This is the Courses section (Studies of Science and Technology through Youth Development and Research) of the 2005-2007 Graduate School Catalog for the University of Minnesota.

SST 8100. Seminar: Models, Theories, and Reality. (3 cr. Prereq–HScio 8111 or [Phil 8601 or Phil 8602 or Phil 8655 or #]) Students participate in ongoing research on the role of models and theories in science, and prepare and present research papers.

SST 8200. Seminar: Philosophy of the Physical Sciences. (3 cr [max 6 cr; Prereq–#]) Students participate in ongoing research in history, philosophy, and social study of physical sciences and prepare and present research papers.

SST 8300. Seminar: The Biological and Biomedical Sciences. (3 cr. Prereq–HScio 8111 or [Phil 8601 or Phil 8602 or Phil 8655 or #]) Students participate in ongoing research in philosophy, biology and social study of biological and biomedical sciences, and prepare and present research papers.

SST 8400. Seminar: Science, Technology, and Society. (3 cr. Prereq–HScio 8111 or [Phil 8601 or Phil 8602 or Phil 8655 or #]) Students participate in ongoing research on interactions in science, technology, and society from perspectives of history, philosophy, and social study of science, and prepare and present research papers.

SST 8420. Seminar: Social and Cultural Studies of Science. (3 cr [max 6 cr] §Phil 8660) Recent work; theoretical and methodological differences among practitioners; selected responses from historians and philosophers of science.

Sumerian (Sum)

Department of Classical and Near Eastern Studies

College of Liberal Arts


Sum 5012. Elementary Sumerian II. (3 cr; Prereq–5011) Reading from classical literary and historical texts.

Surgery (Surg)

Department of Surgery

Medical School

Surg 8200. Clinical Surgical Problems in Management. (3 cr; A-F only. Prereq–Grad surg major) Diagnostic and management instruction in all phases of clinical surgery, inpatient and outpatient.

Surg 8201. Surgery Roentgenological Pathology Conference. (1 cr; A-F only. Prereq–Grad surg major) Weekly review of surgical patients presenting interesting roentgen and pathological findings. Staff from the Departments of Surgery, Radiology, and Laboratory Medicine and Pathology. Basic science and management principles of the surgical patient.

Surg 8202. Surgical Research. (3 cr; A-F only. Prereq–Grad surg major) Graduate students undertake original investigation of problems in either experimental or clinical surgery.

Surg 8203. Surgery Complications and Research Conference. (1 cr; A-F only. Prereq–Grad surg major) Evaluation of surgical patients, including postoperative course. Discussion and critical evaluation of current research problems.

Surg 8207. Transplantation Conference. (1 cr; A-F only. Prereq–Grad surg major) Interdepartmental discussion and evaluation of current clinical and research problems.

Surg 8293. Applied Statistics. (1 cr; S-N only. Prereq–Grad student in [surgery or experimental surgery or health sciences]) Interactive computer course. Concepts of applied statistics. Examples, problem sets based on surgical research. How to independently set up appropriate experiments and perform basic descriptive/ inferential analysis.

Surg 8333. FTE: Master’s. (1 cr. Prereq–Master’s student, adviser and DGS consent)

Surg 8444. FTE: Doctoral. (1 cr. Prereq–Doctoral student, adviser and DGS consent)

Surg 8966. Doctoral Pre-Thesis Credits. (1-18 cr [max 60 cr]. Prereq–Max 18 cr per semester or summer; doctoral student who has not passed prelim oral)

Surg 8777. Thesis Credits: Master’s. (1-18 cr [max 50 cr]. Prereq–Max 18 cr per semester or summer; 10 cr total required [Plan A only])

Surg 8888. Thesis Credit: Doctoral. (1-24 cr [max 100 cr]. Prereq–Max 18 cr per semester or summer; 24 cr required)

Sustainable Agricultural Systems (S Agr)

Department of Agronomy and Plant Genetics

College of Agricultural, Food and Environmental Sciences

S Agr 8010. Colloquium in Sustainable Agriculture. (2 cr; A-F only. Prereq–Coursework in biological or social sciences that provides intro to ag practices or issues) Forum for University faculty and students, and representatives of the farming community, including farmers, grassroots organizations, agricultural businesses, and representatives of state agencies, to engage in discussions on topics related to sustainability of food production.

S Agr 8020. Field Experience in Sustainable Agriculture. (1-4 cr [max 3 cr]; S-N only. Prereq–Coursework in biological or social sciences that provides intro to ag practices or issues) 3–14-week internship with growers or organizations working with sustainable agriculture issues. Students analyze issues in final written project, oral seminar.

Teaching English as a Second Language (TESL)

Institute of Linguistics, ESL, and Slavic Languages and Literatures

College of Liberal Arts

TESL 5101. Academic Writing in TESOL. (1 cr; S–N only. Prereq–[5271, grad ESL student] or #) Research writing conventions in the profession. University rules on ethical use of human subjects, research paper rhetorical structure, literature sources/searches, literature review coherence, hedging markers, basic research methods, research result reporting, APA-formatted bibliographies, writing strategies.

TESL 5401. Language Analysis for Teachers of English as a Second Language. (4 cr. Prereq–[Ling 3001 or Ling 5001]) Overview of the structure of the English language geared to the needs of teachers of English to speakers of other languages. Study the structures of English from the point of view of second-language speakers as well as native speakers. More complex structures of English syntax, as well as English semantics, pragmatics, and discourse structures. Second in a two-course sequence.

TESL 5402. Language Analysis for Teachers of English as a Second Language. (4 cr. Prereq–[5401 or Ling 5001]) Overview of the structure of the English language geared to the needs of teachers of English to speakers of other languages. Study the structures of English from the point of view of second-language speakers as well as native speakers. More complex structures of English syntax, as well as English semantics, pragmatics, and discourse structures. Second in a two-course sequence.

TESL 5610. Research Methods in Applied Language Study. (3 cr [max 12 cr]. Prereq–Ling 5505 or #) Key issues in second language acquisition/learning research. Focuses on learning a second or foreign language in the classroom.

TESL 5721. Methods in Teaching English as a Second Language. (3 cr. Prereq–Ling 3001 or 5001 or #) Introduction to methods for teaching English as a second language to adults.

TESL 5722. Practicum in Teaching English as a Second Language. (6 cr [max 12 cr]; S-N only. Prereq–[5401 or 5402, 5402 or 5402, 5721, ESL major or ESL minor] or #) Observation of, and practice in, teaching English as a second language to adults at college or university level.


TESL 5724. Intro to Language Assessment. (3 cr; A-F only) How to engage in meaningful, appropriate, and fair second-language assessment practices; interpret test results; and construct new forms of assessment.

TESL 5900. Topics in Second Language Learning and Teaching. (1-14 cr [max 16 cr]) Topics vary. See Class Schedule.

TESL 5910. Seminar in Teaching English as a Second Language. (3 cr [max 9 cr]) Topics related to English as a second language and applied linguistics. Topics specified in Class Schedule.

TESL 5993. Directed Studies. (1-4 cr [max 9 cr]. Prereq–#, A) Directed study for teaching English as a second language.

TESL 8333. FTE: Master’s. (1 cr. Prereq–Master’s student, adviser and DGS consent)

TESL 8751. English for Specific Purposes. (3 cr. Prereq–5721, 5401, 5402 or #) Critical review of literature: registers of English used in fields such as engineering, nursing, and business. Students gather data and write reports.

