. Student Teaching: Physical and Health Related Disabilities. (1-6 cr [max 8 cr]; A-F only. Prereq–∆)
Supervised teaching and related work (direct instruction and consultation) in schools or other agencies serving children and adolescents who have physical disabilities.

EPSY 5758. Student Teaching: Visual Impairments. (1-6 cr [max 8 cr]; A-F only. Prereq–∆)
Supervised teaching, or special practicum project, in schools or other agencies serving children and adolescents who have visual impairments.

EPSY 5800. Special Topics in School Psychology. (1-9 cr [max 3 cr]; Prereq–∆)
Current issues in school psychology or areas not normally available through regular curriculum offerings.

EPSY 5801. Assessment and Decision Making in School and Community Settings. (3 cr; A-F only)
Introduction to psychological and educational assessment for individuals who work with children, especially those experiencing academic and behavior problems. Study of standardized group and individual tests of intelligence, achievement, socio-emotional functioning, perception, reading, mathematics, adaptive behavior, and language.

EPSY 5849. Observation and Assessment of the Preschool Child. (3 cr [max 4 cr])
Introduction to assessment principles and practices, including observational assessment methods, for children (birth to 5). Intended primarily for teachers in training and others interested in basic information regarding assessment and its relationship to intervention services for young children.

EPSY 5851. Collaborative Family-School Relationships. (2-3 cr [max 3 cr]; Prereq–Honors senior or grad student)
Theoretical and empirical bases for creating collaborative family-school relationships for students’ development and educational success in school. Emphasis on model programs for K-12 and practical strategies for educational personnel to address National Educational goal 8.

EPSY 5852. Prevention and Early Intervention. (3 cr)
Theory/research base for school-based primary/secondary programs to promote academic/social competence of children/youth (birth to grade 12).

EPSY 5871. Interdisciplinary Practice and Interagency Coordination in Education and Human Services. (3 cr)
Principles and procedures of interdisciplinary practice and interagency coordination. Examine the relative strengths of interdisciplinary approaches, develop skills for collaborating with others, and examine different approaches to interagency coordination.

EPSY 5991. Independent Study in Educational Psychology. (1-8 cr [max 20 cr])
Self-directed study in areas not covered by regular courses. Specific program of study is jointly determined by student and advising faculty member.

Electrical and Computer Engineering (EE)

Institute of Technology

EE 1. Refresher Course for Electrical Engineers. (0 cr; A-F only. Prereq–∆)
Review of electrical engineering fundamentals required to pass the Minnesota Professional Engineering Examination in electrical engineering. Organized review of material commonly contained in electrical engineering college curriculum. Emphasizes problem solving with orientation as close as possible to type of questions in exam.

EE 301. Introduction to Digital System Design: Discussion. (0 cr; S-N only. Prereq–Concurrent registration in 301)
Discussion section to go with 301.

EE 301. Introduction to Digital System Design: Laboratory. (1 cr. Prereq–Concurrent registration in 301)
Experiments with simple circuits. Familiarization with basic digital circuit design.

EE 3025. Statistical Methods in Electrical and Computer Engineering. (3 cr. Prereq–PHYS 1302, ¶is required in Math 2243, 2373, 2573)

EE 2001. Introductory Circuits and Electronics Laboratory. (1 cr. Prereq–Fall 2001 or §2001)
Introductory lab in electronics to accompany 2001. Experiments with simple circuits. Familiarization with basic measurement tools and equipment.

EE 2006. Introductory Circuits Laboratory. (1.5 cr)
Meets concurrently with an arranged 2002 section.

EE 2101. Introduction to Electrical and Computer Engineering. (1.5 cr. Prereq–Linear circuits)

EE 2103. Introduction to Electronics II. (1 cr. Prereq–2001 or 2101)
Active and passive analog filters, high frequency diode and transistor models, amplifier frequency response, multistage amplifiers. Covers electronics content of 2011 in half a semester.

EE 2301. Introduction to Digital System Design, I. (4 cr. Prereq–Math 1272 or 1372 or 1572, concurrent registration in 301)
Boolean algebra, logic gates, combinational logic, logic simplification, sequential logic, design of synchronous sequential logic, VHDL modeling, design of logic circuits. Integral lab.

EE 2361. Introduction to Microcontrollers. (4 cr. Prereq–1301 or CSE 1113 or 2301, CSE 1901, ¶0361)
Computer organization, assembly language programming, arithmetic/logical operations, parallel/serial input/output. Exception handling, interrupting, using special-purpose features such as A/D converters, fuzzy logic, DSP operations. Integral lab.

EE 3005. Fundamentals of Electrical Engineering. (4 cr. Prereq–Math 2243, PHYS 1302; not for EE majors)
Fundamentals of analog electronics, digital electronics, and power systems. Circuit analysis, electronic devices and applications, digital circuits, microprocessor systems, operational amplifiers, transistor amplifiers, frequency response, magnetically coupled circuits, transformers, steady state power analysis.

EE 3006. Fundamentals of Electrical Engineering Laboratory. (1 cr. Prereq–Concurrent enrollment in 3005 is allowed but not required)
Lab to accompany 3005.

EE 3015. Signals and Systems. (3 cr. Prereq–[2011, ¶4 A]

EE 3035. Statistical Methods in Electrical and Computer Engineering. (3 cr. Prereq–[2015, ¶5 A] or instr approval)
Course Descriptions

EE 3101. Circuits and Electronics Laboratory I. (2 cr. Prereq.–[2002, 3115 or 31151], IT or A) Experiments in circuits/electronics.

EE 3102. Circuits and Electronics Laboratory II. (2 cr. Prereq.–[3101 or IT], attendance first day of class) Experiments in circuits/electronics. Team design project.

EE 3105. Circuits Electronics Transition Laboratory. (75 cr. A-F only; Prereq.–3015) Together with 3400, completes the 3101 requirement.


EE 3601. Transmission Lines, Fields, and Waves. (3 cr. Prereq.–2011, Math 2423 or Math 2573 or PHYS 1302 or PHYS 1401, IT or A) Properties of transmission lines, electrostatics, magnetostatics, and electromagnetic waves in unbounded space. Guides, cavities, radiation theory, antennas.

EE 3940. Special Topics in Electrical and Computer Engineering. (1-4 cr. [max 8 cr.]; Prereq.–) Topics that are not available in regular courses. Topics vary.

EE 3961. Industrial Assignment I. (1 cr. S-N only; Prereq.–Admission to ECE co-op) Industrial work assignment in Electrical and Computer Engineering co-op program. Based grade on student’s written report of semester’s assignment, but deferred until completion of 4961.

EE 3990. Curricular Practical Training. (1-3 cr. [max 3 cr.] Prereq.–8, undergrad EE or CompE major) Industrial work assignment involving advanced electrical engineering technology. Reviewed by faculty member. Final report covering work assignment.


EE 4231. Linear Control Systems: Designed by Input/Output Methods. (3 cr. Prereq.–3015, [upper div IT or grad student in IT major]) or EE or CompE grad cr) Modeling, characteristics, and performance of feedback control systems. Stability, root locus, and frequency response methods. Digital implementation, hardware considerations.

EE 4233. State Space Control System Design. (3 cr. Prereq.–3015, upper div IT or A; EE or CompE grad cr) State space models, performance evaluation, numerical issues for feedback control. Stability, state estimation, quadratic performance. Implementation, computational issues.

EE 4235. Linear Control Systems Laboratory. (1 cr. Prereq.–4231 or 42311; no EE or CompE grad cr) Lab to accompany 4231.

EE 4237. State Space Control Laboratory. (1 cr. Prereq.–4235 or 42351; no cr EE or CompE grad students) Lab to accompany 4235.


EE 4363. Computer Architecture and Machine Organization. (4 cr. CSCI 4203, EE 3561, Prereq.–2361) Introduction to computer architecture. Aspects of computer systems, such as pipelining, memory hierarchy, and input/output systems. Performance metrics. Examines each component of a complicated computer system.


EE 4505. Communications Systems Laboratory. (1 cr. max 3 cr. Prereq.–4501 or 4510; no EE or CompE grad cr) Experiments in design of wired/wireless communication systems. Lab to accompany 4501.


EE 4609. Digital Computer Hardware. (3 cr. EE 5009, Prereq.–2011, PHYS 1301, 1302, or EE or CompE major) Introduction to high speed interconnect design. Transmission line theory, coupled line theory, elements of microwave circuit theory, parasitic calculations/measurement techniques for good interconnect design.

EE 4701. Electric Drives. (3 cr. max 4 cr. Prereq.–3015) AC/DC electric-machine drives for speed/position control. Integrated discussion of electric machines, power electronics, and control systems. Computer simulations. Applications in electric transportation, robotics, process control, and energy conservation.

EE 4703. Electric Drives Laboratory. (1 cr. Prereq.–4701 or 4701) Laboratory to accompany 4701. Simulink-based simulations of electric machines/drives in applications such as energy conservation and motion control in robotics.


EE 4722. Power System Analysis Laboratory. (1 cr. Prereq.–4721 or 4721I) Lab analysis of AC power systems, power system networks, power flow, short circuit, transient stability.


EE 4741. Power Electronics. (3 cr. max 4 cr. Prereq.–3015, 3115) Switch-mode power electronics. Switch-mode DC power supplies. Switch-mode converters for DC and AC motor drives, wind/solar/photovoltaic inverters, interfacing power electronics equipment with utility system. Power semiconductor devices, magnetic design, electronic and magnetic interferences (RFI).

EE 4743. Switch-Mode Power Electronics Laboratory. (2 cr. Prereq.–4741 or 4741I) Laboratory to accompany 4741. PSpice/Simulink-based simulations of converters, topologies, and control in switch-mode dc power supplies, motor drives for motion control, and inverters for interfacing renewable energy sources to utility grid.

EE 4940. Special Topics in Electrical and Computer Engineering. (1-4 cr. [max 8 cr.]; Prereq.–IT or #) Topics that are not available in regular courses. Topics vary.

EE 4951W. Senior Design Project I. (2 cr. Prereq.–3015, 3115, 3102, 3601, attendance first day of class) Team participation in formulating/solving open-ended design problems. Oral/written presentations.

EE 4961. Industrial Assignment II. (2 cr. S-N only; Prereq.–3961; ECE co-op; no grad cr) Industrial work assignment in ECE co-op program. Grade based on student’s formal written report covering semester’s work.

EE 4962. Industrial Assignment III. (1 cr.; S-N only; Prereq.–4961; ECE co-op, A, no grad cr) Industrial work assignment in ECE co-op program. Formal written report covering semester’s work.

EE 4970. Directed Study. (1-3 cr. [max 3 cr.]; Prereq.–C or A may be repeated for cr.) A Experience in research/design for electrical/computer engineering. Oral/written reports.

EE 4982V. Senior Honors Project II. (2 cr. Prereq.–4981) Experience in research/design for electrical/computer engineering. Oral/written reports.

EE 5121. Transistor Device Modeling for Circuit Simulation. (3 cr. Prereq.–3115, 3161, IT grad student?) or A Basics of MOS, bipolar theory. Evolution of popular device models from early SPICE models to current industry standards.

EE 5141. Introduction to Microsystem Technology. (4 cr. Prereq.–3161, 3601, IT grad student?) or A Microelectromechanical Systems (MEMS) composed of microsensors, microactuators, and electronics integrated onto common substrate. Design, fabrication, and operation principles. Labs on micromachining, photolithography, etching, thin film deposition, metallization, packaging, and device characterization.


EE 5164. Semiconductor Properties and Devices II. (3 cr. Prereq.–5163, IT grad student?) or A Principles/properties of semiconductor devices. Charge control in MESFET, and GaAs MESFET.

EE 5171. Microelectronic Fabrication. (4 cr. Prereq.–IT grad student?) Fabrication of microelectronic devices. Silicon integrated circuits, GaAs devices. Lithography, oxidation, diffusion. Process integration of various technologies, including CMOS, double poly bipolar, and GaAs MESFET.
EE 5173. Basic Microelectronics Laboratory. (1 cr. Prereq—[5171 or 5171J], IT grad student or Δ) Students fabricate a polyisilicon gate, single-layer metal, NMOS chips, performing 80 percent of processing, including photolithography, diffusion, oxidation, and etching. In-process measurement results are compared with final electrical test results. Simple circuits are used to estimate technology performance.


EE 5235. Robust Control System Design. (3 cr. Prereq—IT grad, 3015, 5231 or Δ) Development of control system design ideas; frequency response techniques in design of single-input/single-output (and MIMO) systems. Robust control concepts. CAD tools.


EE 5324. VLSI Design II. (3 cr. Prereq—[5323, IT grad student] or Δ) CMOS arithmetic logic units, high-speed carry chains, fast CMOS multipliers. High-speed performance parallel shifters, CMOS memory cells, array structures, read/write circuits. Design for testability, including built-in and built-in self test. VLSI case studies.

EE 5327. VLSI Design Laboratory. (3 cr. Prereq—[4301, 5323 or 5323J], IT grad student) or Δ) Complete design of an integrated circuit. Designs evaluated by computer simulation.


EE 5333. Analog Integrated Circuit Design. (3 cr. Prereq—[3115, IT grad student] or Δ) Fundamental circuits for analog signal processing. Design issues associated with MOS/BJT devices. Design/testing of circuits. Selected topics (e.g., modeling of basic IC components, design of operational amplifier or comparator or analog sampled-data circuit filter).

EE 5364. Advanced Computer Architecture. (3 cr. Prereq—[4364 or CS2403], IT grad student) or Δ) Instruction set architecture, computer organization, microarchitecture. Memory and I/O systems. Interactions between computer software and hardware. Methodologies of computer design.

EE 5371. Computer Systems Performance Measurement and Evaluation. (3 cr. Prereq—[5346 or 5361] or CS2403 or 5261, IT grad student) or Δ) Tools/techniques for analyzing computer hardware, software, and system performance. Benchmark programs, measurement tools, performance metrics. Deterministic/probabilistic simulation techniques, random number generation/testing. Bottleneck analysis.

EE 5381. Telecommunications Networks. (3 cr. Prereq—[4501, 5531, IT grad student] or Δ) Fundamental concepts of modern telecommunications networks, mathematical tools required for their performance analysis. Layered network architecture, point-to-point protocols/links, delay models, multiaccess communication/routing.


EE 5581. Information Theory and Coding. (3 cr. Prereq—[5531, IT grad student] or Δ) Source/channel models, codes for sources/channels. Entropy, mutual information, capacity, rate-distortion functions. Coding theorems.


EE 5601. Introduction to RF/Microwave Engineering. (3 cr. Prereq—[3601, IT grad student] or Δ) Fundamentals of EM theory and transmission lines concepts. Transmission lines and network analysis, CAD tool. Lumped circuit component designs. Passive circuit components. Connectivity to central communication theme.

EE 5602. RF/Microwave Circuit Design. (3 cr. Prereq—[5601 or 5601J], IT grad student or Δ) Transmission lines, network analysis concepts. CAD tools for passive/active designs. Diode based circuit designs (detectors, frequency multipliers, mixers). Transistor based circuit design (amplifiers, oscillators, mixer/doublers).


EE 5609. Digital Signal Integrity. (3 cr. Prereq—[4600, Prereq—[2011, PHYS 1301, PHYS 1302, IT grad student] or Δ) Introduction to high speed interconnect design. Transmission line theory, coupled line theory, elements of microwave circuit theory, parasitic calculations/measurement, techniques for good interconnect design. Term paper.

Course Descriptions

EE 5613. RF/Microwave Circuit Design Laboratory. (2 cr. Prereq—45601 or 45601, IT grad student or A) Scattering parameters, planar lumped circuits, transmission lines, RF/microwave substrate materials, matching networks/tuning elements, resonators, filters, combiners/dividers, couplers. Integral lab.

EE 5616. Antenna Theory and Design. (3 cr. Prereq—45601 or 56801, IT grad student or A) Antenna performance parameters, vector potential/ radiation integral, wire antenna structures, broadband antenna structures, microstrips/aperture theory, antenna measurements.

EE 5621. Physical Optics. (3 cr. Prereq—[4355 or 4356, IT grad student] or A) Physical optics principles, including Fourier analysis of optical systems/images, scalar diffraction theory, interferometry, and coherence theory. Diffraction effects, holography, astronomical imaging, optical information processing, microphtics.


