This is I through Z of the course section of the 1999-2000 Undergraduate Catalog of the University of Minnesota.

Hum 3635. Hinduism: From Gupas to 13th Century. (2 cr) Development of classical Hinduism in its multiple cultural and social manifestations, from the 4th to 13th century C.E. Art, religion, mythology, literature, philosophy, caste system.

Hum 3677. Self-Realization in 20th-Century Western Literature. (2 cr) Quest for meaning and process of individuation. Works by Conrad, Kate Chopin, Joyce, Sartre, Hesse.

Hum 3910. Topics in the Humanities. (2-4 cr; SP–Jr or Sr or #) Topics will vary from offering to offering and will be specified in Class Schedule.

Hum 3920. Honors Course: Topics in the Humanities. (2-4 cr; SP–Jr or Sr or #) Topics will vary from offering to offering, and will be specified in Class Schedule.

Hum 3970. Directed Studies. (1-4 cr; SP–#) Guided individual reading or study.

Hum 3971. Directed Studies. (1-4 cr; SP–#) Guided individual reading or study.

Hum 4021. Historical Foundations of Modern Education. (3 cr; SP–3021, EDPA 3021, EDPA 5021) Analysis and interpretation of important elements in modern education derived from pre-classical sources, the Greeks, Romans, Middle Ages, Renaissance, Reformation, Enlightenment, and Industrial Revolution. Basic and advanced course.

Hum 4023. History of Western Educational Thought. (3 cr; SP–3023, EDPA 3023, EDPA 5023) Great educational classics of Western civilization by: Plato, Aristotle, Quintilian, Montaigne, Milton, Locke, Rousseau, and others.

Hum 4837. Nietzsche as Cultural Critic. (2 cr; SP–Jr or Sr or grad student or #) Nietzsche’s contributions to philosophy, psychology, and criticism of religion, culture, and society.

Hum 4910. Topics in the Humanities. (2-4 cr; SP–Jr or Sr or grad student) Topics will vary from offering to offering and will be specified in Class Schedule.

Hum 4920. Honors Course: Topics in the Humanities. (2-4 cr; SP–Jr or Sr or grad student) Topics will vary from offering to offering and will be specified in Class Schedule.

Hum 4970. Directed Studies. (1-4 cr; SP–Jr or Sr or grad student) Guided individual reading or study.

Hum 4971. Honors Course: Directed Studies. (1-4 cr; SP–Jr or Sr or grad student, #) Guided individual reading or study.

Industrial Engineering (IE) Department of Mechanical Engineering Institute of Technology

IE 4521. Statistics, Quality, and Reliability. (4 cr; QP–Math 1261 or equiv; SP–Upper div) Statistical tools used by engineers to plan, control, and improve quality and reliability. Basic inferential statistics and statistical hypothesis testing, quality function deployment and reliability testing, statistical process control, factorial designs and design of experiments, and empirical modeling of process data.

IE 5080. Topics in Industrial Engineering. (4 cr; QP–Upper div or grad student; SP–Upper div or grad student) Topics vary each semester.


IE 5511. Human Factors and Work Analysis. (4 cr; QP–Upper div IT or grad student or public health major; SP–Upper div grad student; A-F only) Human factors engineering (ergonomics), methods engineering, and work measurement. Human-machine interface: displays, controls, instrument layout, and supervisory control. Anthropometry, work physiology and biomechanics. Work environmental factors: noise, illumination, toxicology. Methods engineering, including operations analysis, motion study, and time standards.

IE 5512. Applied Ergonomics. (4 cr; QP–IEOR 5010 or IEOR 5070; SP–Upper div IT or grad student; 5511: A-F only) Small groups of students work on practical ergonomic problems in local industrial firms. Projects cover a variety of ergonomic issues: workstation design, equipment and tool design, back injuries and material handling, cumulative trauma disorders, illumination and noise, and safety.

IE 5513. Engineering Safety. (4 cr; QP–IT or grad student; SP–Upper div IT or grad student; A-F only) Occupational health and safety. Standards, laws, and regulations. Hazards and their engineering control, including general principles, tools and machines, mechanics and structures, electrical safety, materials handling, and safety engineering. Human behavior and safety, procedures and training, warnings and instructions.

IE 5522. Quality Engineering and Reliability. (4 cr; QP–IT or grad student; SP–Upper div IT or grad student; 4521 or equiv, centers) Role of experimentation in design, control, optimization, and validation of new products and manufacturing processes. Statistical significance and hypothesis testing, single-factor experiments (t-tests and ANOVA), multiple factor experiments (two-level full factorial and fractional factorial designs), optimization and response surface methods, and other empirical modeling techniques.

IE 5531. Engineering Optimization I. (4 cr; QP–Math 5010 or grad major; SP–Math 5090, IT or grad student; A-F only) Basic concepts in optimization of deterministic systems, with problems in areas such as resource allocation, scheduling, facility location, and plant layout. Linear programming, graph theory, and geometry of linear models, simplex method, sensitivity testing, graph theory, integer and dynamic programming.

IE 5541. Project Management. (4 cr; QP–IT or grad student; SP–Upper div or grad student) Practical understanding of project management, including scheduling, planning, budgeting, staffing, and task and cost control; how to communicate with, motivate, and manage team members; applications in quality improvement and product development teams and large-scale, complex projects.

IE 5551. Production Planning and Control. (4 cr; QP–IEOR 5040, ME 3900, IT or grad student; SP–Upper div or grad student) Modern methods of production planning and inventory. Forecasting, analysis and optimization, demand forecasting, capacity planning, material requirement planning, just-in-time manufacturing, production scheduling, and shop floor control. New production planning and control methodologies such as time-based manufacturing, Theory of Constraints, group technology, and flexible manufacturing.