TESL 8777. Thesis Credits: Master’s. (1-18 cr [max 50 cr]. Prereq–Max 18 cr per semester or summer; 10 cr total required [Plan A only])

Theatre Arts (Th)

Department of Theatre Arts and Dance

College of Liberal Arts

Th 5100. Theatre Practicum. (1-4 cr [max 20 cr]. Prereq–#, 4 cr of 3100 for undergrads) Individual creative projects in production of approved plays as an actor, director, dramaturg, or playwright. (See 5500 for design practicums.)


For definitions of course numbers, abbreviations, and symbols, see page 167.
Courses

Th 5117. Performance and Social Change. (3 cr; A-F only. Prereq—[1322, 3171 or 3172] or grad student) Reading, writing, research, presentations and workshops explore activist performance projects. Theories of social formation and ideology provide framework to discuss/animate theater’s potential for social change.

Th 5178. History and Theory of Performance Conventions. (3 cr; A-F only. Prereq—[1322, [3171 or 3172]) or grad student) Draws on visual materials, practical exercises, and theories of spatial representation in context of political/social function. Historical/cross-cultural overview of performance conventions and theatrical space from City of Dionysia to site-specific happenings of 20th century.

Th 5179. Text and Performance. (3 cr; A-F only. Prereq—[1322, [3171 or 3172]) or grad student) How to read texts toward performance in various dramatic/nondramatic method. Material of unlocking metaphoric energy of texts. Vocabulary/techniques of analysis that transform text from page to stage.

Th 5181. Blacks in American Theatre. (3 cr; [4711 or 5181]) Historical survey of significant events in the development of American Black theatrical tradition; essays, plays, playwrights, and the authors from early colonial references to Black Arts Movement.

Th 5182. Contemporary Black Theatre: 1960-Present. (3 cr. [4711 or 5182]) Essays, plays, playwrights, and the authors that have contributed to contemporary Black theatre. From the beginning of the Black Arts Movement to the present.

Th 5355. Puppetry: Techniques and Practice in Contemporary Theater. (3 cr. Prereq—[3515 or 3513], #) or grad student) Fundamentals of puppet and object theater/ performance are introduced through traditional/ contemporary puppetry forms. Focuses on object theater, toy theater, hand puppets, and shadow/ Bunraku-style puppetry. Readings, in-class screenings of videos/slide show. Students build/create series of short works for in-class performance.

Th 5500. Theatre Design Practicum. (1-3 cr max 20 cr). Prereq—5351, #, A) Individual projects in production of approved plays as a designer of scenery/properities, costumes, lighting, or sound. (See 5100 for other creative practicums.)

Th 5510. Drawing, Rendering, and Painting for the Theatre Designer I. (3 cr. Prereq—5351 or grad or #) Development of skills necessary for presentation of theatre scene/costume designs. Materials, layout, and techniques in scene painting. Basic drawing/graphic skills.

Th 5515. Design Composition and Collaboration. (3 cr. Prereq—grad or 5315, 5711, #) Classical composition of art and its application to stage design and directing through the collaborative process.

Th 5520. Scene Design. (3 cr [max 9 cr]. Prereq—5351 or grad or #) Conceiving/communicating design ideas in both two-dimensional sketches and three-dimensional models for theatre and allied venues. Drafting.

Th 5530. Costume Design. (3 cr [max 9 cr]. Prereq—5351 or grad or #) Theory and process of costume design for theatrical productions (e.g., dance, opera, film) through hypothetical productions.

Th 5540. Lighting Design for the Theatre. (3 cr [max 9 cr]. Prereq—5351 or grad or #) Design aesthetics and exploration of design for various stage forms and venues. Development of the lighting plot and paperwork; use of the computer in lighting design.

Th 5545. Stage Lighting Technology. (3 cr. Prereq—5351 or grad or #) The lighting technician’s skills and crafts: equipment, techniques, control operation, wiring, and maintenance.

Th 5550. Video Project. (3 cr [max 6 cr]. Prereq—[4550 or 4960] or [prereq—#]) Students participate in a video-shot project serving in various positions, including camera operator, gaffer, grip, audio engineer, cast, and possibly director and director of photography.

Th 5551. Editing and Post Production for Video and Film. (3 cr. Prereq—#) Students manipulate software and other technologies used in post production. Editing, audio, image manipulation.

Th 5553. Video Production Design and Aesthetics. (3 cr. Prereq—4553 or #) Use of technologies in video/film in making a statement or communicating an idea/emotion. Creativity, sensitivity to an audience. Students explore different creative uses of technologies/mediums.

Th 5554. Multimedia Production for Live Performance. (3 cr. Prereq—5553 or #) Use of multimedia production technologies in actual production. Students apply knowledge/skill in conjunction with an artistic team on a production and are an integral part of the development/realization of that production.

Th 5556. Audio Engineering. (3 cr. Prereq—4555 or #) Miking/recording techniques specific to music and dramatic dialogue. Students explore recording different styles of music. Hands-on experience in recording bands and doing final mixes to a demo CD. Field trips to professional studios and club/concert recordings.

Th 5558. Audio Systems Analysis and Installation. (3 cr. Prereq—4555 or #) Analyzing, designing, developing specifications, and installing sound systems. Students work from client program lists, with given resources and given spaces, to arrive at best possible audio system. Hands-on experience.

Th 5559. Sound Design for Performance. (3 cr. Prereq—4555 or #) Audio technology/psychology, their impact on audience in a performance. Communication, design process, psychoacoustics, script analysis.


Th 5570. Properties/Scenery Technology. (1-3 cr [max 15 cr]. Prereq—5351 or grad or #) Management, structures, upholstery, mask-making, furniture construction, stage mechanics, soft properties, faux finishes. Topics specified in Class Schedule.

Th 5580. Costume Technology. (3 cr [max 15 cr. Prereq—5351 or grad or #] Fabric enhancement techniques, masks, wig-making, millinery, makeup prosthetics, pattern drafting, and draping. Topics specified in Class Schedule.

Th 5590. Theatre Technology Practicum. (3-15 cr max 15 cr. Prereq—5351, #, A; 4 cr max for undergrads) Individual creative project in technology/craft area of theatre. Practical work in costume, lighting, makeup, props, scenery, sound, or theatre management.


Th 5713. Theory and Practice of Performance. (3 cr; A-F only. Prereq—[5711, 5712, 4717 or 4718, 5711] or grad student) Traditions of thinking about theatre, from ancient Greece to present, in practical applications. Focuses on epistemological significance of performance in current critical practices of postmodernism, psychoanalysis, and phenomenology.

Th 5714. The Drama of Myth. (3 cr. Prereq—[1322, 3171, 4717 or 4718]) Rule of myth in performance. Students choose a myth and study its iconography, tracing its journey in painting, sculpture, music, and other texts that accumulated around it throughout history. Course culminates in creation of a non-traditional performance score that embodies/reveals energies of contemporary culture within ancient metaphor of a chosen myth.

Th 5715. Actor-Director Collaboration. (3 cr. Prereq—grad or 3322, 3711) Applying advanced acting and directing technique to an artistic, collaborative process that promotes flexibility and creativity. Actors and directors are exposed to a challenging range of roles, styles, and scenes.


Th 5718. Principles of Theatre Management. (3 cr. Prereq—#) Nonprofit theatre structure: concept; mission; organization; financial, marketing, fund-raising, and grant-writing strategies. Discussion/guest professionals from Twin Cities’ arts/funding communities.