EE 5624. Optical Electronics. (4 cr. Prereq—45601 or PHYS 3002) (IT grad student) or A) Fundamentals of lasers, including propagation of Gaussian beams, optical resonators, and theory of laser oscillation. Polarization optics, electro-optic, acousto-optic modulation, nonlinear optics, phase conjugation.


EE 5628. Fiber Optics Laboratory. (1 cr. Prereq—45627 or 45627, IT grad student) or A) Experiments in fiber optics. Dielectric waveguides, modes in optical fibers, fiber dispersion/attenuation, properties of light sources/detectors, optical communication systems.


EE 5655. Magnetic Recording. (3 cr. Prereq—IT grad student or A) Magnetic fundamentals, recording materials, idealized models of magnetic records/reproduction, analytic models of magnetic record heads, sinusoidal magnetic recording, digital magnetic recording, magnetic recording heads/media, digital recording systems.


EE 5721. Power Generation and Operation Control. (3 cr. Prereq—4727, IT grad student) or A) Engineering aspects of power system operation. Economic analysis of generation plants & scheduling to minimize total cost of operation. Scheduling of hydro resources and thermal plants with limited fuel supplies. Load analysis, secure operation, State estimation, optimal power flow. Power system organizations.


EE 5863. Computer Systems Performance Analysis. (2 cr. See 5371, Prereq—[4563 or 5361], IT grad student) or A) Basic performance measurement/simulation techniques necessary for experimental computer science/engineering. Hands-on performance evaluation techniques using simulations/measurements of existing systems. Using measured data to compare computer systems or to judge how much a new architectural feature improves system performance.

EE 5940. Special Topics in Electrical Engineering I. (1-4 cr. [max 12 cr]) Special topics in electrical and computer engineering. Topics vary.

EE 5950. Special Topics in Electrical Engineering II. (1-4 cr. [max 12 cr]) Special topics in electrical and computer engineering. Topics vary.

EE 5960. Special Topics in Electrical Engineering III. (1-4 cr. [max 12 cr]) Special topics in electrical and computer engineering. Topics vary.

EE 5990. Curricular Practical Training. (1-2 cr. [max 6 cr]; 3-N only) Prereq—A) Industrial work assignment involving advanced electrical engineering technology. Review by faculty member. Final report covering work assignment.

For definitions of course numbers, symbols, and abbreviations, see page 300.

Emergency Health Services (EHS)

College of Continuing Education

EHS 2999. Certification Credit. (1-40 cr [max 40 cr]; A-F only) Evaluation of credits earned for certification


EHS 3999. Special Exam. (1-15 cr [max 15 cr])


EHS 4021. EMS Planning and Fiscal Management. (3 cr; A-F only) Fundamentals of planning, fiscal, and process management as related to emergency medical systems (EMS). Regulatory requirements, EMS delivery models, contract negotiations, budgeting, scenario planning.

EHS 4999. Practicum. (1-3 cr [max 9 cr]; A-F only) Prereq—EHS Project in student’s employing organization or project in organization providing internship or integration of projects from previous coursework or development of program-related project.

EHS 5031. Basic Principles of Research in Emergency Health Services. (3 cr; A-F only) Basic principles of research in emergency health services.

English as a Second Language (ESL)

Department of Linguistics, ESL, and Slavic Languages and Literatures

College of Liberal Arts

ESL 10. TOEFL Preparation. (0 cr [max 8 cr]; S-N only) Prereq—Non-native English speaker; see Minnesota English Center for override) Describes the format of the TOEFL test. Focuses on strategies for improving skills for each section of the test.

ESL 20. Pronunciation Workshop. (0 cr [max 8 cr]; S-N only) Prereq—Non-native English speaker; see Minnesota English Center for override) Individual attention to specific areas of spoken language, including intonation, rhythm, segments.

ESL 40. Skills Enhancement. (0 cr [max 8 cr]; S-N only) Prereq—Non-native English speaker; see Minnesota English Center for override) Student will focus on specific areas of their English which need improvement.
ESL 80. English Through Literature. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) An advanced course designed for students who want further practice in reading, listening, speaking and writing for non-academic purposes.

ESL 90. English Through Music. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Students will learn English vocabulary and culture through folk songs and by looking at popular music in various decades.

ESL 100. Topics in American Culture. (0 cr [max 6 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Students will learn about areas of U.S. culture such as American humor, religions, ethnic groups, lifestyles, and popular culture.

ESL 111. Beginning Grammar. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Introduces and reviews grammatical structures with attention to meaning, use, and form.

ESL 121. Beginning Reading/Composition. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Reading short passages of limited difficulty. Emphasizes main ideas, vocabulary, reading speed, skimming and scanning. Writing fundamentals, spelling, punctuation, paragraphing, and basic organization. Writing exercises and free writing.

ESL 131. Beginning Oral Skills. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Focuses on the ability to communicate in English in everyday situations. Listening and speaking are emphasized.

ESL 181. Beginning Integrated English. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Reading, writing, speaking, listening, grammar.

ESL 191. English Skills Enhancement. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Improving basic English language skills through work in computer/language lab. Focused activities for individual learners.

ESL 193. Pronunciation. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Addresses important aspects of English pronunciation necessary to improve comprehensibility and reduce foreign-accents. Includes work on enunciation; word, phrasal, and sentence stress; intonation; linking; thought groups; and rhythm.

ESL 200. Understanding American Universitites. (0 cr [max 2 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Strategies for success in academic classes including vocabulary development, lecture comprehension, and text book reading: application of listening skills and the reading of supporting unadapted material.

ESL 211. High Beginning Grammar. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Reviews and adds to students’ skills with basic structures. Focuses on increasingly complex structures with attention to form, meaning, and use; practice of structures in controlled speaking and writing activities.

ESL 221. High Beginning Reading/Composition. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Reading longer passages of limited difficulty with increased speed. Main ideas, vocabulary development, reading speed, skimming and scanning. Writing fundamentals, spelling, punctuation, paragraphing, and organization. Writing exercises and free writing.

ESL 231. High Beginning Oral Skills. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Ability to communicate in English in everyday situations. Emphasis on listening and speaking, and increasing vocabulary and fluency in spoken English.

ESL 300. Computer Lab: Intro to Computer Basics. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Students will learn basic word processing.

ESL 310. Computer Lab: Using the Internet for Language Learning. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Students will complete projects on email and the internet.

ESL 311. Low Intermediate Grammar. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Reviews and adds to students’ skills with basic structures. Emphasizes increasingly complex structures with attention to form, meaning, and use; practice of structures used in controlled speaking and writing situations.

ESL 321. Low Intermediate Reading/Composition. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Reading for main ideas and supporting ideas with increased speed; vocabulary development, word formation, and use of dictionary; spelling, punctuation and paragraphing. Organization and writing as a process.

ESL 331. Low Intermediate Oral Skills. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Practice in speaking in structured and semi-structured situations with special attention to basic regularities in pronunciation.

ESL 400. Library and Research Skills. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Students will learn the basics of using the university library system for research purposes.

ESL 411. Intermediate Grammar. (0 cr [max 8 cr]; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Reviews and adds to students’ skills with basic structures. Increasingly complex structures with attention to form, meaning and use. Verb phrases; practice of structures in controlled speaking and writing activities.

ESL 421. Intermediate Reading/Composition. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Reading for main ideas and supporting ideas with increased speed; vocabulary development through study of word formation and use of dictionary. Writing fundamentals; organization and writing as a process.

ESL 431. Intermediate Oral Skills. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Develop fluency and accuracy in everyday situations and in academic situations; special attention to communication strategies; prepares students for academic lectures by introducing standard forms of organization and note-taking skills. Students also work on understanding natural conversational speech using a variety of authentic materials.

ESL 500. Community Service Learning. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) How to write business letters in English. E-mail, voice mail for business.

ESL 511. Advanced Grammar. (0 cr [max 4 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Focuses on difficult areas of grammar and on providing students with resources to work on them. Meaning, use and form are emphasized with increased emphasis on complex sentence patterns.

ESL 521. High Intermediate Reading/Composition. (0 cr [max 16 cr]; S-N only. Prereq—Prerequisite: Nonnative English speaker; see Minnesota English Center for override) Reading unadapted as well as adapted passages; efficiency, vocabulary, drawing inferences, identifying point of view, using knowledge of organization to aid understanding, writing process, academic-style assignments.

ESL 531. High Intermediate Oral Skills. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Develop fluency and accuracy in everyday situations and in academic situations; special attention to communication strategies; prepares students for academic lectures by introducing standard forms of organization and note-taking skills. Students also work on understanding natural conversational speech using a variety of authentic materials.

ESL 600. International Business Communication. (0 cr [max 4 cr]; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Communication in speaking, listening, reading, and writing in business English.

ESL 611. Advanced Grammar. (0 cr [max 4 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Focused on business grammar and on providing students with resources to work on them. Meaning, use and form are emphasized with increased emphasis on complex sentence patterns.

ESL 621. Advanced Reading Composition: The Written Word. (0 cr [max 16 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Focuses on improving reading efficiency, including strategy development, as well as vocabulary skill building. Some focus on using reading to support academic writing.

ESL 622. Advanced Reading/Composition: The Written Word. (0 cr [max 16 cr]; S-N only. Prereq—6021) Continuation of ESL 6021.


ESL 641. Advanced Listening Comprehension. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Lecture comprehension with attention to note taking, recognizing main ideas and support, and determining the attitude of the speaker toward the subject; comprehension of complex information presented in a nonlecture format, as in television documentaries.

ESL 651. Advanced Speaking/Pronunciation. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Emphasizes the use of spoken English in academic settings as well as in conversation. Pronunciation focuses on individual needs.

ESL 661. Advanced Reading. (0 cr [max 6 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Students will work on comprehending authentic texts of significant lengths. Develop strategies to apply in academic reading.

ESL 671. Advanced Composition. (0 cr [max 8 cr]; S-N only. Prereq—Nonnative English speaker; see Minnesota English Center for override) Skills needed at every stage of the writing process: finding a topic, determining an approach to the topic, planning and drafting a composition, revising, and editing. Suits one’s writing to audience and topic, and looking at one’s own writing critically.
ESL 700. Topics in the Media. (0 cr; max 8 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) News media as means of English improvement and as source of information/entertainment. Major international news events via radio broadcasts, newspaper, and other news sources. Understanding American culture and developing listening/speaking skills using American movies/television.

ESL 711. Grammar Through Writing. (0 cr; max 8 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Focuses on production of grammatically sophisticated structures in writing. Students edit their assignments.

ESL 712. Grammar Through Writing. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Production of grammatically sophisticated structures in writing. Students edit their assignments.

ESL 713. Grammar Through Writing. (0 cr; max 8 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Production of grammatically sophisticated structures in writing. Students edit their assignments.

ESL 721. High Advanced Reading/Composition. (0 cr; max 16 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Emphasizes reading for academic purposes. Focus on comprehension of scholarly reading selections and on increasing reading efficiency. Focus on writing process, academic-style assignments.

ESL 731. High Advanced Oral Skills. (0 cr; max 16 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Emphasizes listening and speaking skills in addition to understanding of U.S. culture through interaction with American culture and developing listening/speaking skills in academic written/oral discourse. Subordination, coordination, transition. Complex referential expressions. Complementation. Lexical grammar.

ESL 732. High Advanced Oral Skills. (0 cr; max 16 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Emphasizes listening and speaking skills in addition to understanding of U.S. culture through interaction with American students. Attend a weekly seminar with American university students and visit local schools to make presentations about your home country. Pronunciation instruction will focus on individual needs.

ESL 741. High Advanced Listening Comprehension. (0 cr; max 8 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Lecture comprehension with special attention to note taking, recognizing main ideas and support, and understanding relationships of ideas, implied information, and structure of speech; comprehension of information presented in a wide variety of authentic materials.

ESL 751. High Advanced Speaking/Pronunciation. (0 cr; max 8 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Emphasizes use of spoken English in academic settings, including presentation skills and discussion skills; pronunciation focuses on individual needs of students.

ESL 761. High Advanced Reading. (0 cr; max 8 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Continued development of strategies to increase reading efficiency and comprehension; paraphrasing/summarizing text, quoting and citing sources; understanding writer's perspective.

ESL 771. High Advanced Composition. (0 cr; max 8 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Refining of skills needed in the writing process; refinement of use of complex grammatical structures; research to support writing.

ESL 800. English for Science and Technology. (0 cr; max 2 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) English for formulating hypotheses, describing experiments, and presenting results; includes reading, writing, listening, and speaking activities based on scientific and technical English.

ESL 810. SIELOP: Grammar. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Form, function, meaning of English grammar.

ESL 820. SIELOP: Reading. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) English language reading skills.

ESL 830. SIELOP: Composition. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) English writing skills.

ESL 840. SIELOP: Speaking/Pronunciation. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) English speaking, pronunciation skills.

ESL 850. SIELOP: Listening. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) English listening skills.

ESL 900. Topics in English as a Second Language. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Topics vary — see Schedule or ONESTOP

ESL 901. Topics in English as a Second Language. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Topics vary — see Schedule.

ESL 902. Topics in English as a Second Language. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Topics vary — see Class Schedule.

ESL 903. Topics in English as a Second Language. (0 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Topics vary — see Class Schedule.

ESL 911. Fundamentals in English as a Second Language. (0 cr; max 12 cr; S-N only. Prereq—A, satisfactory score on [EPT or MNBatt or TOEFL]) Basic knowledge/skills needed for daily communication in spoken English. Grammatical structures explained with reference to their uses in social situations. Pronunciation.

ESL 912. Fundamentals in English as a Second Language. (0 cr; max 12 cr; S-N only. Prereq—A, satisfactory score on [EPT or MNBatt or TOEFL]) Basic knowledge/skills needed for daily communication in spoken English. Grammatical structures explained with reference to their uses in social situations. Pronunciation.

ESL 931. Developing Fluency in English as a Second Language. (0 cr; max 12 cr; S-N only. Prereq—A, satisfactory score on [EPT or MNBatt or TOEFL]) Communication skills for social, academic, and professional purposes. Emphasizes listening/speaking. Content drawn from mass media.

ESL 932. Developing Fluency in English as a Second Language. (0 cr; max 12 cr; S-N only. Prereq—A, satisfactory score on [EPT or MNBatt or TOEFL]) Communication skills for social, academic, and professional purposes. Emphasizes listening/speaking. Content drawn from mass media.

ESL 933. Developing Fluency in English as a Second Language. (0 cr; max 10 cr; S-N only. Prereq—Satisfactory score on [EPT or MNBatt or TOEFL]) Communication skills for social, academic, and professional purposes. Emphasizes listening/speaking. Content drawn from mass media.

ESL 937. International Business Communication. (0 cr; max 16 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Oral communication in a business setting. English as used in international trade, finance, and marketing. Listening/speaking skills for business materials. E-mail, voice mail. Writing business letters.

ESL 971. Advanced Academic Writing. (0 cr; max 8 cr; S-N only. Prereq—A, grad student, non-native speaker of English, satisfactory score on [EPT or MNBatt or TOEFL]) Introduction to the use of library system and to types of writing required in graduate school courses. Developing/organizing ideas, drafting, revising/editing papers, writing essay exams.

ESL 993. Directed Studies in English as a Second Language. (0 cr; max 40 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override) Directed study in English as a second language.

ESL 994. Directed Studies in English as a Second Language. (0 cr; max 20 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override)

ESL 995. Directed Studies in English as a Second Language. (0 cr; max 30 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override)

ESL 996. Directed Studies in English as a Second Language. (0 cr; max 40 cr; S-N only. Prereq—Non-native speaker of English; see Minnesota English Center for override)

ESL 3101. Advanced English Grammar. (4 cr; max 8 cr) Prereq—A, non-native speaker of English, [C-TOEFL score 153-180 or equiv], Program consent, Form, meaning, and use of common English grammatical structures in written/oral discourse. Adverb, adjective, and noun clauses. Verb tense, aspect, and modality. Grammar beyond sentence level. Application to development of revision/editing skills.


ESL 3201. Advanced English Reading and Composition. (5 cr; max 10 cr) Prereq—Non-native speaker of English, [C-TOEFL score of 153-180 or equiv], Prereq—3201, Non-native speaker of English, [C-TOEFL score of at least 183 or equiv], Program consent, Academic writer's purpose, main ideas, and supporting evidence in English language texts. Expansion of academic vocabulary. Use of source material in English research and writing in different academic genres. Focuses on revision to improve fluency/accuracy.