IE 5552. Design and Analysis of Manufacturing Systems. (4 cr; QP–IEOR 5010, IEOR 5020, IEOR 5030, IEOR 5040, IT or grad student; SP–Upper div or grad student) Flow lines, assembly systems, cellular manufacturing systems, and flexible manufacturing systems. Emphasis is on methodologies for modeling, analysis and optimization. Lead time analysis, capacity and workload allocation, scheduling and shop floor control, work-in-process management, facilities planning and layout, and information management.

IE 5553. Simulation of Manufacturing Systems. (4 cr; QP–IT upper div or grad student; SP–Upper div or grad student) Discrete event simulation. Using an integrated simulation/environment, students learn to create, analyze, and evaluate realistic models for a variety of manufacturing, assembly, and material handling systems. Experimental design for simulation, random number generation, selection of input distributions and simulation output evaluation.

IE 5554. Facility Planning. (4 cr; QP–IT or grad student; SP–Upper div or grad student) Design and planning of manufacturing and service facilities. Warehousing and storage, facility layout and location, material handling, and material transportation distribution.

“community service” theory across cultures while applying them to direct service experience. Students volunteer 2-3 hours per week.

ID 3551. Metro Internship Seminar: Corporate Social Responsibility and Ethical Leadership. (6 cr; QP–0; SP–0) Cross disciplinary course combining theoretical work with a ten-week internship in a local corporation. Focus is on ethics, leadership, organizational change, and strategies for bringing about social change.

ID 3571. HECUA Off-Campus Study Program: Metro Urban Studies Term. (1-16 cr; QP–0; contact OSLO, 345 Fraser Hall, 626-2044; SP–0; contact OSLO, 345 Fraser Hall, 626-2044) Intensive off-campus spring semester program combining interdisciplinary field study, seminar work, and professional internship. Pedagogical approach blends structured field experience with academic analysis. Twin Cities are source of interpretative materials for exploring urban life, social issues, relationships between subculture/lifestyles.

ID 3581. HECUA Off-Campus Study Program: City Arts. (1-16 cr; QP–0; contact OSLO in 345 Fraser Hall, 626-2044; SP–0; contact OSLO in 345 Fraser Hall, 626-2044) Intensive off-campus fall semester program combining interdisciplinary field study, seminar work, and professional internship in Twin Cities. Themes include the arts in urban society, organization of art worlds, and design of cities in terms of quality of urban life.

ID 3993. Directed Study. (1-4 cr; max 8 cr; QP–0, SP–0; A-F only) Guided individual reading or study.

Interdisciplinary Archaeological Studies (InAr)

College of Liberal Arts

InAr 5100. Topics in Interdisciplinary Archaeological Studies. (3 cr; SP–InAr grad major or A-F only) Topics specified in Class Schedule.

International Relations (InTR)

Institute for Global Studies

College of Liberal Arts

InTR 3101. International Relations: Practice and Theory. (4 cr; A-F only) Core course for international relations majors. Provides a broad range of theoretical approaches, contextually grounded case studies, and simulations of significant contemporary world problems. Students acquire insights and skills needed to become a professional in the field.

InTR 3102. Research Methods in International Relations. (3 cr) Provides skills for the competitive work place and academic research. Information resources and methods for researching topics in international relations including both traditional print and new electronic forms of information.

InTR 3151. Honors International Relations: Practice and Theory. (4 cr; A-F only) Core course for international relations majors. Provides a broad range of theoretical approaches, contextually grounded case studies, and simulations of significant contemporary world problems. Students acquire insights and skills needed to become a professional in the field.

InTR 3550. Honors Course: Supervised Research Paper. (4 cr)

InTR 3552. Honors Seminar: The Making of the Modern World. (3 cr; SP–MacArthur program or InTR honors majors; A-F only) Explores the making of the modern world, including an examination of interaction across ecological frontiers, changing power relations, the restructuring of systems of production, and the creation of new cultures and identities.

InTR 3553. Honors Seminar: Change in the Contemporary Global Order. (3 cr; SP–A-F only) Important issues of global change: population growth and human migration; human relations with the physical environment; struggles for popular power and sustainable democratic institutions; relations and conditions of work; and cultural representations of social identities. Attention to the U.S.-Mexican arena.

InTR 3558. Junior Honors Research Seminar. (3 cr; SP–jr honors InTR major; A-F only) Theoretical perspectives and methods available to researchers in international studies.

InTR 3620. Foreign Language News Coverage of International Events. (1 cr; SP–InTR major, completion of college language requirement in language used for the course) Compares coverage of current news in selected foreign language newspapers with coverage in a U.S. paper such as The New York Times.

InTR 3900. Topics in International Relations. (3 cr) Selected issues and topics in international relations. Topics will vary every semester. Topics specified in Class Schedule.

InTR 3981. Major Project Seminar. (3 cr; A-F only) Supports senior project requirement by allowing students to formulate their own research questions, select a topic, develop and produce a 25-30 page undergraduate research paper.

InTR 3993. Directed Studies. (1-4 cr; max 12 cr; SP–A,F only)

InTR 5900. Topics in International Relations. (3 cr) Proseminar. Selected issues in international relations. Topics vary every semester.

Italian (Ital)

Department of French and Italian

College of Liberal Arts

Ital 0001. Reading Italian in the Arts and Sciences. (0 cr) Designed to teach a basic reading knowledge of the Italian language; full time is devoted to intensive reading and translation of texts from a wide variety of disciplines and to the teaching of translation techniques.

Ital 1001. Beginning Italian. (4 cr) Emphasis on the four language skills (listening, speaking, writing, and reading) on Italian culture.

Ital 1002. Beginning Italian. (4 cr) Emphasis on the four language skills (listening, speaking, writing, and reading) on Italian culture.