Th 5725. The Alchemy of an Object. (3 cr. Prereq—[1322, 3171, 3172] or #, grad student) Stage object as vehicle for investigating role of drama in culture from Middle Ages to present. Object as first connection that dramatic text makes with material/world. Object as culturally inscribed link between language of drama and world of action in a historically given moment. Object as metaphor of cultural praxis.

Th 5753. Text Analysis for Drama. (3 cr. Prereq—5711 or grad) Tools for intensive textual analysis for advanced directors/designers. Traditional, Aristotelian analysis and contemporary approaches covered through theories/writings of Bertolt Brecht and Howard Barker.

Th 5760. Advanced Stage Management. (2-3 cr max 3 cr. Prereq—5716 or #) Practical experience in stage management for specific productions of the University Theatre with emphasis on rehearsal and performance.

Th 5780. Advanced Topics in Theatre Management. (2-4 cr max 8 cr. Prereq—5718) Study and apply theatre management theories and techniques learned in 5718. Marketing/audience development, fundraising and grant writing strategies, and financial management of a nonprofit theatre organization.

Th 5950. Topics in Theatre. (1-4 cr [max 20 cr]) Topics specified in Class Schedule.

Th 5993. Directed Study. (1-5 cr [max 20 cr]. Prereq—6 Th cr, #, A) Guided individual reading or study.

Th 8100. Theatre Practicum. (1-4 cr [max 20 cr]. Prereq—#, A) Individual creative projects in production of approved plays as an actor, director, dramaturg, or playwright (see 8500 for design practicums).

Th 8102. Theatre Historiography. (3 cr) Current trends in historiography; research strategies and methods.

Th 8111. History and Theory of Western Theatre: Ancient World and Early Medieval. (3 cr) History, theories, arts, and crafts of western theatre from the ancient world to the present.

Th 8112. History and Theory of Western Theatre: Medieval Through Renaissance. (3 cr) History, theories, arts, and crafts of western theatre from the ancient world to the present.
Th 8113. History and Theory of Western Theatre: National Theatres to the French Revolution. (3 cr)
History, theories, arts, and crafts of western theatre from the ancient world to the present.

Th 8114. History and Theory of Western Theatre: Enlightenment Through Naturalism. (3 cr)
History, theories, arts, and crafts of western theatre from the ancient world to the present.

Th 8115. History and Theory of Western Theatre: 20th Century Through World War II. (3 cr)
History, theories, arts, and crafts of western theatre from the ancient world to the present.

Th 8116. History and Theory of Western Theatre: 20th Century From 1945 to the Present. (3 cr)
History, theories, arts, and crafts of western theatre from the ancient world to the present.

Th 8120. Seminar. (3 cr [max 12 cr])
Selected research topics from various theatre fields and periods. Sample topics: Border Crossings—Theatre History and Representation; The Theatre and Drama of the Third Reich, 1927-1944.

Th 8333. FTE: Master’s. (1 cr. Prereq—Master’s student, adviser and DGS consent)

Th 8444. FTE: Doctoral. (1 cr. Prereq—Doctoral student, adviser and DGS consent)

Th 8500. Theatre Design Practicum. (1-3 cr [max 20 cr]. Prereq—#)
Individual creative projects in production of approved plays as a designer for scenery/properties, costumes, lighting, or sound (see 8100 for other creative practicums).

Th 8590. Theatre Technology Practicum. (1-3 cr [max 20 cr]. Prereq—#)
Individual creative projects in the technology or craft of costume, lighting, makeup, props, scenery, sound, or theatre management.

Th 8666. Doctoral Pre-Thesis Credits. (1-18 cr [max 60 cr]. Prereq-Max 18 cr per semester or summer; doctoral student who has not passed prelim oral)

Th 8711. Theory and Practice of the Modern Stage Director. (3 cr)
Survey of principal stage directors (e.g., Sasse-Meining, Meyerhold, Brecht, Strehler, Mnouchkine, Brook) and their theories and practices from 1871 to today using books, journals, firsthand accounts, and video.

Th 8750. MFA Directing Practicum. (2-3 cr [max 10 cr]; A-F only. Prereq-MFA directing specialization)
Rehearsed and performed production of published or original one-act (2 cr) or full-length play (3 cr) with budgeted design and technical support.

Th 8777. Thesis Credits: Master’s. (1-18 cr [max 50 cr]. Prereq-Max 18 cr per semester or summer; 10 cr total required [Plan A only])

Th 8888. Thesis Credit: Doctoral. (1-24 cr [max 100 cr]. Prereq-Max 18 cr per semester or summer; 24 cr required)

Th 9050. Topics in Theatre. (1-4 cr [max 8 cr]. Topics specified in Class Schedule).

Th 9880. Internship. (1-5 cr [max 10 cr]. Prereq—#)
Th 9890. MFA Creative Thesis. (3-4 cr [max 4 cr]. Prereq—#)
Th 9894. Directed Research. (1-5 cr [max 5 cr]. Prereq—#)

Therapeutic Radiology (TRad)

**Department of Therapeutic Radiology**

**Medical School**

TRad 8204. Tumor Clinic Conference. (0 cr)
TRad 8240. Radiation Therapy Conference. (0 cr)
TRad 8310. Fundamentals of Radiation Therapy. (1 cr)
TRad 8315. Radiation Therapy Pathology. (1 cr)
TRad 8320. Radiation Therapy Treatment Planning Problems. (1 cr)
TRad 8325. Radiation Therapy Pediatrics Oncology. (1 cr)
TRad 8350. Research: Radiation Therapy. (1-15 cr [max 15 cr])
TRad 8450. Research: Radiobiology. (1-15 cr [max 15 cr])
TRad 8505. Research: Radiological Physics. (1-15 cr [max 15 cr])

**Toxicology (Txcl)**

**College of Veterinary Medicine**

Txcl 5000. Directed Research in Toxicology. (1-4 cr [max 16 cr]; A-F only. Prereq—#)
Special project that addresses specific issue in toxicology. Under guidance of faculty member.

Txcl 5011. Principles of Toxicology. (2 cr; A-F only. Prereq—Grad dept major or #)
Introduction to fundamentals of poisoning in individuals and the environment, assessment of potential health hazards, and application of toxicology in various professional careers.

Txcl 5195. Veterinary Toxicology. (3 cr; A-F only. §CVM 6195. Prereq—Grad student or #)
Toxicology of minerals, pesticides, venoms, and various toxins. Identification of poisonous plants. Recognition, diagnosis, and treatment of animal poisons.

Txcl 5545. Introduction to Regulatory Medicine. (2 cr; A-F only. §CVM 6545. Prereq—Grad student or #)
Explanation of products requiring pre-market approval and those that may be marketed without approval. Post-market surveillance. Adverse reactions, removal of product from market.

Txcl 5812. Advanced Toxicology I. (3 cr; A-F only. Prereq—5011 or BioC 4331, PubH 5104 or #)
Absorption, distribution, metabolism, and excretion of xenobiotics; toxicokinetics; mechanisms of toxicity or specific classes of chemical agents.

Txcl 8013. Advanced Toxicology II. (3 cr; A-F only. Prereq—8012, BioC 4332, Phsl 5062 or Phsl 6101 or #)
Kinetic and dynamic determinants of target organ toxicity; pathological alterations in structure/function relationships for major target organ systems; mechanisms of mutagenesis, carcinogenesis, and teratogenesis.

Txcl 8100. Investigative Toxicology. (1 cr [max 2 cr]. A-F only. Prereq—8013 or #)
Evaluating toxicology research issues and literature.