ESL 3202. Academic Reading and Composition. (5 cr; max 10 cr) Prereq—3201, Non-native speaker of English, [C-TOEFL score of at least 183 or equiv], Program consent, Academic writer's purpose, main ideas, and supporting evidence in English language texts. Expansion of academic vocabulary. Use of source material in English research and writing in different academic genres. Focuses on revision to improve fluency/accuracy.

ESL 3302. Writing for Academic Purposes. (4 cr; max 8 cr) Prereq—3202, non-native speaker of English, [C-TOEFL score of at least 183 or equiv], Program consent, Writing process. Idea generation/development, drafting, revision, editing. Focuses on different genres of academic writing, including critical response to scholarly argument, scholarly review, and incorporation of source material in writing. “Rush writing” under time pressure to improve fluency in writing.

ESL 3501. Advanced English Listening and Speaking. (5 cr; max 10 cr) Prereq—Non-native speaker of English, [C-TOEFL score 153-180 or equiv], Program consent, Speaking/understanding naturally spoken English in academic activities such as lecture comprehension, note-taking, participation in class discussions, and oral presentations. Emphasizes cross-cultural interaction related to academic subject matter.

ESL 3502. Academic Listening and Speaking. (5 cr; max 10 cr) Prereq—3501, Non-native speaker of English, [C-TOEFL score of at least 183 or equiv], Program consent, Understanding lectures and academic discussions. Focuses on critical listening. Students produce academic presentations and participate in discussions on subjects of general academic interest. Cross-cultural awareness. Negotiation of disagreement/ misunderstanding.

ENGC 1013H. University Writing and Critical Reading: Nature and the Environment. (4 cr. §ENGC 1011, ENGC 1011H, ENG 1012, ENG 1012H, ENG 1013, ENG 1013H, ENGC 1014, ENGC 1014H, ENG 1015, ENGC 1015, ENG 1016, PSTL 1422, PSTL 1423, PSTL 1424, Rhet 1101) Writing on topics concerning the environment. Critical reading/interpretation of selected texts. Research in various types of resources. Writing through several drafting steps. Finished writing is revised/edited to meet university-level standards of persuasiveness, precision, and correctness.

ENGC 1014. University Writing and Critical Reading: Contemporary Public Issues. (4 cr. §ENGC 1011, ENGC 1011H, ENG 1012, ENG 1012H, ENG 1013, ENG 1013H, ENGC 1014, ENGC 1014H, ENG 1015, ENGC 1015, ENG 1016, PSTL 1422, PSTL 1423, PSTL 1424, Rhet 1101) Writing on topics concerning citizenship and public ethics. Projective critical reading/interpretation of selected texts, research in various types of resources, and writing through several drafting steps. Finished writing is revised/edited to meet university-level standards.

ENGC 1014H. University Writing and Critical Reading: Contemporary Public Issues. (4 cr. §ENGC 1011, ENGC 1011H, ENG 1012, ENG 1012H, ENG 1013, ENG 1013H, ENGC 1014, ENGC 1014H, ENG 1015, ENGC 1015, ENG 1016, PSTL 1422, PSTL 1423, PSTL 1424, Rhet 1101) Writing on topics concerning citizenship and public ethics. Critical reading/interpretation of selected texts, research in various resources, writing through several drafting steps. Finished writing is revised/edited to meet university-level standards of persuasiveness, precision, and correctness.

ENGC 1015. University Writing and Critical Reading: Perspectives on Globalization. (4 cr. §ENGC 1011, ENGC 1011H, ENG 1012, ENG 1012H, ENG 1013, ENG 1013H, ENGC 1014, ENGC 1014H, ENG 1015, ENGC 1015, ENG 1016, PSTL 1422, PSTL 1423, PSTL 1424, Rhet 1101) Critical reading/interpretation of selected texts. Research in various types of resources, including Internet. Writing through several drafting steps. Finished writing is revised/edited to meet university-level standards of persuasiveness, precision, and correctness.

ENGC 1016. University Writing and Critical Reading: Community Learning and Civic Engagement. (4 cr. §ENGC 1011, ENGC 1011H, ENG 1012, ENG 1012H, ENG 1013, ENG 1013H, ENGC 1014, ENGC 1014H, ENG 1015, ENGC 1015, ENG 1016, PSTL 1422, PSTL 1423, PSTL 1424, Rhet 1101) Critical reading/interpretation of selected texts. Research in various types of resources, including Internet media resources. Writing that moves through several drafting steps. Finished writing is revised/edited to meet university-level standards of persuasiveness, precision, and correctness.

ENGC 1021W. Intermediate Expository Writing. (4 cr. Prereq–1011 or 1012 or 1012H or 1013 or 1014 or 1014H or 1015 or 1016 or GC 1422 or GC 1423 or GC 1424 or Rhet 1101 or exemption from writing req.) ([honors placement in category 2 or 3]) Choices academic writers make based on audience, purpose, and context. Emphasizes effective use of University Librarians including locating, evaluating, and using scholarly sources. Reading/writing assignments to extend/clarify arguments and improve control over writing. Selecting/limiting topics. Revision.

ENGC 1021W. Intermediate Expository Writing. (4 cr. Prereq–1011 or 1012 or 1012H or 1013 or 1014 or 1014H or 1015 or 1016 or GC 1422 or GC 1423 or GC 1424 or Rhet 1101 or exemption from writing req.) ([honors placement in category 2 or 3]) Choices academic writers make based on audience, purpose, and context. Emphasizes effective use of University Librarians including locating, evaluating, and using scholarly sources. Reading/writing assignments to extend/clarify arguments and improve control over writing. Selecting/limiting topics. Revision.
ENGW 3104. Intermediate Poetry Writing. (3 cr. Prereq–
1101 or 1103 or A) Exercising, experiments, assigned readings, discussion of student work.
ENGW 3106. Intermediate Literary Nonfiction Writing. (6 cr) Prereq, exercises, assigned readings, and discussion of students' work.
ENGW 3110. Topics in Creative Writing. (3 cr [max 9 cr]. Prereq–1101 or 1102 or 1103 or 1104 or A) Topics specified in Class Schedule.
ENGW 3110H. Topics in Creative Writing. (3 cr [max 9 cr]. Prereq–1101 or 1102 or 1103 or 1104, honors) Topics specified in Class Schedule.
ENGW 3960W. Writing Workshop for Majors. (4 cr. Prereq–ENGW, major, 6 cr of ENGW including 3xxx appropriate for workshop purposes, [r or sr], major advisor approval). A) Topics specified in Class Schedule.
ENGW 5102. Advanced Fiction Writing. (4 cr [max 8 cr. Prereq–A) Advanced workshop for graduate students with considerable experience in writing fiction.
ENGW 5104. Advanced Poetry Writing. (4 cr [max 8 cr. Prereq–A) Advanced workshop for graduate students with considerable experience in writing poetry. An opportunity to explore new poetic possibilities and to read widely in contemporary poetry and poetics.
ENGW 5105. Advanced Poetry Writing. (4 cr [max 8 cr. Prereq– A) Advanced workshop for students with considerable experience in writing poetry. An opportunity to explore new poetic possibilities and to read widely in contemporary poetry and poetics.
ENGW 5106. Advanced Literary Nonfiction Writing. (4 cr [max 8 cr. Prereq– A) Advanced workshop for graduate students with considerable experience in writing literary nonfiction.
ENGW 5110. Topics in Advanced Fiction Writing. (4 cr [max 16 cr. Prereq– A) Special topics in fiction writing. Topics specified in Class Schedule.
ENGW 5120. Topics in Advanced Poetry Writing. (4 cr [max 16 cr. Prereq– A) Special topics in poetry writing. Topics specified in Class Schedule.
ENGW 5130. Topics in Advanced Creative Writing. (4 cr [max 16 cr. Prereq– A) Workshop. Might include work in more than one genre.
ENGW 5201. Journal and Memoir Writing. (3 cr) Using memory in writing, from brainstorming to drafting to revision, in several genres (poems, traditional memoir essays, fiction). How diverse cultures shape memory differently.
ENGW 5202. Journal and Memoir Writing. (3 cr) Using memory in writing, from brainstorming to drafting to revision, in several genres (poems, traditional memoir essays, fiction). How diverse cultures shape memory differently.
ENGW 5204. Playwriting. (4 cr [max 8 cr. Prereq–[r or sr], one ENGW 3xx course, permission number [available in creative writing office]) Advanced workshop. Contact creative writing program for specific description.
ENGW 5205. Screenwriting. (4 cr. Prereq–[r or sr], one ENGW 3xx course, A (permission number available in creative writing office) Advanced workshop. Contact creative writing program for specific description.
ENGW 5207. Screenwriting II. (4 cr. Prereq–5205, one [Eng W or ENTA or Eng] 3xx course, [r or sr], A) Story structure, dialogue, description. Students turn story created in 5205 into a fully realized screenplay.
ENGW 5210. Topics in Advanced Literary Nonfiction. (4 cr [max 16 cr. Prereq–A) Special topics in essay writing (e.g., arts reviewing, writing about public affairs, writing in personal voice). Topics specified in Class Schedule.
ENGW 5310. Reading as Writers. (4 cr [max 8 cr. Prereq–Grad student, A) Special topics in reading fiction, literary nonfiction, poetry. Topics specified in Class Schedule.
ENGW 5501. Minnesota Writing Project Invitational Institute. (1-3 cr [max 3 cr. Prereq–Competitive selection for 20 educators [K-colleges]) Emphasizes participants’ teaching each other best practices in writing instruction. Participants attend a retreat before beginning.
ENGW 5502. Minnesota Writing Project Open Institute. (1-2 cr [max 2 cr. Prereq–Teacher [K-colleges], [school district sponsorship or MNP approval]) Summer workshop to refine skills in writing instruction.
ENGW 5507. Minnesota Writing Project Directed Studies. (1-3 cr [max 5 cr. Prereq–Participants must be members of the Minnesota Writing Project) Current theories of writing and writing pedagogy. Topics vary. Workshop.
ENGW 5600. Literary Aspects of Journalism. (3 cr; A-F only. §ENGL 5006H) Literary aspects of journalism as exemplified in and influenced by works of English/American writers past/present. Lectures, discussions, weekly papers.
ENGW 5993. Directed Study in Writing. (1-4 cr [max 18 cr. Prereq–A, A) Projects in writing poetry, fiction, drama, and nonfiction, or study of ways to improve writing.

English: Literature (ENGL)

Department of English Language and Literature

College of Liberal Arts

ENGL 1001V. Honors: Introduction to Literature: Poetry, Drama, Narrative. (4 cr; A-F only. §ENGL 1001W. Prereq–honors) Basic techniques for analyzing/understanding literature. Readings of novels, short stories, poems, plays.
ENGL 1001W. Introduction to Literature: Poetry, Drama, Narrative. (4 cr. §ENGL 1001V) Basic techniques for analyzing/understanding literature. Readings of novels, short stories, poems, plays.
ENGL 1171. The Story of King Arthur. (3 cr; A-F only) Arthurian literature, from earliest times to present. How the same story can accommodate many different systems of belief. Form and changing historical backgrounds.
ENGL 1181V. Honors: Introduction to Shakespeare. (4 cr; A-F only. §ENGL 1181W. Prereq–honors) Survey of Shakespeare’s work, treating approximately 10 plays. Lecture.
ENGL 1181W. Introduction to Shakespeare. (4 cr. §ENGL 1181V) Survey of Shakespeare’s work, treating approximately 10 plays. Lecture.

ENGL 1401V. Honors: Introduction to “Third World” Literatures in English. (4 cr; A-F only. §ENGL 1401W. Prereq–honors) Diverse work produced in English outside the United States and Britain. Works represent different cultures, but treat concerns derived from a common post-colonial legacy.
ENGL 1401W. Introduction to “Third World” Literatures in English. (4 cr. §ENGL 1401V) Diverse works produced in English outside the United States and Britain. Works represent different cultures, but treat concerns derived from common post-colonial legacy.
ENGL 1501W. Literature of Public Life. (4 cr; A-F only) Meaning/practice of citizenship. Historical themes, contemporary issues in American public life: access of citizenship, tensions between social duties and individual freedoms, role of moral values in public life. Diverse literary materials.
ENGL 1601W. English Language and Society. (4 cr) Non-technical understanding of systematic, dynamic, creative nature of human language. Emphasizes English language.
ENGL 1701. Modern Fiction. (4 cr) Basic techniques for analyzing/understanding fiction. Readings from novels and short stories written in English-speaking countries and elsewhere (in translation). Introduction to fictional techniques such as point of view, fictional conventions, and some forms of experimentation.
ENGL 1701H. Honors: Modern Fiction. (4 cr) Basic techniques for analyzing/understanding fiction. Readings from novels and short stories written in English-speaking countries and elsewhere (in translation). Introduction to fictional techniques such as point of view, fictional conventions, and some forms of experimentation.
ENGL 1980W. Topics: Freshman Seminar. (3 cr; A-F only. Prereq–Freshman) Topics specified in Class Schedule.
ENGL 1930. General Topics in Literature. (3 cr; A-F only. Prereq–) Topics determined by instructor.

For definitions of course numbers, symbols, and abbreviations, see page 300.
ENGL 3001V. Honors: Textual Analysis, Methods. (4 cr) [ENGL 3001W. Prereq–CLA honors. (sOPH 1st term or higher)] Training/practice in analyzing various literary forms. Emphasizes poetry. Argument, evidence, and documentation in literary papers. Introduction to major developments in contemporary criticism.

ENGL 3001W. Textual Analysis, Methods. (4 cr) [ENGL 3001V. Prereq–English major or minor or premaj or BIS/DIM-English] Close/critical reading, placing literature in history/culture. Idea of multiple approaches to literary works. Analysis of various literary forms, including poetry.

ENGL 3002. Modern Literary Criticism and Theory. (3 cr) [ENGL 3002H] Problems of interpretation/criticism. Questions of meaning, form, authority, literary history, social significance.


ENGL 3003W. Historical Survey of British Literatures I. (4 cr) An introductory historical survey of British literature and culture from the Anglo-Saxon invasions through the end of the 18th century.

ENGL 3004W. Historical Survey of British Literatures II. (4 cr) An introductory historical survey of British literature and culture in the 19th and 20th centuries. Includes Romantic, Victorian, and Modernist authors, such as Wordsworth, Keats, Tennyson, the Brontes, Austen, Dickens, Wilde, Yeats, Woolf, and Thomas.

ENGL 3005W. Survey of American Literatures and Cultures I. (4 cr) Readings in American literature from first European contact, through colonial times, to mid-19th century. Texts in several genres by diverse authors. Classics, less familiar works. Historical, social, and aesthetic contexts.

ENGL 3006W. Survey of American Literatures and Cultures II. (4 cr) Readings from the mid-19th to the mid-20th century; including the realists and regionalists’ response to the growth of industrial capitalism, Modernism in the 1920s, and the issues which united and divided the country throughout the 20th century.

ENGL 3007H. Shakespeare. (3 cr; A-F only) Plays from all of Shakespeare’s periods, including at least A Midsummer Night’s Dream, Hamlet, the history plays, King Lear, Macbeth, The Tempest, Twelfth Night, Antony and Cleopatra, Othello, and The Winter’s Tale.

ENGL 3007. Honors: Shakespeare. (3 cr; A-F only) Prereq–CLA honors) Plays from all of Shakespeare’s periods, including at least A Midsummer Night’s Dream, Hamlet, the history plays, King Lear, Macbeth, The Tempest, Twelfth Night, Antony and Cleopatra, Othello, and The Winter’s Tale.

ENGL 3010. Studies in Poetry. (3 cr [max 9 cr]) Special topics related to reading poetry in various interpretive contexts.

ENGL 3010H. Studies in Poetry. (3 cr. Prereq–honors) Special topics related to reading poetry in various interpretive contexts.


ENGL 3020H. Honors: Studies in Narrative. (3 cr; A-F only. Prereq–honors) Issues related to reading/understanding narrative in various interpretive contexts. Topics may include nineteenth-century English (American, Anglophone) novel; narrative; or techniques of the novel. Topics specified in Class Schedule.