Ital 1003. Intermediate Italian. (4 cr; SP–1001-1002) Grammar review and development of intermediate level of proficiency in listening, reading, writing and speaking. Emphasis on some cultural aspects of contemporary Italy.

Ital 1004. Intermediate Italian. (4 cr; SP–1101-1102) Grammar review and development of intermediate level of proficiency in listening, reading, writing and speaking. Emphasis on some cultural aspects of contemporary Italy.

Ital 1737. Friends and Countrymen. (3 cr) Study of the problematic relation between friendship and citizenship as formulated by Dante in the “Inferno” and as we may interpret it in analyzing today’s civic issues. Attention to Dante’s reliance on and implicit critique of Aristotle’s “Nicomachean Ethics”. Taught in English.

Ital 3015. Reading, Conversation, and Composition. (4 cr; SP–1104) Intensive reading, writing, and speaking practice and study of cultural materials in authentic formats.

Ital 3201. Reading Italian Texts: Poetics, Rhetoric, Theory. (3 cr; SP–3015) A basic course in understanding the rhetorical and poetic aspects of language and literature; interpretive methods and theoretical concepts.

Ital 3203. Italian Travelers: From the Enlightenment to the Present. (3 cr; SP–3015) Examines literary representations of travel, migration, immigration, exile, and tourism in Italy from the Enlightenment to the present.

Ital 3209. Literature of Medieval City-States. (4 cr; SP–3015) The beginnings of Italian vernacular literature in the context of the city-states of the 11th to 14th centuries.

Ital 3219. Literature of the Despotisms. (4 cr; SP–3015) Prose, verse, and drama of Italy under the Signorini and foreign invaders, 1400-1650.

Ital 3301. Italian Dialects and Their Literature. (4 cr; SP–3015) Study of selected Italian dialects and dialect texts in their cultural and historical settings.

Ital 3305. Staging the Self: Theater and Drama in Modern Italy. (4 cr; SP–3015) Theatrical representations of the self in modern Italy. Particular attention given to issues of identity, gender, and class in theatrical works ranging from Alfieri’s Mirra, Pirandello’s Enrico IV to Dacia Maraini’s Clytemnestra.

Ital 3501. The World in the City: Italy 1100-1660. (3 cr; SP–3015) The culture and civilization of Italian cities in medieval and early modern periods.

Ital 3502. Making of Modern Italy: From the Enlightenment to the Present. (3 cr; SP–3015) Italian literary, cultural, and symbolic practices from the Enlightenment to the present.

Ital 3806. Negotiating the Terms: Italian Film and Literature. (3 cr) Examines cinematic representations of Italian literary texts; introduces the basic tools of literary and film analysis; discusses how both media impact Italian culture. Taught in English.

Ital 4303. Drama and Spectacle in Italy, 1200-1770. (4 cr; SP–3015) Italian drama, festival and spectacle from the medieval sacred plays to the reform of the theater by Goldoni.

Ital 4307. Novellistica. (3 cr; SP–3201 or director of undergraduate studies permission) Study of birth and development of the novella genre. Reading and discussion of stories form the Novellino, Boccaccio, Sacchetti, Bandello, Bolognini, Basile, Verga, Deledda, Calvino, Introduction to formal study of novella structure.

Ital 4970. Directed Readings. (1-4 cr; SP–0) Meets unique requirements decided on by faculty member and student. Individual contracts list contact hours, number of cr, written and other work required.

Ital 5209. Trecento Literature: Ruling the Canon. (4 cr; SP–3015, 3201 or #) Works of Boccaccio and Petrarch and their role in establishing the canon of Italian vernacular literature. Taught in English also as MEx 5610.

Ital 5289. The Narrow Door: Women Writers and Feminist Practices in Italian Literature and Culture. (4 cr; SP–3015) Focuses on issues of gender, sexual difference, equality, and emancipation raised by Italian women writers and thinkers from the 19th century to the present.
Jpn 3165. Japanese Performance Arts. (3 cr)
Japanese performance traditions with emphasis on Noh, Kyōka, and their literary and cultural contexts. The relationship between these traditions and the evolution of avant-garde performance practices.

Jpn 3166. Japanese Film. (3 cr; A-F only)
Themes, styles, and genres of Japanese cinema through the tram of classic directors (Kurosawa, Mizoguchi, and Ozu) and more recent filmmakers (Itami and Morita). Particular attention to representations of femininity and masculinity.

Jpn 3451. Introduction to Japanese Linguistics. (4 cr; SP–3022 or #)
Analysis of structure and meaning of Japanese sentence patterns.

Jpn 3993. Directed Studies. (1-15 cr [max 15 cr] SP–#)
Directed study in topics of Japanese literature or linguistics.

Jpn 4041. Advanced Japanese Conversation and Composition. (4 cr; SP–3032 or #)
Practice in advanced spoken and written Japanese. Typical assignments include essays, summaries, and formal interviews in Japanese.

Jpn 4042. Advanced Japanese Conversation and Composition. (4 cr; SP–3041 or #)
Practice in advanced spoken and written Japanese. Typical assignments include essays, summaries, and formal interviews in Japanese.

Jpn 4041. Classical Japanese. (4 cr; SP–3021, 3022)
Study of the structures and arguments of classical Japanese poetry, narrative, and drama.

Jpn 4042. Classical Japanese. (4 cr; SP–4061 or #)
Analysis of the structures and arguments of classical Japanese poetry, narrative, and drama.

Jpn 5071. Communicative Competence for Japan-Oriented Careers. (4 cr; SP–4041 or 4042 or #)
Effective communication using spoken and written Japanese in contexts likely to be encountered by a career-oriented professional in Japan.

Jpn 5072. Communicative Competence for Japan-Oriented Careers. (4 cr; SP–5071 or #)
Effective communication using spoken and written Japanese in contexts likely to be encountered by a career-oriented professional in Japan.