Txcl 8333. FTE: Master’s. (1 cr. Prereq—Master’s student, adviser and DGS consent)

Txcl 8444. FTE: Doctoral. (1 cr. Prereq—Doctoral student, adviser and DGS consent)

Txcl 8666. Doctoral Pre-Thesis Credits. (1-18 cr [max 60 cr]. Prereq—Max 18 cr per semester or summer; doctoral student who has not passed prelim oral)

Txcl 8777. Thesis Credits: Master’s. (1-18 cr [max 50 cr]. Prereq—Max 18 cr per semester or summer; 10 cr total required [Plan A only])

Txcl 8888. Thesis Credit: Doctoral. (1-24 cr [max 100 cr]. Prereq—Max 18 cr per semester or summer; 24 cr required)

**Translation and Interpreting (TrIn)**

**Institute of Linguistics, ESL, and Slavic Languages and Literatures**

**College of Continuing Education**

TrIn 5900. Topics in Translation and Interpreting. (1-4 cr [max 16 cr])
Topics specified in Class Schedule.

TrIn 5993. Directed Study. (1-3 cr [max 3 cr]. Prereq—#)
Directed study in translation and interpretation.

**Urban Studies (UrbS)**

**Department of Geography**

**College of Liberal Arts**

UrbS 5010. The City and the Metropolis: An Exploration. (3 cr. Prereq—Grad student or [adv UrbS undergrad, #])
The City and the Metropolis as places that result from important acts of human creativity. Interdisciplinary/ exploratory perspectives. Building/developing (North American) cities, Construction of “urban culture.”

**Veterinary and Biomedical Sciences (VBS)**

**College of Veterinary Medicine**

VBS 8333. FTE: Master’s. (1 cr. Prereq—Master’s student, adviser and DGS consent)

VBS 8444. FTE: Doctoral. (1 cr. Prereq—Doctoral student, adviser and DGS consent)

VBS 8666. Doctoral Pre-Thesis Credits. (1-18 cr. Prereq—Max 18 cr per semester or summer; doctoral student who has not passed prelim oral)

VBS 8700. Seminar: Veterinary Pathobiology. (1 cr [max 5 cr])

VBS 8777. Thesis Credits: Master’s. (1-18 cr. Prereq—Max 18 cr per semester or summer; 10 cr total required [Plan A only])

VBS 8888. Thesis Credit: Doctoral. (1-24 cr. Prereq—Max 18 cr per semester or summer; 24 cr required)

**Veterinary Medicine, Graduate (VMed)**

**College of Veterinary Medicine**

VMed 5080. Problems in Veterinary Epidemiology and Public Health. (1-3 cr [max 5 cr]; A-F only)
Individual study on problems of interest to epidemiology or public health student.

VMed 5900. Seminar: Veterinary Epidemiology. (1 cr [max 3 cr]; S-N only. Prereq—Veterinary Medicine grad student)
Each student leads at least one seminar. Reviews of current research, literature reviews, and technique development. Students and participating faculty participate in presentation, discussion, and administration of the seminars.

VMed 5993. Directed Studies in Population Medicine. (1-4 cr [max 8 cr]; A-F only. Prereq—Grad student, #)
Directed studies arranged between student and instructor.

VMed 5165. Surveillance of Foodborne Diseases and Food Safety Hazards. (2 cr. §PubH 6181. Prereq—PubH 5330, [professional school or grad student])

VMed 5210. Advanced Large Animal Physiology I. (1-3 cr [max 6 cr]) Review of large animal physiology at level needed for specialty board certification or beginning research. Students present topics in physiology and supplement reading with clinical case material or journal articles.

VMed 5211. Advanced Large Animal Physiology II. (1-3 cr [max 6 cr]; A-F only. Prereq—5210 recommended) Review of large animal physiology at level needed for specialty board certification or beginning research. Students present topics in physiology and supplement reading with clinical case material or journal articles.

VMed 5212. Large Animal Diagnostic Ultrasonography. (1 cr; A-F only. Prereq—#) Fundamentals of diagnostic ultrasound in large animal patient. Ultrasonography of the equine limbs/joints, large animal abdomen/thorax. Lectures, lab.

VMed 5232. Comparative Clinical Veterinary Dermatologic Pathology. (1 cr F only. Prereq—Grad student, #) Microscopic pathology of basic dermatologic reactions and of variable disease states.

VMed 5274. Diseases of the Urinary System. (1 cr; A-F only. Prereq—#) Expands on disorders of small animal urinary system. Introduction to core and to additional disorders.

VMed 5291. Independent Study in Veterinary Medicine. (2 cr. Prereq—DVM, #) Arranged independent study in a clinical area of veterinary medicine.

VMed 5293. Directed Studies in Comparative Medicine and Pathology. (1-4 cr [max 8 cr]; A-F only. Prereq—Grad student, #) Directed studies arranged between student and instructor.

VMed 5295. Problems in Large Animal Clinical Medicine/Surgery and Theriogenology. (1 cr [max 3 cr]; A-F only. Prereq—VMed grad student, possess DVM) Hospital cases using standardized format, audiovisual aids. Review literature pertaining to case. One or two cases presented by enrolled participants per month.

VMed 5493. Directed Studies in Infectious Disease. (1-4 cr [max 8 cr]; A-F only. Prereq—Grad student, #) Directed studies arranged between student and instructor.


VMed 5596. Swine Diseases and Diagnostics. (2-3 cr) Review of recent advances in swine diseases; farm visits for on-farm disease diagnostics and control programs.


VMed 5621. Principles of Veterinary Anesthesiology. (2 cr. Prereq—VMed grad student, [DVM degree or foreign equiv], instr consent) In-depth training in principles of veterinary anesthesiology. Lectures, anesthesia labs, presentations by students.


VMed 5691. Independent Research in Veterinary Anesthesiology. (2-4 cr [max 6 cr]; A-F only. Prereq—[biology major or prevet or vet grad student, #]) Independent research supervised by faculty member.

VMed 5693. Directed Studies in Surgery/Radiology/Anesthesiology. (1-4 cr [max 8 cr]; A-F only. Prereq—Grad student, #) Directed studies arranged between student and instructor.

VMed 5720. Small Animal Orthopedic Radiology. (2 cr. Prereq—#) Roentgen signs of common bone diseases of small animals.

VMed 5722. Large Animal Orthopedic Radiology. (1-2 cr [max 2 cr]. Prereq—#) Roentgen signs of common bone diseases of large animals. Emphasizes the horse.

VMed 5893. Directed Studies in Theriogenology. (1-4 cr [max 8 cr]; A-F only. Prereq—Grad student, #) Directed studies arranged between student and instructor.

VMed 8090. Epidemiology of Zoonoses and Diseases Common to Animals and Humans. (3 cr. A-F only. Prereq—Epidemiology and infectious disease course or #) Major human zoonotic diseases, methods of transmission, diagnosis, control, and prevention.

VMed 8134. Ethical Conduct of Animal Research. (2 cr. A-F only. Prereq—[Grad or professional school] student or #) Ethical considerations in use of animal subjects in agricultural, veterinary, and biomedical research. Federal, state, and University guidelines relating to proper conduct for acquisition/use of animals for laboratory, observational, epidemiological, and clinical research. Regulatory requirements. Bases for proper conduct. Societal impact on scientific investigations utilizing animal subjects.

VMed 8195. Pre-Harvest Food Safety and Public Health Aspects of Food Animal Production. (1-3 cr [max 3 cr]) Includes presentations and discussions on of fornia HACCPC principles and prudent use of antibiotics.