ENGL 3030. Studies in Drama. (3 cr [max 9 cr]) Topics may include English Renaissance tragedy, English Restoration and 18th century, and American drama by writers of color/single-author courses focused on writers such as Tennessee Williams and Eugene O’Neill, or issues and themes, such as gender and performance.

ENGL 3030H. Studies in Drama. (3 cr [max 9 cr]) Prereq–honors) Topics may include English Renaissance tragedy; English Restoration and 18th century; American drama by writers of color/single-author courses focused on writers such as Tennessee Williams and Eugene O’Neill; issues/themes such as gender and performance.

ENGL 3040. Studies in Film. (3 cr) (max 9 cr) Topics regarding film in a variety of interpretive contexts, from the range and historic development of American, English and Anglophone film. Recent examples: “American Film Genres,” “Film Noir,” “Chaplin and Hitchcock.” Topics and viewing times announced in Class Schedule.

ENGL 3040H. Honors: Studies in Film. (3 cr [max 9 cr]) Prereq–CLA honors) Topics regarding film in various interpretive contexts. Range, historic development of American, English, and Anglophone film. Recent examples: “American Film Genres,” “Film Noir,” “Chaplin and Hitchcock.” For topics, see Class Schedule.

ENGL 3060. Studies in Literature and the Other Arts. (3 cr [max 9 cr]) Examines literature’s role in conjunction with other arts including music, the visual arts, dance, etc. Topics specified in Class Schedule.

ENGL 3070. Studies in Literature and Cultural Modes. (3 cr [max 9 cr]) Modes of literary expression/representation that transcend conventional demarcations of genre and historical periods. Topics may include horror, romance, mystery, comedy, and satire.

ENGL 3090. General Topics. (1-3 cr [max 9 cr]) Topics specified in Class Schedule.

ENGL 3090H. Honors: General Topics. (3 cr [max 9 cr]) Topics specified in Class Schedule.

ENGL 3101. Survey of Medieval English Literature. (3 cr; A-F only) Major/representative Medieval English works, including Sir Gawain the Green Knight, Chaucer’s Canterbury Tales, Piers Plowman, Book of Margery Kempe, Julian of Norwich’s Revelations, and Malory’s Morte D’Arthur.

ENGL 3102. Chaucer. (3 cr; A-F only) Major/representative works written by Chaucer, including The Canterbury Tales, Troilus and Criseyde, and the dream visions. Historical, intellectual, and cultural background of the poems. Language, poetic theory, form.

ENGL 3110. Medieval Literatures and Cultures: Intro to Medieval Studies. (3 cr [max 9 cr]) Major and representative works of the Middle Ages. Topics specified in the Class Schedule.

ENGL 3111. Survey of English Literature I. Transition. (3 cr; A-F only) Historical survey of major figures, movements, and trends in English literature. Chaucer to Marvell, including Spenser, Shakespeare, and Donne.

ENGL 3112. Survey of English Literature II. Transition. (3 cr; A-F only) Historical survey of major figures, movements, and trends in English literature. Milton to Johnson, including Dryden, Swift, and Pope.

ENGL 3113. Survey of English Literature III. Transition. (3 cr; A-F only) Historical survey of major figures, movements, and trends in English literature. Blake to Yeats, including Wordsworth, Coleridge, Keats, Tennyson, and the Brownings.

ENGL 3115. Medieval and Renaissance Drama. (3 cr; A-F only) Medieval/Renaissance drama in terms of performance. Performance history, enactments of scenes from cycle/morality plays, informal production of a morality play.


ENGL 3122. Shakespeare II: The Major Themes. (3 cr Prereq–3007 or #) Intensive study of two to four plays. Less familiar plays or other works, including the Sonnets. Performance as interpretation. Comparative analysis of multiple performances of a play or plays. Multiple-text plays.


ENGL 3134. Milton and the Century of Revolution. (3 cr; A-F only) Milton’s poetry/prose in political, social, and cultural contexts of 17th century England. His major literary achievements: Paradise Lost, Paradise Regained, Samson Agonistes. His early experiments in lyric poetry. Several representative selections of his political writing.


ENGL 3151. Romantic Literatures and Cultures. (3 cr) British literature written between 1780 and 1830. Examine the concept of Romanticism, the effects of the French Revolution on literary production, and the role of the romantic artist.

ENGL 3161. Victorian Literatures and Cultures. (3 cr) The literature of the British Victorian period (1832-1901) in relation to its cultural and historical contexts. Typical authors include Tennyson, the Brownings, Dickens, Arnold, Hopkins, and the Brontes.

ENGL 3161H. Victorian Literatures and Cultures. (3 cr) The literature of the British Victorian period (1832-1901) in relation to its cultural and historical contexts. Typical authors include Tennyson, the Brownings, Dickens, Arnold, Hopkins, and the Brontes.

ENGL 3171. Modern British Literatures and Cultures. (3 cr) Survey of principal writers, intellectual currents, conventions, genres and themes in Britain from 1950 to the present. Typically included are Beckett, Golding, Kingsley and Martin Amis, Murdoch, Larkin, Hughes, Heaney, Lessing, Shaffer, Stoppard, Fowles, and Drabble.

ENGL 3175. 20th-Century British Literatures and Cultures (3 cr) Survey of principal writers, intellectual currents, conventions, and genres/themes in Britain/Ireland, from 1900 to 1945. Fiction/nonfiction by Conrad, Richardson, Forster, Joyce, Mansfield, Rhys, West, Woolf, Lawrence, and Huxley. Poetry by Hardy, Hopkins, Loy, H.D., Yeats, Pound and Eliot. Drama by Synge and Shaw.

ENGL 3180. Contemporary Literatures and Cultures. (3 cr [max 9 cr]) Examine issues related to the reading and understanding of British, American, and anglophone fiction and poetry in a variety of interpretive contexts.

ENGL 3180H. Contemporary Literatures and Cultures. (3 cr [max 9 cr]; A-F only. Prereq-honors) Examine issues related to the reading and understanding of British, American, and anglophone fiction and poetry in a variety of interpretive contexts.

ENGL 3211. American Poetry to 1900. (3 cr) Poets from the Puritans to the end of the 19th century. The course attends to the intellectual and cultural background of the poets, poetic theory, and form.

ENGL 3212. American Poetry from 1900. (3 cr) Famous and lesser-known poems from the Modernist era, the time of Frost, HD, Pound, Eliot and the Harlem Renaissance. The course attends to the intellectual and cultural background of the poets, poetic theory and form.

ENGL 3221. American Novel to 1900. (3 cr) Novels, from early Republic, through Hawthorne, Melville, and towe, to writers at end of 19th century (e.g., Howells, twain, James, Chopin, Crane). Development of a national literature. Tension between realism and romance. Changing role of women as writers and as fictional characters.

ENGL 3222. American Novel from 1900. (3 cr) Novels from early 1900’s realism through the Modernists (e.g., Faulkner, Hemingway, Fitzgerald) to more recent writers (e.g., Ellison, Bellow, Erdich, Pynchon). Stylistic experiments, emergence of voices from formerly under-represented groups, and novelists’ responses to a technologically changing society.

ENGL 3231. American Drama. (3 cr. [ENGL 3231H]) Representative dramas from the 18th through 20th centuries. Topics include the staging of national identities, the aesthetics of modern and contemporary drama, and the production concerns of mainstream, regional, and community theaters.

ENGL 3231H. Honors: American Drama. (3 cr. [ENGL 3231]) Representative dramas, from 18th through 20th centuries. Staging of national identities, aesthetics of modern/contemporary drama. Production concerns of mainstream, regional, and community theaters.

ENGL 3300. Multicultural American Literatures and Cultures. (3 cr [max 9 cr]) Writings of specific ethnic groups. Emphasizes historical or cultural context. Topics may include American minority drama, Harlem Renaissance, Asian-American literature/film, African-American women writers. Topics specified in Class Schedule.

ENGL 3330. Gay, Lesbian, Bisexual, and Transgendered Literature. (3 cr [max 6 cr]) Literature/culture produced by/about gay, lesbian, bisexual, and transgendered people. Emphasizes importance of materials falsified/ignored in earlier literary/cultural studies. How traditional accounts need to be revised in light of significant contributions of GLBT people.

ENGL 3350. Women Writers. (3 cr [max 9 cr]) Groups of writers in the 19th and/or 20th centuries. Will focus either on writers from a single country or be comparative in nature. The course will be organized thematically or according to topics of contemporary and theoretical interest.

ENGL 3350H. Honors: Women Writers. (3 cr. Prereq–CLA honors or A) Groups of writers in 19th or 20th century. Either focuses on writers from a single country or is comparative. Organized thematically or according to topics of contemporary/theoretical interest.

ENGL 3351W. Voices from the Gaps: Writing and Art by Women of Color. (4 cr) Collaborative/individual student research, writing, and Web site production for VG (Voices from the Gaps). Focuses on visual arts, film, music, and literature by North American women writers of colour. Texts/discussions in English.

ENGL 3400. Post-Colonial Literatures. (3 cr [max 9 cr]) Varied topics in post-Colonial literatures. Typical novels include: Tshi La Ling Nam, Chinua Achebe, Ani Difris, Fadia Faqsi, Salman Rushdie; filmmaker Kidlat Tahimik; and “dub” poets Matutaburu and Jean Binta Breeze.

ENGL 3501. Public Discourse: Reading Between and Beyond the Lines. (3 cr) Public discourse in various geographic regions and historical periods. See Course Guide for specific course description.

ENGL 3505. Community Learning Internships I. (3 cr; A-F only) Connections between literature/literacy, theory/practice, community work and academic study. Students work as interns in local community-based education projects. Interns meet with faculty and community representatives to reflect on daily work and practice competencies acquired in training. Students attend to Community and Learning Center and Minneapolis Literacy Council, and orientations at community sites. Four hours weekly work at community site, readings, journal writing, monthly short papers.

ENGL 3506. Learning Internships II. (4 cr; A-F only. Prereq–3505 in preceding semester or #) Students work at a community site. In weekly meetings with faculty and community representatives, students explore training between their academic skills and community experiences. Social functions of literacy and liberal education in the United States. Eight hours weekly work at community site, readings in history/theory of literacy, written reflection exercises, design of the educational project at community site.

ENGL 3591. Introduction to African American Literature. (4 cr [4F0R 3591W]) Afro-American autobiography, fiction, essay, poetry, drama, and folklore from the late 18th century to the present.

ENGL 3592W. Introduction to Black Women Writers in the United States. (3 cr) Literature of African American women writers explored in novels, short stories, essays, poetry, autobiographies, drama from 18th to late-20th century.

ENGL 3597W. Introduction to African American Literature and Culture. (1 cr) American oral tradition, slave narrative, autobiography, poetry, essay, fiction, oratory, and drama, from colonial era through Harlem Renaissance.


ENGL 3711. Literary Magazine Production and History. (4 cr) Literary magazine production and history.

ENGL 3713. Editing for Publication. (4 cr. Prereq–SAP gr jr or 1st sem sr) Practice professional editing of various kinds of texts (e.g., scientific/technical writing). Introduction to editing levels, from substantive revision to copyediting. Computer-mediated editorial practices.


ENGL 3751W. Seminar: Theory and Practice of Writing Consultancy. (4 cr. Prereq–Currently working in a University writing center/intern consent) How writers learn to write, how writing is taught in the academy, and how rhetorical conventions vary across disciplines.

ENGL 3753W. Writing Beyond the Academy. (4 cr. Prereq–Completion of 1st writing requirement, 60 cr) Internship. Analyses of writing styles, genres, and rhetorical contexts outside the academy.

ENGL 3870. Figures in English and North American Literature. (3 cr [max 9 cr]) Topics specified in the Class Schedule.

ENGL 3881. London Seminar. (3 cr. Prereq–Completion of 3xx level composition requirement) Broad topic of literary investigation crossing and integrating several areas of study. Topics taught: “Literature in London” program course.

ENGL 3893W. Honors Thesis. (1-4 cr [max 4 cr]; A-F only. Prereq–Honors candidacy in English, consent of English honors advisor) See guidelines available from English honors adviser.


ENGL 3980. Directed Instruction. (1-6 cr [max 6 cr.] Prereq–F, A, A) Directed study arranged between student and advising faculty member.

ENGL 3993. Directed Reading/Study. (1-6 cr [max 3 cr]; Prereq–A college approval) Guided individual study.

ENGL 4003. History of Literary Theory. (3 cr; A-F only) How thinkers from classical to modern times posed/answered questions about language (how words mean), audience (to whom they mean), and the literary (how literary writing differs from other forms of writing). Works by Plato, Aristotle, Augustine, Christine de Pizan, Dante, Sidney, Behn, Wordsworth, Shelley, and Woolf.

ENGL 4041. Old Age in Film and Literature. (3 cr; A-F only) How/why subject of old age is focus of a selection of primarily modern verbal/visual texts (fiction, non-fiction). Philosophical, sociological, and psychological perspectives. Ways in which varied experiences of old age have as much to do with culture as with biology.

ENGL 4152. Nineteenth Century British Novel. (3 cr; A-F only) British novel during the century in which it became widely recognized as a major vehicle for cultural expression. Possible topics include the relation of novel to contemporary historical concerns; rise of British empire, developments in science, and changing roles for women; formal challenges of the novel; definition of realism.

ENGL 4153. Nineteenth-Century British Poetry. (3 cr; A-F only) Poetry written in Britain during 19th century. Possible authors include Wordsworth, Byron, Hemans, Tennyson, Robert and Elizabeth Browning, D. G. and Christina Rossetti, Swinburne, and Hopkins.

ENGL 4232. American Drama by Writers of Color. (3 cr; A-F only) Selected works by Asian American, African American, American Indian, Latino, and Chicano playwrights. How racial/ethnic differences are integral to shaping different visions of American drama. History of minority/ethnic theaters, politics of casting, mainstreaming of the minority playwright.
ENGL 4233. Modern and Contemporary Drama. (3 cr; A-F only)
Works written for theater in 19th/20th century. Emphasizes how major aesthetic forms of modern drama (the well-made play, realism, expressionism, symbolism, epic theater, absurdism) presented not just distinctive theatrical styles, but also new ways of experiencing for the theatrical spectator. How social differences, as informed by gender, class, and race, inform content/presentation.

ENGL 4311. Asian American Literature and Drama. (3 cr; A-F only)
Literary/dramatic works by Asian American writers. Historical past of Asian America through perspective of writers such as Sue Sin Far and Carlos Bulosan. Contemporary artists such as Frank Chin, Maxine Hong Kingston, David Henry Hwang, and Han Ong. Political/historical background of Asian American artists, their aesthetic choices.

ENGL 4602W. Gender and the English Language. (4 cr; Prereq–ENGL 5002) Connections between gender and other social factors that influence history/future of English language. Race, ethnicity, class, regional/national variation, religion, technology. Gender theories as they relate to social issues, texts, and discourse practices.


ENGL 4605. Social Variation in American English. (4 cr; Prereq–ENGL 4603W) Description/analysis of English language variation from sociohistorical perspective in the United States and the Caribbean. Social history of migrations (voluntary, enforced) leading to development of regional/rural dialects, pidgins, creoles, and urban varieties.

ENGL 4612. Old English L. (3 cr; Prereq–ENG 1150 A.D. Culture of Anglo-Saxons. Selected readings in prose/poetry.

ENGL 4613. Old English II. (3 cr; ENGL 5613, Prereq–ENGL 3, 3613, 4612) Critical reading of texts. Introduction to versification. Readings of portions of Beowulf.

ENGL 4721. Electronic Text. (3 cr; ENGL 5632) Status/function of text, related questions as framed by electronic text.

ENGL 4722. Alphabet to Internet: History of Writing Technologies. (4 cr; Prereq–A-F only: Prereq–#) Equivocal relation of memory and writing. Literacy, power, control, Secrecy and publicity, Alphabetization and other ways of ordering world. Material bases of writing. Typographical design/ expression. Theories of technological determinism.

ENGL 4752. Seminar: Theory and Practice of Tutoring Writing. (3 cr; A-F only: Prereq–#) Teaching writing through one-on-one tutorials. How writers learn to write. How writing is taught in the academy. How rhetorical conventions and views of literacy vary across disciplines. Students practice tutoring strategies in class activities and in a writing center.

ENGL 5001. Introduction to Methods in Literary Studies. (3 cr; Prereq–ENGL 4613) Ends/methods of literary research, including professional literary criticism, analytical bibliography, and textual criticism.