Jpn 5160. Topics in Japanese Literature. (4 cr [max 8 cr])
Literary, historical, or cultural study of selected Japanese literature.

Jpn 5161. Women's Writing in Premodern Japan. (4 cr; SP–3162 or #)
Women's writing in premodern Japan, including Genji monogatari, a lengthy narrative, Makura no soshji, a collection of vignettes, and poetry. Gendered writing system/authorship, narrative techniques, sexuality and the figure of the author, and strategies of fictionality.

Jpn 5165. Readings in Postwar and Contemporary Japanese Literature. (4 cr; QP–Third-yr/ Japanese or #; SP–3032 when offered in Japanese or A-F only)
Literary and historical exploration of selected works published between 1945 and the present. Focus may be on a writer, a period, or a theme. Offered in a rotating format alternating between readings in the original language and readings in English translation.

Jpn 5166. Literature by 20th-Century Japanese Women. (4 cr; SP–3032 or #)
Literary and historical exploration of selected works by Japanese women writers in a variety of genres. All literary texts read in Japanese; critical readings may be in English.

Jpn 5171. Women's Writing in Premodern Japan in Translation. (4 cr; SP–3162 or #; A-F only)
Genji monogatari, a lengthy narrative, Makura no soshji, a collection of vignettes, and poetry. Gendered writing system/authorship, narrative techniques, sexuality and the figure of the author, and strategies of fictionality.

Jpn 5176. Literature by 20th-Century Japanese Women in Translation. (4 cr)
Literary and historical exploration of selected works by Japanese women writers in a variety of genres. All literary texts read in English.

Jpn 5251. History of the Japanese Language. (4 cr; SP–3032, 5451 or #)
Development of Japanese grammar from classical to the modern language.

Jpn 5451. Structure of Japanese: Syntax/Semantics. (4 cr; SP–3032, Ling 3001 or #)
Analysis of structure and meaning of Japanese sentence patterns.

Jpn 5452. Structure of Japanese: Phonology/Morphology. (4 cr; SP–3032, Ling 3001 or #)
Generative and nongenerative approaches to Japanese sound and word structure.

Jpn 5453. Structure of Japanese: Discourse/Conversation Analysis. (4 cr; SP–3032, Ling 3001 or #)
Analysis of Japanese written texts and conversations. Emergence of grammar in discourse, discourse/contrastional structural units, patterns genre, strategies, style, and sociolinguistics variables.

Jpn 5560. Proseminar: Japanese Linguistics. (4 cr [max 12 cr]; SP–5451 or 5452 or #5453 or #)
Selected topics in Japanese linguistics and/or contrastive analysis of Japanese and English with attention to contributions from Eastern and Western linguistic traditions.

Individual study with guidance of a faculty member.

Jewish Studies (JwSt)

Department of Classical and Near Eastern Studies
College of Liberal Arts

JwSt 1034. Introduction to Judaism. (3 cr; SP–3034, Rēla 1034, Rēla 3034; knowledge of Hebrew not required)
Survey of intellectual history, literature, beliefs, practices, values, laws, national, and cultural developments from the rabbinic period through today. Ancient and modern sources used to study Judaism. Combines Western critical methodologies with the Jewish traditions of learning.

JwSt 3034. Introduction to Judaism. (3 cr; SP–3034, Rēla 1034, Rēla 3034; knowledge of Hebrew not required)
Survey of intellectual history, literature, beliefs, practices, values, laws, national, and cultural developments from the rabbinic period through today. Ancient and modern sources used to study Judaism. Combines Western critical methodologies with the Jewish traditions of learning.
Survey of intellectual history, literature, beliefs, practices, values, laws, national, and cultural developments within the past two and a half millennia period through today. Ancient and modern sources used to study Judaism. Combines Western critical methodologies with the Jewish traditions of learning.

JwSt 3113. African American and Jewish American Relations in the United States. (3 cr) Historical and social scientific study of relations between African Americans and Jews in the U.S. during the 20th century. Includes immigration, work, cultures, gender, and alliance, and conflict.

JwSt 3115. Mishnah and Midrash in Translation. (3 cr; SP–Jewish Studies major) Jewish law studied as a mirror of society and as a way to actualize its value. Consideration of original socioreligious contexts and current applications. Selections include biblical interpretations addressing moral, theological, legal, and literary problems.


JwSt 3401. The Art and Architecture of the Jewish People. (3 cr) Jewish art and architecture from antiquity to 17th-century C.E. Issues include Jewish art and the Second Commandment, non-Jewish artistic traditions, the nature of Jewish art.


JwSt 3522. History of the Arab-Israeli Conflict. (3 cr) The events leading to the reestablishment of the State of Israel in 1948 and subsequent conflicts and negotiations up to present. Zionism and Arab resistance, Great Powers’ involvement, War of Independence/First Palestine War, subsequent conflicts and their aftermath.

JwSt 3631. Jewish Writers and Rebels in German, Austrian, and American Culture. (3 cr) Investigate literary and 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.

JwSt 3632. Jewish Women in the United States. (3 cr) Analyze of the cultural, social, economic, and religious conditions of European Jewry and American society in the 19th and 20th centuries that structured the lives of American Jewish women.

JwSt 3900. Topics in Jewish Studies. (3 cr [max 12 cr]; SP–) Historical, religious, sociological, anthropological, and humanistic study of Judaism and the Jewish people. Approach of each study varies with topic.

JwSt 3951. Major Project. (4 cr; SP–Jewish Studies major) Three 3XX JwSt courses or 3XX JwSt proj. Research project using primary and secondary sources. Students select project in consultation with a faculty member who directs the research and writing.