VMed 8201. Advanced Small Animal Veterinary Medicine. (1-5 cr [max 5 cr]; A-F only. Prereq—#) Discussions of diseases of organs or systems in animals, including degenerative, psychological, anomolous, metabolic, nutritional, neoplastic, immune, inflammatory, toxic, and traumatic disorders.

VMed 8202. Advanced Internal Medicine in Small Companion Animals. (1-3 cr [max 3 cr]; A-F only. Prereq—#) Lectures, assigned readings, and discussions on internal medical problems of dogs and cats.

VMed 8203. Advanced Diagnosis and Therapeutics of Animal Disease. (1-2 cr [max 2 cr]; A-F only. Prereq—#) Detailed examination, treatment, and discussions of naturally occurring disease in patients admitted to Veterinary Teaching Hospital.

VMed 8210. Seminar: Veterinary Medicine. (1 cr. Prereq—#) Participation and presentations of regularly scheduled seminars about internal medicine.

VMed 8220. Advanced Nephrology/Urology Clinics. (1-3 cr [max 3 cr]. Prereq—#) Clinical investigation of naturally occurring urinary diseases in patients admitted to Veterinary Teaching Hospital.

VMed 8230. Medical Conference. (1-3 cr [max 3 cr]. Prereq—#) Participation in weekly conference about internal medical disorders.

VMed 8250. Problems in Acid-base, Electrolyte, and Fluid Metabolism. (2-4 cr [max 4 cr]; A-F only. Prereq—#) Clinical problems and physiology of acid-base, electrolyte, and fluid disorders of dogs and cats.

VMed 8282. Journal Club: Large Animal Internal Medicine. (1 cr [max 3 cr]; A-F only. Prereq—#) Students/faculty keep abreast of current literature in large animal internal medicine. Students critically evaluate the literature.

VMed 8283. Advanced Studies in Nephrology and Urology. (1-3 cr [max 3 cr]; A-F only. Prereq—#) Studies of urinary tract disease with goal of generating new knowledge.

VMed 8284. Research Studies in Nephrology and Urology. (1-3 cr [max 3 cr]; Prereq—#) Individual research on selected problems.

VMed 8286. Advanced Large Animal Veterinary Medicine. (1-3 cr [max 6 cr]; A-F only. Prereq—DVM-DVM student, vet med grad student, #) Discussions of diseases of organs or systems in animals in a clinical setting.

VMed 8333. FTE: Master’s. (1 cr. Prereq—Master’s student, adviser and DGS consent)

VMed 8380. Evidence-based Medicine. (2 cr; A-F only. Prereq—#) Use of medicine literature in clinical problem solving.

VMed 8383. Medical Conference. (1-3 cr [max 6 cr]; A-F only) Medical, surgical, or obstetrical cases supported by anatomic, bacteriologic, pathologic, physiologic, pharmacologic, and radiologic evaluations whenever applicable.

VMed 8384. Research in Veterinary Medicine. (1-3 cr [max 3 cr]; Prereq—#) Research problems relating to any aspect of internal medicine or to the various systems in animals.

VMed 8386. Diagnostic and Therapeutic Techniques of Animal Diseases. (1-3 cr [max 6 cr]. Prereq—DVM-DVM student, vet med student, #) Detailed examination, discussions, and treatments of cases of animal diseases in a clinical setting.

VMed 8444. FTE: Doctoral. (1 cr. Prereq—Doctoral student, adviser and DGS consent)

VMed 8492. Seminar: Infectious Diseases and Swine Medicine. (1-2 cr [max 2 cr]) Students, faculty, and guest speakers present seminars on current research in diagnosis, control, and treatment of infectious diseases.

VMed 8494. Research in Infectious Diseases. (1-3 cr [max 3 cr]) Directed research.

VMed 8495. Problems in Infectious Diseases. (1-3 cr [max 3 cr]) In-depth discussion on specific problems for various infectious diseases of farm animals.

VMed 8520. Advanced Immunology. (2 cr) Lectures and case presentations.

VMed 8530. Advanced Swine Diseases. (2 cr) Lectures and discussion on advances.

VMed 8592. Infectious Disease Journals: Critical Thinking. (1 cr) Reading and critical discussion of journal articles.

VMed 8593. Advanced Veterinary Virology and Serology. (1-3 cr [max 3 cr]) Discussion and laboratory practice.

VMed 8666. Doctoral Pre-Thesis Credits. (1-18 cr [max 60 cr]. Prereq—Max 18 cr per semester or summer; doctoral student who has not passed prelim oral)

VMed 8681. Advanced Small Animal Surgery. (1-3 cr [max 3 cr]) Advanced techniques and procedures.

VMed 8682. Advanced Large Animal Surgery. (1-3 cr [max 6 cr]; A-F only. Prereq—DVM-DVM or equiv degree, #) Surgery of various systems in large animals, with preoperative and postoperative evaluation and management.

VMed 8683. Surgery of the Gastrointestinal System. (2-4 cr [max 4 cr]; A-F only) Advanced techniques and problems.

VMed 8684. Surgical Physiology. (1-3 cr [max 3 cr]) Discussions on pathophysiology of surgical diseases in dogs and cats.
**Courses**

**VMed 8685. Neurosurgery.** (2-3 cr [max 3 cr]; A-F only)
Advanced neurosurgical diseases of small animals amenable to surgical treatment.

**VMed 8686. Thoracic and Cardiovascular Surgery.** (2-4 cr [max 4 cr]; A-F only)
Advanced thoracic and cardiovascular diseases of small animals amenable to surgical treatment.

**VMed 8688. New Techniques in Large Animal Surgery.**
(1-6 cr [max 6 cr]; A-F only. Prereq–VMed or equiv degree, #)
Independent research projects.

**VMed 8691. Research in Large Animal Surgery.**
(1-6 cr [max 6 cr]; A-F only. Prereq–VMed or equiv degree, #)
Students conduct medical and surgical procedures in large animal orthopedic surgery.

**VMed 8696. Research in Critical Care/Emergency Medicine.**
(1-3 cr [max 3 cr]; Prereq–VMed or equiv degree)
Special problems course. Controlled study; prospective and retrospective models of evaluation are defined, critiqued, and used for experimental design and data collection to validate research methods.

**VMed 8697. Thesis Credits: Master’s.** (1-18 cr [max 50 cr]; Prereq–Max 18 cr per semester or summer; 10 cr total required [Plan A only])
Research into an application, development of an application, or prospective/retrospective study of any aspect of veterinary imaging or veterinary radiology.

**VMed 8705. Problems: Veterinary Radiology.**
(1-3 cr [max 6 cr])
Discussion of problems associated with veterinary imaging or radiation therapy.

**VMed 8706. Avian Anesthesia and Orthopedic Surgery.**
(1-3 cr [max 3 cr]; A-F only. Prereq–courses in veterinary anesthesia, veterinary radiology, or radiation therapy.)
Current methods for anesthetizing raptors, psittacine birds, and waterfowl. Lecture and lab on current methods for avian fracture bone fixation.

**VMed 8880. Thesis Credit: Doctoral.**
(1-24 cr [max 100 cr]; Prereq–Max 18 cr per semester or summer; 24 cr required)
Independent research projects.