ENGL 5002. Introduction to Literary and Cultural Theory. (3 cr; Prereq–Grad or #) Approaches to practical/theoretical problems of literary genre.

ENGL 5030. Readings in Drama. (3 cr [max 9 cr]; Prereq–Grad student or #) Wide reading of a variety of a given period or subject. Prepares students for work in other courses/ seminars. Relevant scholarship/criticism. Topics specified in Class Schedule.

ENGL 5090. Readings in Special Subjects. (3-4 cr [max 9 cr]; Prereq–Grad student or #) General background preparation for advanced study. Diverse selection of literatures written in English, usually bridging national cultures and time periods. Readings specified in Class Schedule.

ENGL 5110. Readings in Middle English Literature and Culture. (3 cr [max 9 cr]; Prereq–Grad student or #) Wide reading in literature of period. Relevant scholarship/criticism. Topics vary. See Class Schedule.

ENGL 5121. Readings in Early Modern Literature and Culture. (3 cr [max 9 cr]; Prereq–Grad student or #) Topical readings in early modern poetry, prose, fiction, and drama. Attention to relevant scholarship or criticism. Preparation for work in other courses or seminars.

ENGL 5140. Readings in 18th Century Literature and Culture. (3 cr [max 9 cr]; Prereq–Grad student or #) Literary works written in English, 1660-1798. Topics may include British literature of Reform and Enlightenment, 18th century English culture. A genre (e.g., 18th-century novel). Readings.

ENGL 5150. Readings in 19th-Century Literature and Culture. (3 cr [max 9 cr]; Prereq–Grad student or #) Topics may include British Romantic or Victorian literatures, American literature, important writers from a particular literary school, a genre (e.g., the novel). Readings.

ENGL 5170. Readings in 20th-Century Literature and Culture. (3 cr [max 9 cr]; Prereq–Grad student or #) British, Irish, or American literatures, or topics involving literature of two nations. Focuses on either a few important writers from a particular literary school or on a genre (e.g., drama). Topics specified in Class Schedule.

ENGL 5175. 20th-Century British Literatures and Cultures L. (3 cr; Prereq–Grad student or #) Survey of principal writers, intellectual currents, conventions, genres and themes in Britain/Ireland, 1900-1945. Fiction/nonfiction by Conrad, Richardsons, Forster, Joyce, Mansfield, RH, West, Wollf, Lawrence and Huxley. Poetry by Hardy, Hopkins, Lo, Yeats, Yeats and Eliot. Drama by Yeats and Shaw.

ENGL 5176. 20th-Century British Literatures and Cultures II. (3 cr; Prereq–Grad student or #) Survey of principal writers, intellectual currents, conventions, genres, and themes in Britain/Ireland, 1945-1990. Fiction/nonfiction by Greene, Bowen, Amis, Fowles, Lessing, Drabble, Murdoch, Naipaul, Carter, Rushdie, and Winterson. Poetry by Smith, Auden, Thomas, Larkin, Hughes, Heaney, Smith, Boland, and Walcott. Drama by Beckett, Pinter, Shaffer, Stoppard, Deulin, Friel, and Carr.

ENGL 5180. Readings in Contemporary Literature and Culture. (3 cr; Prereq–Grad student or #) Multi-genre reading in contemporary American, British, Anglophone literature. Relevant scholarship/criticism. Topics vary. See Class Schedule.

ENGL 5200. Readings in American Literature. (3 cr [max 9 cr]; Prereq–Grad student or #) General background/preparation for advanced graduate study. Readings cover either a wide historical range (e.g., 19th century), a genre (e.g., the novel), or a major literary movement (e.g., Modernism).

ENGL 5300. Readings in American Minority Literature. (3 cr [max 9 cr]; Prereq–Grad student or #) Contextual readings of 19th/-20th-century American minority writers. Topics specified in Class Schedule.

ENGL 5400. Readings in Post-Colonial Literature. (3 cr [max 9 cr]; Prereq–Grad student or #) Selected readings in post-colonial literature. Topics specified in Class Schedule.


ENGL 5593. The Afro-American Novel. (3 cr; Prereq–ENGL 5002) Contextual readings of 19th/-20th-century black novelists, including Chesnut, Harston, Wright, Baldwin, Petry, Morrison, and Reed.

ENGL 5597. Harlem Renaissance. (3 cr; ENGL 5002) Multidisciplinary review of Jazz Age’s Harlem Renaissance: literature, popular culture, visual arts, political journalism, major black/white figures.

ENGL 5602. Gender and the English Language. (3 cr; Prereq–Grad or #) Introduction to features of English that are gender-marked or gender-biased. Connections between language theory and social structures, including class and ethnicity. Patterns of women’s/men’s speech in specific social contexts. Gender and writing.

ENGL 5603. World Englishes. (3 cr; Prereq–Grad student or #) Historical background, psychosocial significance, and linguistic characteristics of diverging varieties of English spoken around world, especially in postcolonial contexts (Caribbean, Africa, Asia). Development of local standards/vernaculars. Sociolinguistic methods of analysis.

ENGL 5605. Social Variation in American English. (3 cr; Prereq–Grad student or #) Description/analysis of English language variation from sociohistorical perspective in the United States and the Caribbean. Social history of voluntary/enforced migrations leading to development of regional/rural dialects, pidgins, creoles, and urban varieties.

ENGL 5612. Old English L. (3 cr; ENGL 5612, Prereq–Grad student or #) Introduction to the language through A.D. 1150. Anglo-Saxon culture. Selected readings in prose/poetry.


ENGL 5621. Modern Irish Language L. (4 cr [max 5 cr]; Prereq–Grad or #) Development of oral/written language skills: vocabulary, manipulation of grammatical structures, speaking, listening, reading, writing. Modern Gaelic culture.

ENGL 5622. Modern Irish Language II. (4 cr; Prereq–ENGL 5621 or #) Modern Irish Language II. (4 cr; Prereq–ENGL 5621 or #) Development of oral/written language skills: vocabulary, manipulation of grammatical structures, speaking, listening, reading, writing. Modern Gaelic culture.

ENGL 5630. Theories of Writing and Writing Instruction. (3 cr; Prereq–Grad student or #) Development of oral/written language skills: vocabulary, manipulation of grammatical structures, speaking, listening, reading, writing. Modern Gaelic culture.

ENGL 5690. Minnesota Writing Project: Directed Studies. (1-3 cr [max 30 cr]; Prereq–#) Workshops. Theories of writing and writing pedagogy. Writing for publication. Research topics in applied literacy.
Course Descriptions

ENGL 5711. Introduction to Editing. (4 cr)
Editor-writer relationship, manuscript reading, author query, rewriting, style. Some discussion of copy editing. Students develop editing skills by working on varied writing samples.

ENGL 5712. Advanced Editing. (4 cr. Prereq—5401 or 5711 or 4) Editing long text. Fiction, children’s literature, translations, indexes. Workshop/seminar.

ENGL 5743. History of Rhetoric and Writing. (3 cr. Prereq—Grad student or 4) Assumptions of classical/contemporary rhetorical theory, especially as they influence interdisciplinary field of composition studies.

ENGL 5790. Topics in Rhetoric, Composition, and Language. (3 cr. Prereq—Grad student or 4) Topics specified in Class Schedule.

ENGL 5800. Practicum in the Teaching of English. (2 cr. Prereq—Grad student or 4) Discussion of and practice in recitation, lecture, small-groups, tutoring, individual conferences, and evaluation of writing/reading. Emphasizes theory informing effective course design/teaching for different disciplinary goals. Topics vary. See Class Schedule.


ENGL 5880. General Topics. (3 cr [max 9 cr]) Topics specified in the Class Schedule.

ENGL 5992. Directed Readings, Study, or Research. (1-3 cr [max 45 cr]. Prereq—4) △

Entomology (ENT)
Department of Entomology
College of Food, Agricultural and Natural Resource Sciences

ENT 1905. Topics: Freshman Seminar. (1-3 cr [max 3 cr]. Prereq—Frst)
ENT 3005. Insect Biology. (3 cr) Survey of diverse biology of insects. Insect behavior (including social insects), pollination, herbivory, insects as disease vectors, beneficial insects, insect population dynamics/ecology. Emphasizes insects' role in agricultural, urban, natural systems. Lecture/lab.

ENT 3925. Insects, Aquatic Habitats, and Pollution. (3 cr; A-F only. Prereq—[3005 or BOLL 3407 or FW 2001] or [Fr or Sr] or 4) Effects differing classes of pollutants have on insects that are aquatic. Insect life-cycle dynamics, trophic guilds, community structure. Hypotheses to explain community structure in streams, rivers, wetlands, ponds, lakes, reservoirs. Organismic pollution, eutrophication, heavy metal pollution, runoff/siltation, acidification, thermal pollution. Changes in aquatic insect community structure. Designing/siltation, acidification, thermal pollution. Changes in aquatic insect community structure. Designing/management of insect pests in landscape plants. Emphasis on the principles of biological control, biorational pesticides, and integrated pest management.

ENT 4021. Honey Bees and Insect Societies. (3 cr. Prereq—BOLL 1003 or 4) Natural history, identification, and behavior of honey bees and other social insects. Evolution of social behavior, pheromones and communication, organization and division of labor, social parasitism. Lab with honey bee management and maintenance of other social bees for pollination.

ENT 4022. Honey Bee Management. (1 cr. Prereq—BOLL 1009 or 4. 4/6021 recommended) Field course for students interested in honey bee management and the conservation and maintenance of other bee pollinators. Work with live bees and participate in field research problems related to honey bee behavior and management.

ENT 4255. Aquatic Insects. (4 cr; A-F only. Prereq—BOLL 1009 or [3005 or 4] or equivalent) Synthesis of the causes of insect diversity and of fluctuations in insect abundance. Focus on abiotic, biotic, and evolutionary mechanisms influencing insect populations and communities.

ENT 5021. Insect Taxonomy and Phylogeny. (3 cr. Prereq—3021 or 4) Comparative study of insect structures/functions from evolutionary perspective. Introduction to physiology of digestion, respiration, other organ systems.


ENT 5041. Insect Ecology. (3 cr. Prereq—BOLL 5011 or 4) Synthetic analysis of the causes of insect diversity and of fluctuations in insect abundance. Focus on abiotic, biotic, and evolutionary mechanisms influencing insect populations and communities.


ENT 5211. Insect Pest Management. (3 cr. Prereq—3005 or 4) Prevention or suppression of injurious insects by integrating multiple control tactics, e.g., chemical, biological, cultural. Strategies to optimize the dynamic integration of control methodologies in context of their economic, environmental, and social consequences.


ENT 5321. Ecology of Agricultural Systems. (3 cr; A-F only. Prereq—5321. Prereq—[I or above] course in [AGRO or ANSC or Hort]. [I or above] course in [Ent or PLPA or Soil] or 4) Biological control of arthropod pests and weeds. Analysis of relevant ecological theory and case studies; biological control agents. Lab includes natural enemy identification, short experiments, and computer exercises.


ENT 5361. Aquatic Insects. (4 cr; A-F only. Prereq—4) Taxonomy, natural history of aquatic insects including their importance in aquatic ecology, water resource management, recreation, and conservation. Emphasizes family-level identification of immature/adult. Field trips scheduled to local aquatic habitats. A collection is required.

ENT 5371. Principles of Systematics. (3 cr. Prereq—4 or 4) Theoretical/practical procedures of biological systematics. Phylogeny reconstruction, including computer assisted analyses, morphological/molecular approaches, species concepts, specialization, comparative methods, classification, historical biogeography, nomenclature. Use/value of museums.

Environmental Sciences, Policy, and Management (ESPM)

Department of Environmental Sciences, Policy, and Management

College of Food, Agricultural and Natural Resource Sciences

ESPM 1001. Orientation to Environmental Sciences, Policy, and Management. (3 cr; A-F only) Academic planning, ESPM careers, liberal education requirements, internships. Building relationships with other students/faculty, student life, information technology, critical computer skills.

ESPM 1003H. Honors Colloquium. (1 cr [max 2 cr]; A-F only) Prereq—Lower division honors. # Lectures from experts, readings, discussions of current environmental topics/issues. Topics vary, see Class Schedule.


ESPM 1425. The Atmosphere. (4 cr; A-F only; #GISG 1425) Basic physical, chemical, and biological processes that drive changes in Earth’s weather/climate. Radiative and energy exchange, greenhouse effect, stratospheric ozone depletion, severe weather hazards, general circulation of atmosphere. Climate teleconnections, including El Nino. Impacts of human activities on climate. Weekly field/computer labs investigate how weather/climate data are measured, analyzed, and interpreted. All lecture and lab material are made available on the course Web site.

ESPM 1480. Topics in Natural Resources. (1-4 cr [max 6 cr]; A-F only) Prereq—Lower division honors. # Lectures by visiting scholar or regular staff member. Topics specified in Class Schedule.

ESPM 1901. Topics: Freshman Seminar. (3 cr; Prereq—Fr) Topics vary.

ESPM 1901H. Topics: Freshman Seminar. (3 cr; Prereq—Fr) Topics vary.


ESPM 3000. Seminar on Current Issues for ESPM. (1 cr [max 6 cr]; A-F only; Prereq—Fr) Environmental issues students will have to address in their future careers. Small group discussion, in-depth/focused intellectual debate. Topics depend on faculty selection or student interest.

ESPM 3001. Treaty Rights and Natural Resources. (3 cr; A-F only; §ESPM 5001J) Readings, class discussion about nature of treaty rights reserved by indigenous Americans with respect to utilization of natural resources. Emphasizes Midwest issues. Web-assisted course.

ESPM 3002. Colloquium: Exotic Plants and Animals. (1 cr; A-F only) Current exotic plants/animals in Great Lakes region and around the world. Gypsy moths, brown tree snakes, zebra mussels, Eurasian watermilfoil. Impact/control. Readings, discussions, and lectures from experts on topics such as invasion theory and real world management.

ESPM 3011W. Ethics and Leadership in Resource Management. (3 cr) Normative/professional ethics, and leadership considerations, applicable to managing natural resources and the environment. Readings, discussion.

ESPM 3021, Ecological Vegetation Management: a Consulting Approach. (3 cr; A-F only; §ESPM 5021, Prereq—Biol 3407 or EEB 5001 or FR 3104 or equal) Application of ecological concepts such as succession/competition to ecosystems under management. Wetlands, riparian zones, urban interfaces, agriculture, agroforestry. Northern/boreal conifer, hardwood forests, grasslands (prairie). Management objectives, methods, impacts. Evaluating practices for sustainability. Social issues. Regional (Great Lakes area), national, global case studies.

ESPM 3031. Applied Global Positioning Systems for Geographic Information Systems. (3 cr; A-F only; §ESPM 5031) Prereq—Intro GIS course. [jr or sr] GPS principles, operations, techniques to improve accuracy. Datum, projections, and coordinate systems. Differential correction, accuracy assessments discussed/applied in lab exercises. Code/carrier phase GPS used in exercises. GPS handheld units, PDA based ArcPad/GPS equipment. Transferring field data to/from desktop equipment, integrating GPS data with GIS.

ESPM 3101. Conservation of Plant Biodiversity. (3 cr; A-F only; §ESPM 5101) Prereq—Biol 1001 or Biol 1000) Introduction to principles underlying assessment/conservation of plant biodiversity at individual, population, and community levels. Case studies in management of biodiversity to restore/maintain ecosystem function. Issues such as genetics, timber harvesting, invasive species, plant reproduction.

ESPM 3111. Hydrology and Water Quality Field Methods. (3 cr; A-F only; §ESPM 5111, Prereq—4061 or EEB 4061 or GEO 4601 or FR 3114) Integrates water quality, surface/groundwater hydrology. Case studies, hands-on field data collection, calculations of hydrological/water quality parameters. Meteorological data, snow hydrology, stream gauging, well monitoring, automatic water samplers. Designing water quality sampling program. Geomorphology, interception, infiltration.

ESPM 312B. Seminar: Environmental Science. (1 cr; S-N only) §ESPM 512B Students analyze environmental topics presented by guest speakers. Job opportunities in environmental science. Resume writing, interviewing skills.