JwSt 5111. Problems in Historiography and Representation of the Holocaust. (3 cr; QP–Religious Studies 3541; SP–Jewish Studies 3521 or Religious Studies 3521 or #) Focuses on issues connected with the Holocaust. Inclusiveness of other groups, Holocaust vs. “Shoah,” historiographic methodology, perpetrators, victims, examination of the problems of representation in literature and art, problems of narrative theory after Auschwitz.

JwSt 5992. Directed Readings. (1-12 cr [max 12 cr]; SP–) Guided individual reading or study.

Journalism and Mass Communication (Jour)

School of Journalism and Mass Communication College of Liberal Arts

Journalism courses are categorized in the following way.

Professional (skills) courses: 3101, 3121, 3155, 3159, 3173, 3179, 3201, 3241, 3251, 3231, 3451, 4131, 4155, 4159, 4171, 4174, 4261, 4263, 4321, 4441, 4442

Enrichment courses: 3006, 3007, 3008, 3614, 3741, 3745, 3771, 3776, 3781, 4274, 4316, 4501, 4531, 4611, 4612, 4721, 4726, 4731, 4801, 5541, 5601, 5606, 5741, 5771, 5777, 5825

Independent study courses: 3990, 3993, 3996, 4993, 5990, 5993

Jour 1001. Introduction to Mass Communication. (3 cr; SP–Open to non-jour majors; A-F only) Nature, functions, and responsibilities of communication media and agencies from professional point of view. News, opinion, entertainment, and persuasion functions, trends, communication tools, societal effects.

Jour 3004. Information for Mass Communication. (3 cr; SP–Jour major or minor, Eng 1011 or equivalent or exemption, A-F only) Information resources for professional and academic work in mass communication; techniques for locating, retrieving, appraising, and verifying information acquired from public records, libraries, research institutions, databases, observation, and interviews.

Jour 3060. Visual Communication. (3 cr; QP–Jour major or minor, 3004, A–SP–Jour major or minor, 3004, A–F only) Visual media and the role of images in mass communication. Societal, cultural, historical and psychological approaches to visual communication are explored and “hands-on” exercises provide an understanding of image making processes.

Jour 3007. The Media in American History and Law: Case Studies. (3 cr; SP–Jour major or minor, 3004, A–SP–Open to non-jour major, 3004, A–F only) Using a case-studies approach to focus on legal and ethical issues, the course examines media in the socioeconomic-political-contextual context of a specific historical period.

Jour 3008. Mass Communication Processes and Structure. (3 cr; SP–Open to non-jour major, jour major must have course approval on prog plan, pre-jour should not enroll, A-F only)

Communication theories as they relate to mass communication processes; major structural aspects of mass communication systems as they affect mass communication processes.

Jour 3101. Newswriting and Reporting. (4 cr; SP–Jour major or minor, 3004 or 4300, pass 40 wpm keyboard test with 6 or fewer errors, A–F only) Fact gathering and reporting. Problems in judgment and handling of news and news features.

Jour 3121. Public Affairs Reporting. (3 cr; SP–Jour major, 3004, C–or higher in 3101, pass 40 wpm keyboard test with 6 or fewer errors, A–F only) Reporting and editing news of courts and municipal, county, state, and federal administrative and legislative agencies.

Jour 3155. Publications Editing. (3 cr; SP–Jour major, 3004, C–or higher in 3101, pass 40 wpm keyboard test with 6 or fewer errors, A–F only) Selection and editing of news-editorial content of newspapers, brochures, magazines, newspaper makeup, magazine format. Press association teletype service. Lecture and laboratory.

Jour 3159. Public Relations. (3 cr; SP–Jour major or minor, Eng 1011 or equivalent or exemption, A–F only) History and development of public relations practice and principles. Professional writing assignments in a variety of institutional settings. Analysis and critique of public relations in contemporary society.

Jour 3173. Magazine Writing. (3 cr; SP–Jour major, 3004, C–or higher in 3101, pass 40 wpm keyboard test with 6 or fewer errors, A–F only) Writing feature articles for consumer and trade publications; study of market free-lance methods.

Jour 3179. Public Relations Writing and Campaign Tactics. (3 cr; SP–Jour major, 3004, 3159 or 3201, A–F only) Designed to develop basic skills in public relations tactics with a strong emphasis on professional skills in writing for a variety of audiences and purposes. Assumes a broad knowledge of public relations principles and strategic approaches.

Jour 3201. Principles of Advertising. (3 cr; SP–Jour major or minor, Eng 1011 or equivalent or exemption, A–F only) Principles related to development of advertising campaigns: market analysis, positioning, creative and media strategies, evaluation. Structure of advertising industry. Economic, social, and regulatory contexts influencing advertising.

Jour 3241. Creative Strategy and Copywriting. (3 cr; SP–Jour major, 3004, 3201, A–F only) Advertising appeals and strategy; advertising for print and broadcast. Individual and group projects.

Jour 3251. Advertising and Public Relations Research. (3 cr; QP–Jour major, 3004, 3159 or 3201, A– SP–Jour major, 3004, 3159 or 3201, A–F only) Introduction to applied quantitative and qualitative research methods used in advertising and public relations campaign development, management, and evaluation.

Jour 3321. Basic Media Graphics. (3 cr; SP–Jour major, 3004, A–F only) Basic introduction to mass media graphics, including design principles and history, production technology, typographic legibility research, analysis of printing, and production costs.

Jour 3451. Television and Radio News. (3 cr; SP–Jour major, 3004, C– or higher in 3101, pass 40 wpm keyboard test with 6 or fewer errors, A–F only) News writing, reporting, video photography and editing, on-air delivery. Production of weekly University newscast for cable.

Jour 3614. History of Media Communication. (3 cr; SP–Open to non-jour majors, jour major must have course approval on prog plan; pre-jour major should not enroll, A–F only) How people have used the tools of communication from earliest times to the present. The impact of new technologies on society. The road to the information superhighway.