**Water Resources Science (WRS)**

**WRS 5001. Introduction to Field Research in Water Resources.**
(2 cr. Prereq–Grad WRS major or #)
Introduction to field research techniques and opportunities during two-week summer excursion to regional sites. Data acquisition in large/small lakes, streams, and wetlands for biota and chemical/physical water quality; surface and groundwater hydrologic measurements and sampling.

**WRS 5101. Water Resources: Individuals and Institutions.**
(3 cr. Prereq–Grad student or #)
Socio-cultural, legal, and economic forces that affect use of water resources by individuals/institutions.

**WRS 5241. Ecological Risk Assessment.**
(3 cr. Prereq–#)
Evaluating current/potential impact of physical, chemical, and biological agents on ecosystems. Identifying ecological stressors, assessing level of exposure, measuring ecological responses, communicating/managing risks. Class participation, two reaction papers, final exam, small-group project.

**WRS 8050. Special Topics in Water Resources Science.**
(1-3 cr [max 6 cr]; A-F only)

**WRS 8060. Directed Studies in Water Resources Science.**
(1-3 cr [max 6 cr]; A-F only)

**WRS 8065. Plan B Project.**
(3 cr. S-N only)
Satisfies Plan B project requirement. May appear on master’s program, but does not count toward credit minimum in major. Project topic arranged between student and adviser. Written report required.

**WRS 8100. Interdisciplinary Seminar in Water Resources.**
(1-3 cr [max 3 cr])

**WRS 8323, FTE: Master’s.**
(1 cr. Prereq–Master’s student or #)
**WRS 8444, FTE: Doctoral.**
(1 cr. Prereq–Doctoral student or #)

**Women’s Studies (WoSt)**

**Department of Women’s Studies**

**College of Liberal Arts**

**WoSt 5101. Feminist Approaches to Ethnography.**
(3 cr)
Preparation for feminist ethnographic research in the social sciences. Using recent works by feminist ethnographers, focus is on the methods, politics, and ethics, as well as gender, race, class, and cross-cultural issues pertaining to fieldwork.

**WoSt 5102. Feminist Approaches to History.**
(3 cr. Prereq–WoSt or grad or #)
Analysis and practice of feminist history. Theories, methods, and sources that address the interrelationship of gender, race, class, and sexuality.

**WoSt 5103. Feminist Pedagogies.**
(3 cr. Prereq–Grad or #)
Theory and practice of feminist pedagogies by comparing and evaluating various multicultural feminist theories of education/teaching and the application of specific theories, techniques, and teaching strategies.

**WoSt 5104. International Feminist Theory.**
(3 cr. WoSt 4103)
Third World and transnational feminisms. Interrogating the categories of “women,” “feminism,” and “Third World.” Varieties of power/oppression that women have endured/resisted, including colonization, nationalization, globalization, and capitalism.

**WoSt 5105. Gendered Rhetoric of Science and Technology.**
(3 cr. Prereq–§Rhet 5108, §Rhet 8530; 8 cr WoSt or grad or #)
How cultural gender roles are affected by science and technology as well as influence scientific and technological thinking and communication strategies.

**WoSt 5107. Gender, Culture, and Science.**
(3 cr)
Critical study of some of the major papers concerning the relations of gender and scientific inquiry produced in the past 20 years.

**WoSt 5122. Philosophy and Feminist Theory.**
(3 cr. §§Phil 4022, §§Phil 5522, WoSt 4112; Prereq–5 cr in [philosophy or women’s studies] or #)
Encounters between philosophy/feminism. Gender’s influence in traditional philosophical problems/methods. Social role of theorizing as they relate to politics of feminism.

**WoSt 5190. Topics: Theory, Knowledge, and Power.**
(3 cr)
Topics specified in Class Schedule.

**WoSt 5201. Global Processes and the Politics of Sexuality.**
(3 cr. Prereq–12 cr WoSt or feminist studies grad student or #)
Comparative examination of the social construction of sexuality. Formal/informal norms/legislation, categories of deviance, representation of sex in the media/arts, role of sexuality in relation to agency/subjectivity.
Courses

WoSt 5203. Women and Madness in History and Literature. (3 cr. Prereq–WoSt 3206, permission of WoSt or #) The representation of madness and how it intersects with gender as well as class, race, sexual orientation, and nationality.

WoSt 5290. Topics: Biology, Health, and Environmental Studies. (3 cr) Topics specified in Class Schedule.

WoSt 5300. Communication and Gender. (3 cr; A-F only) Prereq—one women's studies course or #) How gender affects verbal communication. Development of analytical skills through readings, exercises, research that raise awareness of the power of language and the influence of gender prescriptions.


WoSt 5403. Chicana/Latina Feminisms. (3 cr. Prereq—8 cr WoSt and/or Chic or grad or #) The historical and social development of Chicana and Latina feminisms in general and their various specific types.

WoSt 5404. Working Class Women's Cultures. (3 cr. Prereq—12 cr WoSt or #) Myths and realities surrounding working class women and their cultures. Use sociological and literary material in an effort to learn about working class women and to hear their own voices.

WoSt 5405. Chicana's Women and Work. (3 cr. Prereq—#) Chicanas, their various relationships to family/ community. Local, national, and global work forces. Questions/issues related to growing integration of world's systems of production.

WoSt 5490. Topics: Political Economy and Global Studies. (3 cr [max 12 cr]) Topics specified in Class Schedule.

WoSt 5501. Women and the Law. (3 cr. Prereq—9 cr WoSt or pre-law grad or #) Legal system as it relates to women: historical legal approach to issues related to constitutional rights of women.


WoSt 5790. Topics: Sexuality Studies. (3 cr) Topics specified in Class Schedule.

WoSt 5993. Directed Study. (1-12 cr [max 12 cr])

WoSt 5994. Directed Instruction. (1-12 cr [max 36 cr])

WoSt 5995. Directed Research. (1-8 cr [max 36 cr])

WoSt 8101. Intellectual History of Feminism. (3 cr) Major trends in feminist intellectual history from 14th century to the present, especially in the United States and Europe.

WoSt 8102. Advanced Studies in Sexuality. (3 cr) Contemporary theoretical scholarship and research on selected issues related to sexuality, gender, and the body.

WoSt 8103. Feminist Theories of Knowledge. (3 cr. [Phil 8133]) Interdisciplinary seminar. Feminist approaches to knowledge and to criticism of paradigms of knowledge operative in the disciplines. Feminist use of concepts of subjectivity, objectivity, and intersubjectivity. Feminist empiricism, standpoint theory, and contextualism. Postmodern and postcolonial theorizing.


WoSt 8109. Feminist Theories and Methods II. (3 cr. Prereq—8108, feminist studies PhD or grad minor student) Two-semester interdisciplinary seminar. First term: current debates in gender theory; intersections of gender theory with critical race theory, post-colonial theory, sexuality theory, and social class analysis. Second term: inter- and multi-disciplinary feminist research frameworks and methodologies from humanities and social sciences.

WoSt 8190. Topics: Feminist Theory. (1-3 cr [max 12 cr]) Topics in Feminist theory.

WoSt 8201. Feminist Theory and Methods in the Social Sciences. (3 cr) Seminar on recent theories, including feminist versions of postmodernism, concept of critical realist, and postmodernism models of social science knowledge. Methodologies congenial to feminist practice of inquiry, including use of narrative in theory, feminist ethnography, discourse analysis, and comparative methods in history.

WoSt 8290. Topics: Social Sciences and Public Policy. (1-3 cr [max 3 cr])

WoSt 8301. Feminist Literary Criticism. (3 cr) Recent developments and major issues in feminist studies of literature. Introduction to array of scholars and scholarship in field of feminist literary theory and criticism, emphasizing broad range of feminist textual analysis taking place in various University departments.