ESPM 3131. Environmental Physics. (3 cr; A-F only; Prereq—PHYS 1101) Concepts/principles of classic/modern physics applied to environmental problems arising from interaction between humans and the natural environment. Forms of pollution (e.g., land, water, air). Transport mechanisms. Anthropogenic greenhouse gas emissions. Global climate change. Social issues related to environmental problems.

ESPM 3022W. Environmental Conflict Management, Leadership, and Planning. (3 cr; A-F only; §ESPM 5202) Negotiation of natural resource management issues. Use of collaborative planning. Case study approach to conflict management, strategic planning, and building leadership qualities. Emphasizes analytical concepts, techniques, and skills.

ESPM 3027. Emerging Issues in Tropical Agriculture and Forestry: Costa Rica. (3 cr; A-F only; §ESPM 5027J) Experiential learning through field trips. From conventional to organic bird-friendly coffee production/marketing to sustainable management of high-/low-land tropical forests and biodiversity. Lectures, seminars, labs field work, written project. A travel short course offered thru CATIE/UofM.

ESPM 3111. Survey, Measurement, and Modeling for Environmental Analysis. (3 cr; §ESPM 5111. Prereq—MATH 1031 or MATH 1051, [STAT 3411 or FW 4401], computer competency) Introduction to survey, measurement, and modeling concepts/methods for study of natural resources and environmental issues. Emphasizes survey design for data collection, estimation, and analysis for issues encompassing land, water, air, vegetation, animal, soil, and human/social variables.


ESPM 3241W. Natural Resource and Environmental Policy: History, Creation, and Implementation. (3 cr; §ESPM 5241) Basic concepts of political/administrative processes important to natural resource policy and program development. Case study approach to policy/legislative process, participants in policy development, and public programs. Federal/state laws/regulations, international issues.

ESPM 3245. Sustainable Land Use Planning and Policy. (3 cr; A-F only; §ESPM 5245) Prereq—All lower div RRM reqs or # Overview of policies that affect recreation at local, state, and federal levels. Landscape-level planning. Collaborative relationships as means to implement sustainable natural/social policy. Class project involves all aspects of implementing recreation policy, from public meetings to hands-on evaluation of options.

ESPM 3251. Natural Resources in Sustainable International Development. (3 cr; A-F only; §ESPM 5251, LAS 5251) International perspectives on resource use in developing countries. Integration of natural resource issues with social, economic, and policy considerations. Overviews of agriculture, forestry, agroforestry, non-timber forest products, water resources, certification, and development issues. Latin American case studies.


ESPM 3480. Topics in Natural Resources. (1-4 cr [max 6 cr]) Prereq—Lower division honors. # Lectures by visiting scholar or regular staff member. Topics specified in Class Schedule.

Course Descriptions


ESPM 3602. Regulatory and Ethical Frameworks for CEM. (3 cr. Prereq—APEC 1101 or ECON 1101 or 3261W) Concepts/issues relating to industrial ecology and industry as they are influenced by current standards/regulations at local, state, and national levels.

ESPM 3603. Environmental Life Cycle Analysis. (3 cr. [MGMT 3603]: Prereq—[MATH 1142 or [MATH 1271, MATH 1272]]; [APEC 1101 or ECON 1101 or 3261W]) Concepts/issues relating to inventory, subsequent analysis of production systems. Production system from holistic point of view, using term commonly used in industrial ecology: “metabolic system.”

ESPM 3604. Environmental Management Systems and Strategy. (3 cr. §ESPM 5604) Environmental problems such as climate change, ozone depletion, and loss of biodiversity.


ESPM 3606. Minimizing Industrial Emissions. (3 cr. §ESPM 5606: Prereq—CHEM 1011, or #) Fundamental waste streams and pollution control technologies in natural resource conversion.

ESPM 3612W. Environmental and Biological Economics. (3 cr. Prereq—ECON 1003 or equiv; CHEM 1021 or equiv; 2125 recommended) Principles of microorganisms that impact soil fertility, structure, and quality. Nutrient requirements of microbes and plants, and mineral transformations in biogeochemical cycling. Symbiotic plant/microbe associations and their role in sustainable agricultural production. Biodegradation of pollutants and bioremediation approaches.

ESPM 3703. Agroforestry in Watershed Management. (3 cr. §ESPM 5703) Biological, physical, and environmental attributes of agroforestry as pertains to watershed management. Coupling production with watershed protection benefits. Implications for policy, economics, and human dimensions in sustainable development. Examples, case studies from N Amer and from developing countries.

ESPM 4021W. Environmental Impact Statements. (3 cr) Roles of governmental agencies, consultants, and private citizens in EIS process. Students read EIS/EAW, analyze their content/scope, and prepare an EAW and an EIS according to Minnesota EQB guidelines.

ESPM 4061W. Water Quality and Natural Resources. (3 cr. §ESPM 5601) Issues, parameters, and decision making strategies for managing surface/groundwater resources in Minnesota and globally. Biophysical and human side of water management. Wetlands, exotic species, heavy metal deposition. Cultural, political, and societal dimensions. Case studies, discussions, problem-solving, debates, projects.

ESPM 4093. Directed Study. (1-7 cr [max 20 cr]. Prereq—#) Research, readings, and instruction.

ESPM 4094. Directed Research. (1-7 cr [max 7 cr]. Prereq—#) Research under the direction of department faculty.

ESPM 4096. Professional Experience Program: Internship. (1-3 cr [max 6 cr]. Prereq—CFANS undergrad, #, completed internship contract) Students create oral/written report based on paid or volunteered work or field experience.

ESPM 4191W. Problem Solving and Planning in Natural Resource. (4 cr; A-F only. Prereq—ESPM or) Applying problem solving tools/skills in policy, planning and managerial situations. Students work with “real world” clients, produce publishable technical report, and present their results in a professional public forum.

ESPM 4201H. Honors Seminar. (1 cr; A-F only. Prereq—ENR enr div honors, #) Topics presented by faculty, students, guest speakers. Lecture/discussion.

ESPM 4216. Contaminant Hydrology. (2 cr; A-F only. Prereq—Contaminant transport in percolate solution and in overland flow. Hydrologic cycle, percolation/runoff processes, contaminant transport, leachate sampling methods, remediation technologies, scale effects on runoff water quality, tillage technologies, control of sediment/chemical losses. Discussions mostly descriptive, but involve some computations.

ESPM 4295W. GIS in Environmental Science and Management. (4 cr; A-F only. §ESPM 5295: Prereq—FR 3131 or #) Principles of spatial data inventory/analysis in complex environmental planning problems. Spatial data collection, database development methods including GPS, DLG, TIGER, NWI data, spatial analysis. Topics identified by non-University partners.

ESPM 4601. Soils and Pollution. (3 cr. Prereq—[2125, CHEM 1021 or equiv, [PHYS 1042 or equiv]]; 3416 recommended) Principles of microbiology, chemistry, physics applied to evaluation of pollution of soils. Mitigation of pollution in agricultural/urban settings, remediation of polluted sites.


ESPM 4608. Bioremediation. (2 cr §ESPM 5608: Prereq—[BIOC 1001 or BIOC 1009, CHEM 1011, BIOC 2011]) Use of organisms in remediation of waste/pollution problems related to bio-based product industries. Types, characteristics, and identification of useful microorganisms. Applications of microbes to benefit industrial processes of wood and fiber.

ESPM 4801H. Honors Research. (2 cr; A-F only. Prereq—ENR enr div honors, #) Independent research project supervised by faculty member.


ESPM 5001. Treaty Rights and Natural Resources. (3 cr; A-F only. §ESPM 3001: Prereq—Grad student or #) Reading, class discussion about treaty rights reserved by indigenous Americans with respect to use of natural resources. Emphasizes Midwest issues. Web-assisted course.

ESPM 5002. Colloquium: Restoration of Stream Ecosystems. (1 cr) Key concepts/techniques. Overview of stream habitat restoration. Relationship of restoration to natural stream systems, planning, research, watershed groups, interagency coordination, and management decision process.


ESPM 5021. Ecological Vegetation Management: a Consulting Approach. (3 cr. §ESPM 3021: Prereq—Grad student or #) Application of ecological concepts such as succession/competition to ecosystems under management. Wetlands, riparian zones, urban interfaces, agriculture, agroforestry, Northern/boreal conifer, hardwood forests, grasslands (prairie). Management objectives, methods, impacts. Evaluating practices for sustainability. Social issues. Regional (Great Lakes area), national, global case studies.

ESPM 5031. Applied Global Positioning Systems for Geographic Information Systems. (3 cr; A-F only. §ESPM 3031: Prereq—Grad student or #) GPS principles, operations, techniques to improve accuracy. Datum, projections, and coordinate systems. Differential correction, accuracy assessments discussed/applied in lab exercises. Code/cARRIER phase GPS used in exercises. GPS handheld units, PDA based ArcPad/GPS equipment. Transferring field data to/from desktop systems, integrating GPS data with GIS.

ESPM 5061. Water Quality and Natural Resources. (3 cr. §ESPM 4061W: Prereq—Grad student or #) Issues, parameters, and decision making for managing surface/groundwater resources in Minnesota and globally. Biophysical/human side of water management. Wetlands, exotic species, heavy metal deposition. Cultural, political, and societal dimensions. Case studies, discussions, problem-solving, debates, projects.

ESPM 5019. Conservation of Plant Biodiversity. (3 cr; A-F only. §ESPM 3019: Prereq—Grad student or #) Introduction to principles underlying assessment/conservation of plant biodiversity at individual, population, and community levels. Case studies in management of biodiversity for wildlife or maintain ecosystem function. Genetics, timber harvesting, invasive species, plant reproduction.


ESPM 5311. Environmental Biophysics and Ecology. (3 cr; A-F only. Prereq—[BIOC 1001 or equiv, MATH 1271, PHYS 1101, [upper div or grad student]) or #) Basic concepts of environmental variables such as temperature, humidity, wind, and radiation. Mechanics of heat/mass transfer between a living organism and its surrounding environment. Set of practical examples to integrate concepts and transport processes.

ESPM 5915. Problem Solving and Planning in Natural Resources. (4 cr; A-F only. Prereq—Grad student or #) Applying problem solving tools/skills in policy, planning, and managerial situations. Students work with ‘real world’ client to produce publishable technical report, present results in professional public forum.

For definitions of course numbers, symbols, and abbreviations, see page 300.
Course Descriptions

ESPM 5202. Environmental Conflict Management, Leadership, and Planning. (3 cr; A-F only. §ESPM 3202W. Prereq–Grad student or #) Negotiation of natural resource management issues. Use of collaborative planning. Case study approach to conflict management, strategic planning, and building leadership qualities. Emphasizes analytical concepts, techniques, and skills.

ESPM 5207. Emerging Issues in Tropical Agriculture and Forestry: Costa Rica. (3 cr; §ESPM 5207. Prereq–Grad student or #) Experiential learning through field trips. From conventional to organic bird-friendly coffee production/marketing. Sustainable management of high-/low land tropical forests and of biodiversity. Lectures, seminars, labs field work, written project. Offered through CATIE/UrF.

ESPM 5211. Survey, Measurement, and Modeling for Environmental Analysis. (3 cr; §ESPM 3211. Prereq–Grad student or #) Introduction to survey, measurement, and modeling concepts/methods for study of natural resources and environmental issues. Emphasizes survey design for data collection, measurement, and analysis for issues encompassing land, water, air, vegetation, animal, soil, and human/social variables.

ESPM 5241. Natural Resource and Environmental Policy: History, Creation, and Implementation. (3 cr; §ESPM 3241W. Prereq–Grad student or #) Basic concepts of political/administrative processes important to natural resource policy and program development. Case study approach to policy/legislative process, participants in policy development, and public programs. Federal/state laws/regulations, international issues.

ESPM 5245. Sustainable Land Use Planning and Policy. (3 cr; A-F only. §ESPM 3245. Prereq–Grad student or #) Overview of policies that affect recreation at local, state, and federal levels. Landscape-level planning. Collaborative relationships as means to implement sustainable natural/social policy. Class project involving all aspects of implementing recreation policy, from public meetings to hands-on evaluation of options.

ESPM 5251. Natural Resources in Sustainable International Development. (4 cr; A-F only. §ESPM 3251, LAS 3251. Prereq–Grad student or #) International perspectives on resource use in developing countries. Integration of natural resource issues with social, economic, and policy considerations. Agriculture, forestry, agroforestry, non-timber forest products, water resources, certification, development issues. Latin American case studies.


ESPM 5295. GIS in Environmental Science and Management. (4 cr; A-F only. §ESPM 4295W. Prereq–Grad student or #) Application of spatial data inventory/analysis in complex environmental planning problems. Spatial data collection. Database development methods, including GIS, DLG, TIGER, NWI data, and spatial analysis. Topics identified by non-University partners.

ESPM 5402. Biometeorology. (3 cr. Prereq–MATH 1271, PHYS 1201, STAT 3011) Calculus-based introduction to atmospheric boundary layer (ABL), the interface between earth’s surface and the atmosphere. ABL development/turbulence, surface energy balance, ABL clouds, air quality, microclimate, observational/modeling methods.

ESPM 5480. Topics in Natural Resources. (1-4 cr [max 6 cr]. Prereq–3rd or grad student) Lectures with individual scholar or regular staff member. Topics specified in Class Schedule.

ESPM 5482. Biosafety Science and Policy. (3 cr) Science/policy for governing environmental/health safety of genetic engineering through Minnesota, national, and international cases.


ESPM 5555. Wetland Soils. (3 cr; A-F only. §SOIL 5555. Prereq–1125 or 2125 or equiv or #; §5511 recommended) Morphology, chemistry, hydrology, formation of mineral/organic soils in wet environments. Soil morphological indicators of wet conditions, field techniques of identifying hydric soils for wetland delineations. Peatlands. Wetland benefits, preservation, regulation, mitigation. Field trips, lab, field hydric soil delineation project.

ESPM 5575. Wetlands Conservation. (3 cr; §ESPM 3575. Prereq–1575; or grad student or #) Freshwater wetland classification, wetland biota, current/historic status of wetlands, value of wetlands. National, regional, Minnesota wetlands conservation strategies. Ecological principles used in wetland management.

ESPM 5601. Principles of Waste Management. (3 cr; A-F only. Prereq–1125 or 2125, BOL 1002/1003 or CHEM 1021, STAT 3011, APEC 1101 or #) Waste and waste management principles. Issues, problems, and solutions in remediating waste stream. MSW and yard waste composting, WTE incineration operation, ash disposal, recycling, landfill requirements, direct land disposal, regulatory trends, and case studies.

ESPM 5602. Regulatory and Ethical Frameworks for CEM. (3 cr. Prereq–APEC 1101 or ECON 1101) Concepts, major issues relating to industrial ecology and industry as they are influenced by current standards/regulations at local, state, and national levels.

ESPM 5603. Environmental Life Cycle Analysis. (3 cr; §ESPM 3603) Prereq–[MATH 1142 or [MATH 1271, MATH 1282]], [ECON 3117 or APEC 1101] Concepts, major issues relating to inventory and subsequent analysis of production systems. Production system from holistic point of view, using term commonly used in industrial ecology: “the metabolic ecosystem.”

ESPM 5604. Environmental Management Systems and Strategy. (3 cr; §ESPM 3604) Environmental problems such as climate change, ozone depletion, and loss of biodiversity.


ESPM 5606. Minimizing Industrial Emissions. (3 cr; §ESPM 3606. Prereq–CHEM 1011 or #) Fundamental waste streams and pollution control technologies in natural resource conversion.


ESPM 5703. Agroforestry in Watershed Management. (3 cr; §ESPM 3703. Prereq–Grad student or #) Biological, physical, and environmental attributes of agroforestry as pertains to watershed management. Coupling production with watershed protection benefits. Implications for policy, economics, and human dimensions in sustainable development. Examples/case studies from North America and developing countries.


Family Social Science (FSOS)

Department of Family Social Science

College of Education and Human Development

FSOS 1101. Intimate Relationships. (4 cr) Focuses on couple dynamics and gives an overview of how to develop, maintain, and terminate an intimate relationship. Relationship skills and issues including communication, conflict resolution, power, and roles. Programs for marriage preparation, marriage enrichment, and marital therapy are described.


FSOS 1301. Cash or Credit: You Need to Know. (1 cr; A-F only. Prereq–Fr or soph or PSECO) Money management. Responsible use of credit, specifically credit cards. Online course: 15 Web-based lessons.