Jour 3741. Racial Minorities and the Mass Media. (3 cr; QP–Open to non-jour major, jour major must have course approval on prog plan; pre-jour should not enroll; A–F only) Past and present depictions of minority individuals and groups in movies, television, radio/TV, etc., against anthropological, psychological, and sociological knowledge and experience. Emphasis on personal and political effects of media depictions.

Jour 3745. Mass Media and Popular Culture. (3 cr; SP–Open to non-jour major, jour major must have course approval on prog plan; pre-jour major should not enroll, A–F only)
Writing, editing, illustration, design, layout, and entertainment functions of visual communication. The rise and influence of visual media industries and public image making.

Jour 4721. Mass Media and U.S. Society. (3 cr; SP–Jour major or minor, 3004, 1 writing-intensive course recommended or #, A-F only)

Jour 4725. Management of Media Organizations. (3 cr; SP–Jour major or minor, 3004, A-F only)
Introduction to concepts and principles of media management including strategic planning, leadership, organizational strategies, ethical and legal issues. Exposes students to working in teams, understanding a balance sheet and income statement, motivating and promoting people.

Jour 4726. Case Studies in Modern Media Management. (3 cr; SP– 3004, 4725 recommended, jour major or minor, #, for jour students; #, for non-jour students; A-F only)
Case studies of how media managers make decisions dealing with money, marketing, product, personnel, and production. Examination of the interaction between quality, price, service, and the limits of technology.

Jour 4731. Honors Course: Communications Problems and Issues. (3 cr; SP–Jour major or minor, 3004, cr, #, honors div regis; A-F only)
Individual project and seminar of major problems and issues of communication.

Jour 4801. International Communication. (3 cr; QP–Jour major or minor, 3004, SP–Jour major or minor, 3004, A-F only)
Structures, processes, and consequences of international mass communication. Problems in the free flow of information. Roles of international organizations. Mass communication in social, political, and economic development; implications for conflict resolution.

Jour 4993. Honors: Directed Study. (1-6 cr [max 6 cr]; SP–Jour major or minor, 3004, A-F only)
Independent study; projects.

Jour 5541. Mass Communication and Public Health. (2 cr; SP–Jour major or minor or grad student, 3004, 12 cr in social or behavioral sci; A-F only)
Role, functions, and effects of mass media on public health; planned and unplanned effects. Review and analysis of literature to understand how theories, models, and assumptions of mass communication research relate to public health.

Jour 5601. History of Journalism. (3 cr; SP–Jour major or minor, 3004, A-F only)
Development of American newspapers and periodicals from beginnings in Europe to present day; rise of radio and television; relation of communications development to political, economic, and social trends.

Jour 5606. Literary Aspects of Journalism. (3 cr; SP–Jour major or minor, 3004, A-F only)
Literary aspects of journalism as exemplified in, and influenced by, works of English and American writers past and present. Lectures, discussions and weekly papers.

Jour 5741. Minorities and Mass Media. (3 cr; QP–Jour major or minor, 3004, SP–Jour major or minor, 3004, A-F only)
Analysis of relationships between mass media and the experiences of color in the United States. Focuses on issues of content and control.

Jour 5771. Media Ethics: Principles and Practice. (3 cr; SP–Open to non-jour major, jour major must have course approval on prop plan; pre-jour major should not enroll; A-F only)
Assesses the effectiveness of the accountability mechanisms employed by the media; examines key media principles and their ethical foundation.
Kinesiology (Kin)

School of Kinesiology and Leisure Studies
College of Education and Human Development

Kin 1871. Introduction to Kinesiology. (2 cr; A-F only)
Examination of the professional and disciplinary dimensions of physical activity. Representative experiences include lecture, discussion, small group activities, and laboratory tours.

Kin 1899. Health and Society. (2 cr; SP–§Kin 1999; A-F only)
Major factors influencing human health, including behavior, the physical and social environments, policy, and economics. Opportunities for citizen participation in addressing each factor are explored, focusing on health topics such as nutrition and violence.

Kin 1993. Directed Study in Kinesiology. (1-6 cr; QP–§Kin majors or #; SP–Kin majors or #; A-F only)
For lower division students planning to major in kinesiology who wish to study a topic or problem under tutorial guidance.

Kin 3101. Lifetime Fitness and Health. (4 cr; A-F only)
Overview of fitness and health as a function of disease risk factors, injury prevention, weight control, exercise, illicit drugs, nutraceuticals, and well-being. Base of action and knowledge needed for surviving medical and non-medical emergencies.

Kin 3111. Human Anatomy. (2 cr; SP–§3110; A-F only)
Becoming a knowledgeable and respectful human being requires understanding the form and function of the human body. This course is designed as an introduction to the anatomy and physiology of the human body. It is intended to provide knowledge that will enable students to appreciate the complexity of the human body and to understand the implications of human behavior on the body.

Kin 3112. Biomechanical and Task Analysis. (3 cr; SP–§Kin 3111; CBN 1027, CEBD student or #; SP–§Kin 3111; CBN 1027, CEBD student or #; A-F only)
Introduction to the basic theories of biomechanics with the understanding of mechanical principles as it applies to human movement. Analytical methods of examining human motion including quantitative and qualitative assessment.

Kin 3113. First Responder for Coaches and Athletic Trainers. (3 cr; SP–§Kin 3112; A-F only)
Emergency medicine course for coaches and athletic trainers taught by a multidisciplinary faculty of health care professionals. Emphasis on critical thinking skills in emergency settings, topics; patient assessment, airway management, CPR, splinting, spinal immobilization. Certification: AHA-BLS, First Responder.

Kin 3114. Prevention and Care of Athletic Injuries. (3 cr; QP–3110, CBN 1027, CEBD student or #; SP–3111, CBN 1027, CEBD student or #; A-F only)
Provides knowledge base in athletic training for prevention and care of injury for future trainers and provides exposure to principles for major injuries in various fields. Lab offers taping and bracing techniques for preventing and rehab for future trainers.