WoSt 8333. FTE: Master's. (1 cr. Prereq—Master's student, adviser and DGS consent)

WoSt 8380. Topics: Literary Studies. (1-3 cr [max 3 cr])

WoSt 8401. Gender, Space, and Resistance. (3 cr) Identity politics, social movements, and development politics; complex interrelationships among gender, space, and resistance. Social nature of place and space; sociopolitical and economic processes by which gendered, raced, and classed differences are constituted, reinforced, and resisted in and through space, place, and social networks.

WoSt 8444. FTE: Doctoral. (1 cr. Prereq—Doctoral student, adviser and DGS consent)

WoSt 8490. Topics: Comparative and Global Studies. (1-3 cr [max 3 cr])

WoSt 8590. Topics: Historical Studies. (1-3 cr [max 3 cr])

WoSt 8666. Doctoral Pre-Thesis Credits. (1-18 cr [max 60 cr]. Prereq—Max 18 cr per semester or sum; doctoral student who has not passed prelim oral)

WoSt 8888. Thesis Credit: Doctoral. (1-24 cr [max 24 cr]. Prereq—Max 18 cr per semester or sum; 24 cr required)

WoSt 8993. Directed Study. (1-6 cr [max 9 cr])

WoSt 8994. Directed Instruction. (1-8 cr [max 36 cr])

WoSt 8995. Directed Research. (1-8 cr [max 36 cr])

WoSt 8996. Women's Studies/CIFS Colloquium. (1 cr [max 4 cr; S-N only]) Feminist studies Ph.D. students must register for 1 credit per semester. Credit available also to other graduate students.

WoSt 8997. Feminist Research and Writing. (3 cr. Prereq—8109, passed written prelims in degree granting program) Develops interdisciplinary feminist components of Ph.D. thesis or other major piece of writing. Facilitates research/writing.
WCFE 5341. Global Program Delivery Techniques and Technology of Extension. (2 cr; A-F only; §AFEE 5341) Special educational activities and teaching and communications methods and techniques for youth and adults, ranging from outreach to extension services, with an emphasis on youth and adult education programs in different global settings.

WCFE 5351. Methods for Change in Developing Countries. (3 cr; A-F only; §AFEE 5351) Sociological and cultural parameters as they pertain to promoting the adoption of improved practices in rural, communal, and agricultural development, including formal and informal education institutions. Project planning, implementation, and evaluation related to actual change and development situations in developing countries.

WCFE 5511. Education for Work. (3 cr) Examination of contextual bases underlying education for work; implications for practice.

WCFE 5521. Work-Based Learning Policies. (2 cr) Aims/purposes of federal, state, and local policies, related to work-based learning.


WCFE 5601. Student and Trainee Assessment. (2 cr; A-F only; §HRD 5601). Prereq–§5696 for initial licensure program) Developing learning progress reporting systems and tests of knowledge, affect, and processes for programs focused on instruction of skills associated with business/industry. Evaluating instructional effectiveness. Applying tests and other evaluation instruments to assess/report learning in business/industry and career/technical education fields. Students develop each type of test and an overall evaluation plan for a course.

WCFE 5629. Course Development for Business and Industry. (2 cr; A-F only; §HRD 5629) Designing instructional programs/courses that help learners develop desired competence. Designing instruction for performance-based training and vocational/technical education. Developing course syllabus components that clarify course expectations. Developing academic/community-based elements that complement course goals. Reflect on and compare performance-based instruction with other curriculum models for the field.

WCFE 5661. Instructional Methods for Business and Industry. (2 cr; §HRD 5661). Prereq–§5681 or BE 5661) Theory/practice in instructional methods for career/technical education (CTE) instructors and human resource/development (HRD) professionals. How to select various teaching methods and plan for their delivery. Preparing an instructional methods plan to clarify course content, teaching methods selected, rationale for their selection, and how a student organization might facilitate student learning.

WCFE 5696. Teaching Internship: Introduction. (1 cr; §CCI 5924). Prereq–Admission to initial licensure program) Initial experiences in teaching profession. Observation of school organization/administration, seminars, relationship building with cooperating teachers, reflection on personal involvement as a beginning student teacher.

WCFE 5697. Teaching Internship: School and Classroom Settings. (2 cr; §CCI 5925). Prereq–5696 for initial licensure program) Part-time supervised teaching experience in a school. Seminars on managing students’ learning in context of work, community, and family education programs in contemporary schools and on becoming a reflective educator.

WCFE 5698. Teaching Internship. (3-8 cr; max 8 cr). Prereq–Admission to initial licensure program) Teaching experience in a school system that provides programs for grades 5-12.

WCFE 5699. Teaching Internship: Extended. (1 cr; §CCI 5926, CI 5927, Prereq–§5697) Extended student teaching experience in a school system that provides programs for grades 5-12.

WCFE 5711. Teaching Entrepreneurship: Small Business Management. (3 cr) Methods, organization, curriculum development and modification, and implementation of educational programs for entrepreneurs.

WCFE 5801. Educating Special Populations in Work, Community, and Family Settings. (3 cr) Identifying and accommodating educating traits of students with disabilities and disadvantaged conditions in work, community, and family settings.

WCFE 5802. Enhancing Work-based Learning Through Collaboration. (2 cr) Interagency planning issues/practices relating to special populations for educational, business, and human service organization personnel, family members, and advocates.

WCFE 5803. Developmental Writing and the College Student: Theory and Practice. (3 cr; Prereq–Bachelor’s degree) Basic grounding in theory/practice of college-level developmental writing instruction. History of “basic writing,” development of notions of “academic discourse,” error/grammar in student writing, best classroom practices, current issues.

WCFE 5804. Research in Postsecondary Developmental Education. (3 cr. Prereq–Bachelor’s degree, courses in [Intro psychology, basic statistics]) Strategies for conducting three types of research that are central to developmental education: placement test validation, program evaluation, and classroom research. Students read examples and learn what constitutes best practices in each type.

WCFE 5821. Diversity Issues and Practices in Work, Community, and Family Settings. (3 cr; §HRD 5821) Examination of the nature of diverse populations and their unique learning and training needs, exemplary programs, and collaborative efforts among persons representing work, community, and family settings.

WCFE 5822. Diversity and Organizational Transformation in Work, Community, and Family Education. (3 cr; §HRD 5822) Developing models for understanding the impact of diversity on individual, organizational, and community outcomes; discussing organizational change in relation to diversity.

WCFE 5823. Program Planning and Improvement for Special Populations in Work, Community, and Family Education. (2 cr) Concepts, issues, and practices related to the design, implementation, and evaluation of efforts focused on developing new programs or modifying existing programs for individuals with special learning needs in work, community, and family settings.

WCFE 5901. Using Research in Work, Community, and Family Education. (3 cr) Introduction to the role of work, community, and family education research in professional practice, significant problems of practice for research, alternative modes of research, and synthesis and application of the results of research.

WCFE 5900. Special Topics in Work, Community, and Family Education. (1-4 cr; max 4 cr) Topics vary.

WCFE 5993. Directed Study in WCFE. (1-4 cr; max 4 cr) Self-directed study, with faculty advice, in areas not covered by regular courses.

WCFE 8100. Work, Community, and Family Education Colloquium. (1-3 cr; max 12 cr) Selected topics of significance to work, community, and family education professionals. Topics based on interest and demand.