FSOS 1905. Freshman Seminar. (1-3 cr; max 6 cr) Interdisciplinary seminar. Topics specified in Class Schedule.

FSOS 2101. Preparation for Working With Families. (2 cr; A-F only) Systematic preparation for upper division education, research/field internships, and career possibilities in Family Social Science.

FSOS 2103. Family Policy. (3 cr) Connections between policies that governments enact, and families and their well-being. Conceptual frameworks for influences underlying policy choices. Evaluating consequences of such choices for diverse families.


FSOS 2191. Independent Study in Family Social Science. (1-4 cr; max 12 cr. Prereq–Soph, #) Independent reading or writing or research under faculty supervision.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSOS 3101.</td>
<td>Personal and Family Finances. (3 cr. Prereq—At least soph or #)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FSOS 3102.</td>
<td>Family Systems and Diversity. (3 cr. §FSOS 5101, Prereq—at least soph or #)</td>
<td>3</td>
<td>Family systems/theories applied to dynamics/processes relevant to family life. Diversity issues related to gender, ethnicity, sexual orientation, and disability. Divorce, single parenthood, remarriage. Family strengths/problems.</td>
</tr>
<tr>
<td>FSOS 3104.</td>
<td>Global and Diverse Families. (3 cr. §FSOS 4102, Prereq—at least Soph or #)</td>
<td>3</td>
<td>Perspectives on family dynamics of various racial/ethnic populations in the United States/other countries in context of national/international economic, political, and social processes.</td>
</tr>
<tr>
<td>FSOS 3150.</td>
<td>Special Topics in Family Social Science. (1-4 cr [max 4 cr], Prereq—Topic by topic, at least soph)</td>
<td>1-4</td>
<td>Review of research/scholarly thought. Topics specified in Class Schedule.</td>
</tr>
<tr>
<td>FSOS 3191.</td>
<td>Independent Study in Family Social Science. (1-5 cr [max 12 cr], Prereq—Sr.)</td>
<td>1-5</td>
<td>Independent reading or writing or research under faculty supervision.</td>
</tr>
<tr>
<td>FSOS 3429.</td>
<td>Counseling Skills Practicum I. (3 cr. §FSOS 5429)</td>
<td>3</td>
<td>Basic counseling skills. Counselor needs/motivations, non-verbal communication, basic/advanced empathy, identifying strengths, maintaining focus, challenging discrepancies, use of self. Emphasizes building from client strengths, learning through role-playing.</td>
</tr>
<tr>
<td>FSOS 3432.</td>
<td>Chemical Abuse and Families: An Overview. (3 cr)</td>
<td>3</td>
<td>Relationships, family systems, families in which alcohol or drug use is a problem. Family types, family of origin, models of family therapy, family systems theory, alcoholism. Review of literature.</td>
</tr>
<tr>
<td>FSOS 4101.</td>
<td>Sexuality and Gender in Families and Close Relationships. (3 cr. Prereq—At least jr or #)</td>
<td>3</td>
<td>Human ecology/d Development as frameworks for examining sexuality in close relationships. Diversity of sexual beliefs, attitudes, behaviors within differing social contexts. Using scientific knowledge to promote sexual health among individuals, couples, families through various life stages.</td>
</tr>
<tr>
<td>FSOS 4104W.</td>
<td>Family Psychology. (3 cr. Prereq—At least jr or #)</td>
<td>3</td>
<td>Processes in families of origin, families of choice, and other close relationships, within diverse social contexts. Evaluating current research on family dynamics within/across generations.</td>
</tr>
<tr>
<td>FSOS 4106.</td>
<td>Family Resource Management. (3 cr. Prereq—at least jr or #)</td>
<td>3</td>
<td>Analysis of how individuals/families use interpersonal, economic, natural, and community resources to make decisions, solve problems, and achieve central life purposes.</td>
</tr>
<tr>
<td>FSOS 4150.</td>
<td>Special Topics in Family Social Science. (1-4 cr [max 12 cr], Prereq—[Topics by topic, at least jr])</td>
<td>1-4</td>
<td>Review of research/scholarly thought. Topics specified in Class Schedule.</td>
</tr>
<tr>
<td>FSOS 4152.</td>
<td>Gay, Lesbian, and Bisexual People in Families. (3 cr. Prereq—At least jr or #)</td>
<td>3</td>
<td>Perspectives on gay, lesbian, and bisexuals (GLB) in families. Unique contributions of GLB to understanding diversity among families. Homophobia, mythologies, coming-out, identity, gender, social networks, intimacy, sexuality, children, parenting, aging, AIDS, ethnicity.</td>
</tr>
<tr>
<td>FSOS 4153.</td>
<td>Family Financial Counseling. (3 cr; A-F only, Prereq—[3101, 3102, 3431] or II)</td>
<td>3</td>
<td>Introduction to family financial management applications through different stages in family financial life cycle. Case studies.</td>
</tr>
<tr>
<td>FSOS 4154W.</td>
<td>Families and Aging. (3 cr. Prereq—At least Jr or #)</td>
<td>3</td>
<td>Aging families from diverse socioeconomic/cultural groups as complex multigenerational systems interacting within ever-changing social structures.</td>
</tr>
<tr>
<td>FSOS 4155.</td>
<td>Parent-Child Relationships. (3 cr; A-F only, Prereq—At least jr or #)</td>
<td>3</td>
<td>History, theories, research, and contemporary practices of parent-child relationships in diverse families/cultures across the life span. Preparation for professionals in education, social work, and other human service occupations.</td>
</tr>
<tr>
<td>FSOS 4156.</td>
<td>Legal-Economic Controversies in Families. (3 cr. Prereq—3101 or Jr)</td>
<td>3</td>
<td>Interdisciplinary course for critical thinking about legal-economic controversies across family life span. Practical applications/debate are used to analyze controversies for public decision making about controversial family issues.</td>
</tr>
<tr>
<td>FSOS 4160H.</td>
<td>Honors Caspstone Project. (2 cr [max 4 cr], Prereq—FSOS honors)</td>
<td>2</td>
<td>Individualizes the honors experience by connecting aspects of major program with special academic interests.</td>
</tr>
<tr>
<td>FSOS 4191.</td>
<td>Independent Study in Family Social Science. (1-4 cr [max 12 cr], Prereq—Sr.)</td>
<td>1-4</td>
<td>Independent reading or writing or research under faculty supervision.</td>
</tr>
<tr>
<td>FSOS 4294.</td>
<td>Research Internship. (1-4 cr [max 4 cr], Prereq—FSOS major, at least Jr or #)</td>
<td>1-4</td>
<td>Research project with faculty. May include planning, proposal writing, literature review, data collection/coding/cleaning/analysis, and reporting.</td>
</tr>
<tr>
<td>FSOS 4296.</td>
<td>Field Study: Working With Families. (1-12 cr [max 12 cr], S-N only, Prereq—[2101, at least Jr])</td>
<td>1-12</td>
<td>Directed paraprofessional work experience related to student’s area of study.</td>
</tr>
<tr>
<td>FSOS 5014.</td>
<td>Quantitative Family Research Methods I. (3 cr. Prereq—Grad student or #)</td>
<td>3</td>
<td>Family research methods, issues associated with multiple levels of analysis. Conducting family-focused data analyses using basic/intermediate methods (through ANOVA and multiple regression), including power analysis. Ethical issues involved in family research such as IRB/HIPAA regulations.</td>
</tr>
<tr>
<td>FSOS 5015.</td>
<td>Family Research Laboratory. (1 cr; S-N only, Prereq—Grad student or #)</td>
<td>1</td>
<td>Directed paraprofessional work experience related to student’s area of study.</td>
</tr>
<tr>
<td>FINA 4121.</td>
<td>Financial Markets and Interest Rates. (2 cr; A-F only, Prereq—4241)</td>
<td>2</td>
<td>Basic framework for valuing fixed income securities. Term structure on interest rates, forward rates, principles of fixed-income valuation. Surveys treasury, corporate, municipal, securitization markets.</td>
</tr>
<tr>
<td>FINA 4122.</td>
<td>Banking Institutions. (2 cr; A-F only, Prereq—4241)</td>
<td>2</td>
<td>Managing banking institutions, including commercial banks and thrifts. Theory/practice of banking. Asset management, liability management, capital management. Public policy issues in banking.</td>
</tr>
<tr>
<td>FINA 4241.</td>
<td>Corporate Financing Decisions. (4 cr; A-F only, Prereq—3001)</td>
<td>4</td>
<td>Theoretical/applied understanding of corporate financial decisions. Efficient markets, financial decisions, tax effects, managerial incentives, investment banking, effect of financing issues on investment decisions, basic options.</td>
</tr>
</tbody>
</table>
Course Descriptions

FINA 4242. Corporate Investment Decisions. (4 cr; A-F only. Prereq—4241) Focuses on efficiently managing working capital and fixed assets. Cases illustrate some of the topics: working capital management, making capital budgeting decisions, targeting/evaluating firms performance, assessing mergers/acquisitions.


FINA 4541. Futures, Options, and Other Derivative Securities. (4 cr; A-F only. Prereq—4241, 4241, 4321) Foundations of stochastic cash flow representations, construction portfolios of futures/options, basic methods for valuing real/financial futures, swaps, options.


Finnish (FIN)

Department of German, Scandinavian, and Dutch

College of Liberal Arts

FIN 1001. Beginning Finnish. (5 cr. §FIN 4001) Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include every day subjects (shopping, directions, family, food, housing, etc.).

FIN 1002. Beginning Finnish. (5 cr. §FIN 4002, Prereq—1001) Continues the presentation of all four language modalities (listening, reading, speaking, writing), with a proficiency emphasis. Topics include free-time activities, careers, and the Finnish culture.

FIN 1003. Intermediate Finnish. (5 cr. §FIN 4003. Prereq—1002) Emphasis on intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is combined with authentic readings and essay assignments.

FIN 1004. Intermediate Finnish. (5 cr. §FIN 4004. Prereq—1003) Emphasis on developing intermediate mid-high proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments.

FIN 3670. Topics in Finnish Studies. (3 cr [max 9 cr]) Interdisciplinary social science topics on Finnish people, culture, and society. In English.

FIN 4001. Beginning Finnish. (2 cr. §FIN 1001. Prereq—1004 in another language or passing score on LPE or grad student) Meets concurrently with 1001. See 1001 for description.

FIN 4002. Beginning Finnish. (2 cr. §FIN 1002. Prereq—1004 in another language or passing score on LPE or grad student) Meets concurrently with 1002. See 1002 for description.


FW 4106. Important Plants in Fisheries and Wildlife Habitats. (1 cr. A-F only. Prereq—Biol 3407, [jr or sr], FW major) Field identification of important plants in fisheries and wildlife habitats.


FW 4132. Invertebrate Diversity. (4 cr; A-F only. Prereq—Biol 1001 or Biol 2012) Survey of major invertebrate phyla from standpoints of structure, function, development, and their environmental/evolutionary relationships. Focuses on major groups of multicelled invertebrates. Special unit dedicated to invertebrates of Minnesotta.


FW 4200H. Honors Seminar. (1 cr. Prereq—FW upper div honors, #) Current topics presented by faculty/students. Lecture/discussion.

FW 4291. Independent Study: Fisheries. (1-5 cr [max 15 cr]. Prereq—#) Individual field, library, and lab research in fisheries.

FW 4392. Special Lectures: Fisheries. (1-5 cr [max 15 cr]. FW 5292. Prereq—#) Lectures in special fields of fisheries given by visiting scholar or regular staff member.

FW 4391. Independent Study: Wildlife. (1-5 cr [max 5 cr]. Prereq—#) Individual field, library, and lab research in wildlife.

FW 4392. Special Lectures: Wildlife. (1-5 cr [max 15 cr]. FW 5392. Prereq—#) Lectures on special topics of wildlife given by visiting scholar or staff member.

FW 4401. Introduction to Fish Physiology and Behavior. (4 cr. Prereq—Biol 1001 or Biol 1009) How life in aquatic environment has influenced fish biology. Ionic/osmotic balance, sensory systems, gas exchange, endocrinology, growth, foraging, locomotion, reproduction, orientation/migration, toxicology.
Course Descriptions

FW 4565. Fisheries and Wildlife Ecology and Management. Field Trip. (2 cr; S-N only. Prereq—FW 4564 or FW 4564W) Ten-day trip to Wyoming and points on route during spring break. Emphasizes broad range of fisheries and wildlife management, including big game, waterfowl, endangered species.

FW 4701. Fisheries and Wildlife Problem Solving. (2 cr. Prereq—FW 4001 or grad student or FW 4564 or FW 4564W) Management problem identification/analysis, information gathering/analysis, oral/written reporting. Selected Management issues.

FW 4801H. Honors Research. (2 cr; A-F only. Prereq—FW upper div honors, #) Independent research project supervised by faculty member.


FW 5051. Analysis of Populations. (3 cr. §EEB 5051. Prereq—Biol 1001 or Biol 1009, FW 4001 or Stat 3011 or Stat 5021) or #) Factors involved in regulation, growth, general dynamics of populations. Data needed to describe populations, population growth, population models, regulatory mechanisms.


FW 5292. Special Lectures: Fisheries. (1-5 cr; max 15 cr). §FW 4292. Prereq—Grad student or #) Lectures in special fields of fisheries given by visiting scholar or regular staff member.

FW 5392. Special Lectures: Wildlife. (1-5 cr; max 15 cr). §FW 4392. Prereq—Grad student or #) Lectures given by visiting scholar or staff member.

FW 5411. Aquatic Toxicology. (3 cr. Prereq—Intro chem, intro ecoll, #) Pollution assessment approaches, biological effects, fate/flow of contaminants in aquatic systems, major types of pollutants.

FW 5455. Sustainable Aquaculture. (3 cr. Prereq—Intro biology, intro chemistry or #) How aquaculture affects the environment and human well-being in Minnesota and world-wide. Role of aquaculture as world’s fastest growing food sector and in hatcheries to support fishing and rebuild endangered species. Organic aquaculture, other innovations.

FW 5571. Avian Conservation and Management. (3 cr. Prereq—EEB 4134 or grad or #) Current problems in avian conservation/management. Nongame, wetland, game birds.

FW 5601. Fisheries Population Analysis. (3 cr; A-F only. Prereq—[4051 or Stat 5021], Biol 3407, [Math 1142 or Math 1271]) Introduction to theory/methods for estimating vital statistics of fish populations. Using microcomputers/statistical software to describe, analyze, model attributes of fish populations. Case studies from literature of marine/freshwater fisheries management.

FW 5603W. Habitats and Regulation of Wildlife. (3 cr; A-F only. Prereq—Biol 3407) Environmental interactions of wildlife at population/community levels. Environmental threats from human activities. Habitat management practices. Objectives, polices, regulations in population management.


FW 5625. Wildlife Handling and Immobilization for Research and Management. (2 cr; S-N only. Prereq—General biology. Grad student or vet med student or FW grad) Practical techniques to maximize human/animal safety and encourage effective operations. Preparation procedures, legal responsibilities, capture drugs/delivery systems, safety measures, ethical issues, basic veterinary procedures for handling wildlife. Field course. Uses live animals.

Food Science and Nutrition (FSCN)

Department of Food Science and Nutrition

College of Food, Agricultural and Natural Resource Sciences

FSCN 1001. Orientation to Nutrition. (1 cr. Prereq—Enrolled in nutrition undergraduate pro) Nutrition as a professional career track. Services available at the University to achieve academic success. Various paths to becoming a registered diettian. Use of nutrition undergraduate major as a preparation for professional schools. Work environment.

FSCN 1012. Sports Nutrition. (2 cr) Physiological function and metabolic fate of all six classes of nutrients ingested by active individuals to improve athletic performance. Impact on physiology of ergogenic aids and various dietary supplements. Overview of these components in fulfilling energy/recovery needs for continual/regressive athletic performance. Web-based course.


FSCN 1021. Introductory Microbiology. (4 cr) Broad introduction to the diverse world of microbes and how they impact our world in both deadly and life-saving ways.

FSCN 1090. Topics. (3 cr; A-F only) Non-lab microbiology for nursing

FSCN 1102. Food: Safety, Risks, and Technology. (3 cr) Ethical use of public policy and food technology to reduce or control risks in our food supply. Survey of microbiological, chemical, and environmental risks, and government and industry controls used to ensure food safety.