Kin 3126. Psychology and Sociology of Sport. (3 cr; SP–Kin majors; A-F only)
Introduction to sport psychology and sport sociology. Topics include factors related to individual and institutional behavior in the following physical activity settings: competitive and recreational athletics, exercise, physical education, and rehabilitative.

Kin 3131. History and Philosophy of Sport. (3 cr; max 3 cr; QP–Kin majors or #; SP–Kin majors or #; A-F only)
Introductory description and interpretation of the historical and philosophical development of physical education and sport from primitive societies to 20th century civilization.

Kin 3133. Motor Control, Learning, and Development. (3 cr; SP–#; A-F only)
Concepts and principles of the coordination and control of movement, the learning of movement skills, and the changes in movement performance and growth across the life span.

Kin 3143. Organization and Management of Sport. (3 cr; QP–2-cr coaching course, Kin major or #; SP–Kin major or #; A-F only)
Principles, policies, and procedures involved in the administration and management of sports programs at the interscholastic and intercollegiate levels. Lab offers taping and bracing techniques for survival and rehabilitation.

Kin 3151. Measurement, Evaluation, and Research in Kinesiology. (3 cr; QP–Kin major or #; SP–§Kin major or #; §3150; A-F only)
Introduction to the philosophy of evaluation and measurement in physical education and exercise science. Test selection, construction, evaluation, and administration. Basic research methods, statistical analysis, and interpretation of test scores.

Kin 3168. Soccer Coaching. (1 cr; QP–PE 1872; SP–§Kin 3371)
Fundamental approaches used in the science of soccer coaching. Emphasis on teaching and coaching of technique, team organization and management, development of training schedules, and rules and strategies related to the game, for coaches.

Kin 3169. Volleyball Coaching. (1 cr; QP–PE 1174 or #; SP–§Kin 3372)
Motivation, team building, communication, game strategies, and philosophy. Students should have a good understanding of the sport before enrolling. Lecture, discussion, and practical application.

Kin 3171. Baseball Coaching. (1 cr; max 1 cr; SP–Kin 3170)
Safety, rules, team building, game strategies, and philosophy. Students should have a good understanding of the sport before enrolling. Lecture, discussion, and practical application.

Kin 3172. Basketball Coaching. (1 cr; SP–§Kin 3171)
Teaching and coaching individual and team skills of the game; rules and strategies.

Kin 3173. Football Coaching. (1 cr; SP–§Kin 3172)
Responsibilities and philosophies of coaching, team management, skill development and analysis, rules, systems of play, psychology, and scouting.

Kin 3174. Golf Coaching. (1 cr)
Safety, rules, etiquette, skill development and analysis, and philosophy. Students should have a good understanding of the game before enrolling. Lecture, discussion, and practical application.

Kin 3175. Gymnastics Coaching. (1 cr; SP–§Kin 3174)
Coaching gymnastics for males and females. Skill progression, skill analysis and spotting, routine construction, safety, training for competition, scoring and rules, psychology, off-season conditioning, and responsibilities of the coach.

Kin 3176. Ice Hockey Coaching. (1 cr; SP–§Kin 3175)
Coaching hockey for males and females. Terminology, breakdowns, penalty killing, power-plays, neutral ice play, offensive forechecking, defensive strategies, comparisons of men’s and women’s techniques.

Kin 3177. Swimming and Diving Coaching. (1 cr; SP–§Kin 3176)
Coaching swimming for males and females. Stroke mechanics, starts and turns, safety, technique, and rules, competition, off-season conditioning, roles and responsibilities of the coach.

Kin 3178. Tennis Coaching. (1 cr; SP–§Kin 3177)
Coaching strategies, safety and rules, training for competition, off-season training and conditioning, roles and responsibilities of the coach.

Kin 3179. Track and Field Coaching. (1 cr; SP–§Kin 3178)
Basic training and conditioning programs, event characteristics, coaching strategies, knowledge of track and field, meet administration.

Kin 3181. Wrestling Coaching. (1 cr; SP–§Kin 3179)
Teaching and coaching of technique, team organization and management, rules interpretation, and development of training schedules.

Kin 3327. Teaching Physical Education in the Elementary School. (2 cr; QP–Elem ed major; SP–Elem ed major; A-F only)
Overview of the elementary physical education process with focus on a classroom teacher’s perspective and needs. Representative experiences include participation, lecture, micro-teaching, final test.

Kin 3385. Human Physiology for Kinesiology Students. (3 cr; QP–CBN 1027 or equiv, Kin major or #; SP–CBN 1027 or equiv, Kin major or #; A-F only)
The course is designed to provide an understanding of the physiological control systems studied in detail using clinical, exercise, sport, and work examples.

Kin 3396. Supervised Practical Experience. (1-10 cr; max 10 cr; QP–#; SP–#; Kin major or #; 35625; S-N only)
On-the-job supervised practical experience in the fields of sport and exercise under a specialist in a particular area of study or emphasis.

Kin 3399. Directed Study in Kinesiology. (1-4 cr; max 4 cr; QP–#; SP–#; A-F only)
Student-selected clinical or research experience.

Kin 3435. Exercise Physiology. (3 cr; SP–3385 or equiv, Kin major or #; SP–#; 3386; A-F only)
Effects of exercise on physiological systems of the human body including energy and nutritional requirements of exercise, exercise prescription, and athletic conditioning. Exercise and rehabilitation in environmental extremes, and gender and heritability factors related to adaptation to training.

Kin 5001. Foundations of Human Factors/Ergonomics. (3 cr; SP–§HumF 5001; A-F only)
Variance in human performance as influenced by interaction with designs of machines and tools, computers and software, complex technological systems, jobs and working conditions, organizations, and sociotechnical institutions. Emphasis on conceptual, empirical, practical aspects of human factors/ergonomic science.