WCFE 8141. History and Philosophy of Work, Community, and Family Education. (3 cr) Historical influences and philosophical views regarding ideas, research, practice, and continuing issues in work, community, and family education.

WCFE 8142. Work, Community, and Family Education Comparative Systems. (3 cr. Prereq–8141) Comparison of work, community, and family education systems within the United States and between the United States and other countries.

WCFE 8444. FTE: Doctoral. (1 cr. Prereq–Doctoral student, adviser and DGS consent) (2 cr)Prereq–Max 18 cr per semester or summer; doctoral student who has not passed prelim oral)

WCFE 8888. Thesis Credit: Doctoral. (1-24 cr; max 100 cr) Prereq–Max 18 cr per semester or summer; 24 cr required)

WCFE 8896. Internship. (1-10 cr; max 10 cr; S-N only) Student applies for position in professional practice; individual arrangements describe specific responsibilities during internship. Ed.D. program requirement.


WCFE 8912. Quantitative Research. (3 cr. Prereq–8911) Assumptions, procedures for, and considerations in planning/conducting quantitative research in work, community, and family education.

WCFE 8913. Interpretive Research. (3 cr; A-F only) Prereq–8911) Hermeneutic, ethnological, and phenomenological research methodologies. Consideration of ethics, evaluation, and usefulness of interpretive research. Practice in conducting interpretive research in work, community, and family education.

WCFE 8914. Critical Science Research. (3 cr; A-F only) Prereq–8911) Origins, influences, characteristics, and central concepts; distinction between critical science and other action research; requisite skills and knowledge for conducting critical science research and using that knowledge in a project.

WCFE 8915. Ethics and Responsible Research. (1 cr; A-F only) Introduction to ethical and legal issues involved in practicing responsible educational research. Key issues, formal and informal codes of conduct, and ethical reasoning skills.

WCFE 8990. Research Seminar. (1 cr; max 6 cr) S-N only. Prereq–8911, 8912 or 8913 or 8914 or A) Developing, reporting, and evaluating research. Participants make and react to presentations. (Two credits counted in doctoral program.)

**Youth Development and Research (YoSt)**

**School of Social Work**

**College of Human Ecology**

YoSt 5031. Youth in the World. (3 cr. Prereq–CIPr or EPlay course) Encourages critical thinking about how youth as ideal and as lived reality are understood in scholarship, public discourse, and professional practice. Larger framework includes building a basis for understanding youth and working with or on behalf of youth.
Courses

YoSt 5032. Child and Adolescent Psychology for Practitioners. (3 cr. Prereq—courses in ed psych or child or adolescent psych)
Application of theory and research about children and adolescents including how findings can be used and how theories facilitate understanding of behavior.

YoSt 5101. Youth Work Practice I: Internship. (3 cr. Prereq—3101, 5032 or equiv, ¶5111, #)
First course of a sequential internship that includes 15 hours per week working with youth in a community youth-serving organization. Develop and enhance competence and identity as a youth worker, and reflect on and integrate knowledge about youth with on-going experience in youth work.

YoSt 5102. Youth Work Practice II: Internship. (3 cr. Prereq—5101, ¶5112, #)
Second course of a sequential internship that includes 15 hours per week of work with youth in a community youth-serving organization. Develop and enhance competence and identity as a youth worker, and reflect on and integrate knowledge about youth with ongoing experience in youth work.

YoSt 5111. Youth Work Methods I: Seminar. (1 cr. Prereq—3101, 5032 or equiv, ¶5101, #)
Weekly discussion seminar taken concurrently with 5101 to integrate theory and praxis with youth work experience. Written and experiential assignments to increase knowledge, competency, and skills related to working with youth.

YoSt 5112. Youth Work Methods II: Seminar. (1 cr. Prereq—5111, ¶5102, #)
Weekly discussion seminar taken concurrently with 5102 to integrate theory and praxis with youth work experience. Written and experiential assignments to increase knowledge, competency, and skills related to working with youth.

YoSt 5234. Youth Agencies, Organizations, and Youth Service System. (2 cr. Prereq—Two soc/anth courses, work exp in a youth agency or org)
Overview of major forms of youth agencies and organizations, sources of agency legitimacy, ideologies and values, and goals. Relations between and among agencies and organizations. Roles of adults and youth; professionals and nonprofessionals; paid staff and volunteers; youth participation; legal and ethical issues. Examples of existing and ideal agencies.

YoSt 5235. Community Building for Healthy Youth Development. (2 cr. Prereq—Two social sci courses, exper working with youth or #)
Community is a major context of adolescence and youth life, and community-building is a major strategy for healthy development. Explore recent foundation and government reports that address issues and practical problems of community-building.

YoSt 5240. Special Topics in Youth Studies. (2-8 cr [max 10 cr]. Prereq—Two social sci courses, exper working with youth or #)
In-depth investigation of one area of youth studies. Teaching procedure and approach determined by specific topic and student needs. Topic announced in advance.

YoSt 5241. Experiential Learning. (2 cr. Prereq—Two social sci courses, exper working with youth or #)
Cover rationale for and purposes of experiential learning in schools and youth-serving agencies, development and implementation of experiential programs for adolescents, and evaluation of experiential-learning programs. Each student will develop a plan for an experiential program for teenagers.

YoSt 5291. Independent Study in Youth Studies. (1-8 cr. [max 8 cr])
Independent reading and/or research under faculty supervision.

YoSt 5301. Communicating with Adolescents About Sexuality. (2 cr. Prereq—Upper div AdPy course, exper working with youth or #)
Sexual development and experiences emphasizing how adults can be comfortable in communicating more effectively with young people. Sexual patterns, variations, roles, power, exploration, and sex education.

YoSt 5313. Direct Work with Adolescents. (2 cr. Prereq—Two social sci courses, exper working with youth or #)
Designed to give an understanding of direct work with troubled and at-risk adolescents in a wide range of settings where youth workers or social workers are typically involved. Emphasis on young people in groups in the “lifespace” in everyday life, rather than in one-to-one office-based interactions.

YoSt 5321. Work with Youth—Individual. (2 cr. Prereq—5032 or equiv or #)
Examination of basic assumptions underlying individual work with youth. Attention to special issues and concerns of adolescents and of persons who work with them, especially those who work with youth in one-to-one interactions.

YoSt 5322. Work with Youth—Families. (2 cr. Prereq—5321 or upper div AdPy course, family theory course or #)
Theories and techniques of working with youth and their families. Emphasis on practical methods of structural change, developing effective communication, decision-making and problem-solving systems, winning the family’s cooperation; the role of the professional to influence healthy family development.

YoSt 5323. Work with Youth—Groups. (2 cr. Prereq—5321 or CPay or EPay course or #)
Adolescent group needs/associations. Group process. Working with groups of adolescents in the community, in group living situations, and in group therapy.

YoSt 5401. Young People’s Spirituality and Youthwork: an Introduction. (3 cr. A-F only)
Adolescent spirituality, its relation to working with young people. Faith/spirituality as actual/necessary aspects of healthy youth development. Research, active community-based programs. Knowledge, attitudes, and skills to meet adolescent needs/wants.

YoSt 5402. Youth Policy: Enhancing Healthy Development in Everyday Life. (3 cr. Prereq—Two social sci courses, exper working with youth or #)
Youth policy is typically grounded to problems and risks and is specific to human services domains such as education, health, juvenile justice, employment, and the like. Create youth policy directed at enhancing healthy development through community building, program development, and other strategies.