FSCN 1904. Topics: Freshman Seminar. (3 cr; A-F only) Interdisciplinary seminar. Topics vary.


FSCN 3612. Life Cycle Nutrition. (3 cr. Prereq—[Enroll in, CHEM 1022] Nutritional changes throughout lifecycle. Pregnancy, lactation, childhood, adulthood, aging. Topics relevant to lifecycle changes (e.g., body composition, immunity, sports nutrition).


FSCN 3615. Sociocultural Aspects of Food, Nutrition, and Health. (3 cr. Prereq—Enroll in) Sociocultural aspects of regional and cultural diversity in food preferences and food behavior, food habits, demographics, lifestyles, food consumption, and expenditures. Effect of socioeconomic status, religious beliefs, age, and cultural meaning of food on food choices.

FSCN 3682. Introduction to Dietetic Practice. (2 cr. A-F only. Prereq—[Enroll in] Introduction to the practice of dietetics in medical centers, residential care centers, ambulatory care clinics, and community service agencies.

FSCN 3731. Food Service Operations Management Laboratory. (2 cr; A-F only. Prereq—[3102 or #3102]) Planning, preparing, delivering, serving, managing foods served away from home.

FSCN 3732. Food Service Operations Management. (3 cr; A-F only. Prereq—[3102 or #3102]) On-/off-campus commercial/institutional restaurants used as labs. Required field trips.

FSCN 3796. Field Experience in Food Service Management. (3 cr; A-F only. Prereq—[3732 or #3732]) Supervised food service production/management experience in a community or health care facility.

FSCN 4096. Professional Experience Program: Internship. (1-3 cr; max 6 cr; A-F only. Prereq—FSCN undergrad, #; UC only) Supervised practical and professional experience in food industry firms or government agencies; evaluative reports and consultations with faculty advisors and employees. Registration information in COAFES Career Services.

FSCN 4103. World Food Problems. (3 cr. §AGRO 4103, APEC 4103, CVM 6060. Prereq—[Enroll in] A multidisciplinary look at problems and possible solutions in food production, storage, and utilization in developing countries. Presentations and discussions introduce conflicting views of population, use of technology, and ethical and cultural values of people in various parts of the world.

FSCN 4111. Food Chemistry. (3 cr. Prereq—[Enroll in] Study of chemical structures and functional properties of food components in relation to their roles as parts of complex biochemical systems and as modified by environmental and processing factors.

FSCN 4121. Food Microbiology and Fermentations. (3 cr. Prereq—[Enroll in] [VPB 2032 or MBG 3301 or MBG 2032], BOC 3021) Relationship of environment to occurrence, growth, and survival of microorganisms in foods, methods of evaluation, genera and species of importance, control of food-borne pathogens and spoilage organisms in foods, and use of microorganisms in food fermentations.

Course Descriptions

**FSCN 4131. Food Quality.** (3 cr. Prereq—4111, 4121)
Management systems in the processing and distribution of foods that insure food quality and compliance with food laws and regulations. Quality management, HACCP, audits, plant/equipment design for sanitation, specifications, recalls, and control systems.

**FSCN 4210. Topics in Food Science and Nutrition.** [1-4 cr [max 8 cr]; Prereq—] In-depth investigation of a specific topic in nutrition and food science not covered by other courses. Topic announced in advance.

**FSCN 4291. Independent Study.** [1-4 cr [max 4 cr]; Prereq—Undergrads, #] Individual lab or library research in an area related to food science or nutrition.

**FSCN 4312W. Food Analysis.** (4 cr. Prereq—4111, STAT 301) Examination of components in foods with analytical measurement as the primary focus. Chemical, physical, and sensory techniques are used to identify and characterize major and minor components in food systems.

**FSCN 4331. Food Process Engineering I.** (3 cr. [max 5 cr]; A-F only. BAE 4744, Prereq—3102, MATH 1272, [PHYS 1102 or PHYS 1302]) Specific applications of engineering principles (e.g., heat/mass transfer, kinetics, thermodynamics) to unit operations in food production.

**FSCN 4332. Food Processing Operations.** (3 cr; A-F only. Prereq—4331 or BAE 4744) Engineering principles applied to commonly used food processing operations. Blanching, pasteurization, sterilization, frying, baking, milling, extrusion. Meat processing, water treatment, waste management.

**FSCN 4342. Properties of Water in Foods.** (4 cr. Prereq—4331) Principles involved in processing, handling, and storage of water and dry and intermediate moisture biological materials (foods, drugs, biologics) with emphasis on the physio-chemical properties of water in food.

**FSCN 4343. Processing of DairY Products.** (4 cr. Prereq—4111, 4122, 4331) Demonstration/application of basic concepts of food engineering/processing, food chemistry, and food microbiology to production of fluid, fermented, concentrated, and dehydrated dairy products.

**FSCN 4345. Flavor Technology.** (3 cr. Prereq—4111, 4331, 4121) Flavor/olfactory development in foods. Industrial production of food flavorings, their proper application to food systems.

**FSCN 4346. Functional Foods: Regulations and Technology.** (3 cr; A-F only. Prereq—[4111, 4121] or [4111, 4131] or [4121, 4131]) Overview of application of regulatory principles, food science, nutritional science to development of nutraceuticals, functional foods, dietary supplements. Scientific basis, technologies, legal requirements, animal/clinical evaluation, consumer usage versus need. Review of products available in world market, with focus on the United States.

**FSCN 4906. Field Experience: Community Nutrition.** (3 cr; A-F only. Prereq—Admitted to first year Coordinated Program in Dietetics, #) Application of nutrition knowledge in the solution of problems related to health promotion. Assigned readings, discussion, and experiences in community agencies.


**FSCN 4613. Experimental Nutrition.** (2 cr. Prereq—4612, BOC 3021, STAT 301) Lab in chemical/biochemical methods of analysis of nutritional status.

**FSCN 4614. Community Nutrition.** (3 cr. Prereq—1112) Community-based nutrition issues are explored including nutrition risks associated with different age, sex, ethnic, and socioeconomic groups; community needs assessment; program planning and evaluation, and programs that address the needs and interests of people in different stages of the life cycle, ethnic or cultural backgrounds, and literacy levels.

**FSCN 4621W. Nutrition and Metabolism.** (4 cr. Prereq—4612, BOC 3021, PHYS 3051, BIOL 301) Carbohydrate, lipid, and protein metabolisms. Uses systems/holistic approach to emphasize how metabolic pathways interrelate.

**FSCN 4665. Medical Nutrition Therapy I.** (3 cr; A-F only. Prereq—4612, PHSL 3051, BOC 3021) Nutrition assessment and support. Pathology, management, and nutrition therapy for disorders of the gastrointestinal, immune, and respiratory systems, and cancer.

**FSCN 4666. Medical Nutrition Therapy II.** (3 cr; A-F only. Prereq—4665) Pathology, management, and nutrition therapy for disorders of the cardiovascular, endocrine, urinary, and neuromuscular and skeletal systems. Nutrition intervention for inborn errors of metabolism, and eating disorders and obesity.

**FSCN 4906. Field Experience: Medical Nutrition Therapy I.** (3 cr; A-F only. Prereq—Second-year students in Coordinated Program in Dietetics or #) Application of nutrition knowledge in the solution of problems related to disease and injury; assigned readings, discussions, and experience in medical centers and long-term care facilities. Emphasis on nutrition support; gastrointestinal, immune and respiratory disorders, and cancer.

**FSCN 4732. Food and Nutrition Management.** (3 cr; A-F only. Prereq—3732, MGMT 3001) Financial and human resource management applied to a variety of business and institutional settings. Field trips may be required.

**FSCN 4796. Field Experience in Food and Nutrition Management.** (3 cr; A-F only. Prereq—Second-year students in Coordinated Program in Dietetics or #) Application of principles of food service management to problems in community, commercial, or health care facilities.

**FSCN 4906. Field Experience: Medical Nutrition Therapy II.** (3 cr; A-F only. Prereq—[4696, admitted to Coordinated Program in Dietetics or #] Application of nutrition knowledge to problems related to health/disease. Readings, discussions, experience in medical centers. Emphasizes cardiovascular, endocrine, urinary tract, energy imbalance; eating disorders.

**FSCN 4906. Field Experience: Medical Nutrition Therapy III.** (2-4 cr [max 4 cr]; A-F only. Prereq—[4696, Admitted to Coordinated Program in Dietetics or #]) Application of nutrition knowledge to problems related to health/disease, clinical management experience in medical centers. Emphasizes pediatrics, home health care, staff relief.

**FSCN 5411. Food Biotechnology.** (2 cr. Prereq—4211) Genetic tools and genetic modification of food biotechnology. Improvement of microbes used in food production by modern biotechnological approaches. Discuss need for stringent regulation of modern biotechnology as well as ethical and legal issues.

**FSCN 5421. Introduction to Food Law.** (3 cr. Prereq—1102) Analysis of the federal legal requirements affecting the production processing, packaging, marketing, and distribution of food and food products using case law studies and regulatory history.

**FSCN 5441. Introduction to New Product Development.** (2 cr. Prereq—4111, 4331) Interactive course that introduces students to the principles of new product development, from identification and testing of new product concepts, through prototype testing, to basic process design using examples from industry.

**FSCN 5461. Food Packaging.** (2 cr. Prereq—1102, 3102, PHYS 1102 or PHYS 1302) Materials, principles, and procedures of packaging as they apply to food products. Emphasis is on consumer products, but the principles also apply to bulk and institutional foods and ingredients.

**FSCN 5471. Advanced Food Chemistry.** (3 cr. Prereq—4111) Chemical reactions taking place in formation, stability, and degradation of important food constituents. Examples of reactions for major chemical changes occurring in food systems.


**FSCN 5531. Grains: Introduction to Cereal Chemistry and Technology.** (2 cr. Prereq—Biology. 1009, CHEM 1022) Origins, structure, biochemistry, and cellular properties of major cereal grains as they relate to primary processing (milling) and secondary processing (production of cereal products).

**FSCN 5601. Management of Eating Disorders.** (3 cr. Prereq—SR or grad student) in health related program or #) Etiology, occurrence, course, treatment, and prevention of eating disorders from a multidisciplinary perspective. Roles/responsibilities of eating disorder treatment team members of varying types across various treatment milieus.


**Forest Resources (FR)**

**Department of Forest Resources**

**College of Food, Agricultural and Natural Resource Sciences**

**FR 1001. Orientation and Information Systems.** (1 cr; A-F only) Forest resources, recreation resource management, urban forestry programs. Forestry and natural resource careers. Qualification requirements for government positions, competencies, internships, and experiences to compete for jobs in industry. Course planning, mentoring, alumni contacts. Leadership, organization, process. Lab equipment/software, GUIs, the Internet, spreadsheets, Lumina, periodical indexes.


**FR 1901. Freshman Seminar.** (1-3 cr [max 3 cr]; Prereq—Freshman) In-depth study of issues/topics related to natural resources and the environment. Topics vary each semester.
FR 2101. Identifying Forest Plants. (1 cr; A-F only. Prereq—Biol 1001 or Biol 1003; 1101, Biol 2022 recommended) Field identification of common northwoods trees, shrubs, and nonwoody vascular plants. Emphasizes concept of plant communities, soil site relationships, and wildlife values. Taught at Cloquet Forestry Center.


FR 2104. Measuring Forest Resources. (1 cr; A-F only) Introduction to land survey, tree/forest stand measurement (mensuration), and forest sampling techniques. Taught at Cloquet Forestry Center.

FR 3104. Forest Ecology. (4 cr; A-F only. Sfr 5104. Prereq—Biol 1001 or 1009; 1 semester college chemistry recommended) Form/function of forests as ecological systems. Characteristics/dynamics of species, populations, communities, landscapes, and ecosystem processes. Examples applying ecology to forest management. Weekly discussions focus on research topics in forest ecology, exercises applying course concepts, and current issues in forest resource management. Required weekend field trip.


FR 3203. Forest Fire and Disturbance Ecology. (3 cr; A-F only. Sfr 5203. Prereq—[3104 or equal] course fee) Ecology, history, management, and control of fire, wind, insect infestation, browsing, and other disturbances in forests. Disturbance regimes of boreal, northern hardwood, and other major forest types of North America. Influence of disturbance on wildlife habitat, urban/wildland interfaces, forest management, and stand/landscape dynamics. Guest speakers on fire organization, training, and operations. Two-day field trip.


FR 3411. Managing Forest Ecosystems: Silviculture. (3 cr. Sfr 5411. Prereq—[3104, non FR [major or minor]] or [3104, 5413, FR [major or minor] or #]) Management of forest ecosystems for sustaining ecological integrity, soil productivity, water quality, wildlife habitat, biological diversity, commodity production in landscape context. Silvics, forest dynamics, disturbances, regeneration, restoration, silvicultural systems, landscape management. Weekend field trip.

FR 3431. Timber Harvesting and Road Planning. (2 cr. Sfr 5431. Prereq—3411 or #) Introduction to forest operations. Terminology, basic engineering, equipment and harvesting system options, productivity/costs. Relationship to forest management and silviculture. Road planning, forest management guidelines, approaches for mitigating potential impacts to soil/water resources. Environmental implications of method/equipment choices. Selling timber, sale design, layout, and administration. Two all-day field trips.

FR 3471. Forest Planning and Management. (3 cr; A-F only. Sfr 5471. Prereq—Intro silviculture or concurrent registration in silviculture or #) Processes/techniques for scheduling forest management activities. Goals of landowners, industry, government, and society. Predicting forest outcomes, financial analysis, forest regulation, mathematical models, linear programming, economic analysis. Landscape-level management, desired conditions, historical range of variability, wildlife management, carbon sequestration, resource monitoring, certification, adaptive management.

FR 3480. Topics in Natural Resources. (1–3 cr, [max 12 cr]) Sfr 5480. Prereq—#) Lectures in special fields of natural resources given by visiting scholar or regular staff member. Topics specified in Class Schedule.

FR 3501. Arboriculture: Selection and Maintenance of Trees. (3 cr. Prereq—[1101 or Hort 1012], Biol 2022) Selection, growth, propagation, and maintenance of trees for urban spaces. Tree selection, site preparation, plant health care management. Prevention, diagnosis, and remediation of urban tree risks such as insects, pathogen, pollution, development, and climate change.


FR 4200H. Honors Seminar. (1 cr; A-F only. Prereq—FR upper division honors, #) Current topics presented by faculty/students. Lectures, Discussions.

FR 4293. Directed Study. (1–5 cr, [max 15 cr. Prereq—#) Study/project on topic of personal interest in consultation with faculty member. Initial proposal, reports of accomplishments.

FR 4501. Urban Forest Management: Managing Greenspaces for People. (3 cr. Sfr 5501. Prereq—[1101, 3501, Env 4521, Pla 2005], [FR upper division, #]) Management concepts for green infrastructure of cities, towns, and communities. Urban forest as a social/biological resource. Emphasizes management of urban forest ecosystem to maximize benefits to people. Tree selection, risk assessment, cost-benefit analysis, landscape planning, values, perceptions. How urban forestry can be a tool to improve community infrastructure.

FR 4801H. Honors Research. (2 cr; A-F only. Prereq—FR upper division honors, #) First semester of independent research project supervised by faculty member.


FR 5104. Forest Ecology. (4 cr. A-F only. Sfr 3104. Prereq—[Biol 1001 or 1009], grad student or #; 1 semester college chemistry recommended) Form/function of forests as ecological systems. Characteristics/dynamics of species, populations, communities, landscapes, and ecosystem processes. Examples applying ecology to forest management. Weekly discussions on research topics, exercises, current issues in forest resource management. Required weekend field trip.


FR 5311. Geographical Information Systems (GIS) for Natural Resources. (4 cr; A-F only. Sfr 5311. Prereq—Grad student or #) Introduction to GIS. Focuses on natural resources. Data structures, sources, collection, and quality. Lab exercises introduce geodesy, map projections, spatial analyses, and cartographic modeling.

FR 5412. Tropical Forest Ecology. (3 cr. Prereq—[Sox ecology course]) Ecological principles related to form, function, and development of wet/dry tropical forests at organismal, community, and ecosystem scales. Ecophysiology, succession, productivity, biodiversity, sustainability, agroforestry, social forestry, and management alternatives. Natural distribution of forest types. Causes, consequences, and extent of deforestation.