Kin 5103. Developmental/Adapted Physical Education. (3 cr; A-F only)
Introduction to physical education for students with disabilities, emphasizing conceptual, organizational, and administrative issues. Topics include historical and legal foundations, service components, individualized education programs, professional roles, and assessment of movement skills.

Kin 5104. Physical Activities for Persons with Disabilities. (3 cr; A-F only)
Different approaches to providing physical education service and related movement interventions for persons with disabilities. Topics: movement behavior foundations, movement skill progressions, unique considerations for specific impairments, and sport for persons with disabilities.
Introduction to adapted aquatics for students in kinesiology and leisure studies, physical therapy, and those interested in working with people with disabilities. Topics: teaching approaches, programming, accommodations/adaptations, assessments, individualized plans. Activities: pool sessions with/without clients, groups, site observations.

Kin 5121. Application of Basic Sciences to Kinesiology. (3 cr; A-F only)
Examination of how knowledge from the basics of science can lead to differing perspectives from which to approach questions directed to kinesiological inquiry.

Kin 5122. Applied Exercise Physiology. (3 cr; OP–4385 or equiv or #; SP–4385 or equiv or #; A-F only)
Mechanisms of cardiorespiratory and muscular responses to exercise; application of exercise physiology to assessment of work capacity, athletic conditioning, and requirements of human powered vehicles; low to moderate exercise as an intervention in lowering risk for common health problems.

Kin 5124. Human Factors Physiology. (3 cr; OP–#; SP–#; A-F only)
In-depth view of the concepts, problems, and issues associated with ergonomic applications to improving the design and operation of human workspaces.

Kin 5126. Sport Psychology. (3 cr; SP–3162 or equiv or #)
Theory and research in sport psychology. Focus on the psychological study of human behavior in sport and physical activity settings.

Kin 5132. Motor Development. (3 cr; OP–3132 or #; Physical Education License; SP–3133 or #; Physical Education License; A-F only)
Developmental aspects of human movement behavior and learning, emphasizing life span change of motor skills.

Kin 5135. Motor Control and Learning. (3 cr; OP–3135 or #; SP–3133 or #)
Focus on the main theoretical ideas and research that have advanced motor control over the last three decades.

Kin 5136. Psychology of Coaching. (3 cr)
Psychological dimensions of coaching across age levels, including coaching philosophy, leadership, communication skills, motivation, and mental skills training for performance enhancement.

Kin 5141. Nutrition for Exercise and Physical Performance. (3 cr; OP–FScN 1612 or equiv; SP–FScN 1112 or equiv; A-F only)
Requirements and physiologic roles of nutrients and physical activity in promotion of health and performance; assessment of energy requirements. RDAs, food composition and safety, weight management, and prevention of chronic diseases with emphasis on coronary heart disease.

Kin 5152. Curriculum Development in Physical Education. (2 cr; OP–Admission to init lic/ MEd phys ed program or #; SP–Admission to init lic/MEd phys ed program or #; A-F only)
Introduction to the emerging field of kinesiology, broadly conceived as the study of human movement. Development and emergence of the term kinesiology and the scholarly, political, and educational ramifications of its development.
LA 1101. Introduction to Design Thinking. (4 cr; A-F only) Introduction to theories and processes that underpin design thinking. Survey of the design professions; the power of design; and interactions between humans and their natural, social, and designed environments.

LA 1301. Introduction to Drawing in Architecture and Landscape Architecture. (3 cr; A-F only) Drawing basic skills involved in perceiving and representing the material environment. Study of sketching and drawing conventions of visual phenomena and forms.

LA 1401. The Designed Environment. (3 cr; A-F only) Examination of relationships between place and space, and realms of the ideal and real, public and private. Survey of how the fields of architecture, landscape architecture, and urban design have explored these issues.

LA 3001. Introduction to Landscape Architectural Design. (3 cr; A-F only) Introduction to spatial design issues at all scales.

LA 3411. Architectural History to 1750. (3 cr; A-F only) History of architecture and city planning from antiquity to 1750, as illustrated by major monuments from western and non-western cultures.

LA 3412. Architectural History Since 1750. (3 cr; A-F only) History of structures, cities, sites, and theories of architecture and urbanism since 1750.

LA 3413. Introduction to Landscape Architectural History. (3 cr; SP-One course in history at 1xxx or higher; A-F only) Study of landscape architecture’s roots by examining the creation of landscapes over time. Areas of emphasis include ecological and environmental issues; and the political, economic, and social contexts of landscape architectural works.

LA 3501. Environmental Design and Its Biological and Physical Context. (3 cr; A-F only) Consideration of dynamic relationships between environmentally designed places and their biological and physical contexts. Case studies of successfully integrating created place and biological and physical contexts.

LA 5133. Landscape Analysis. (1 cr; SP-BED accelerated status or LA grad student or # A-F only) Field techniques for site analysis, including vegetation, soil, and landfill description are introduced at a one-week seminar before the start of fall term at the Lake Itasca Forestry and Biological Station.

LA 5201. Making Landscape Spaces and Types. (6 cr; SP-BED accelerated status or LA grad student or # A-F only) Design exploration using 3-D models and historical precedent studies to create outdoor spaces for human habitation and use. Application of the basic landscape palette of landform, plants, and structures to give physical, emotional, cognitive, and social definition to created places.

LA 5202. Landscape Ecology. (3 cr; SP-One course in ecology, not for LA majors; LA students take 5203 for landscape ecology) Relationships among spatial patterns, temporal patterns, and ecological processes in the landscape. Topics include factors affecting landscape pattern, measurement of landscape pattern, material transport through landscapes, effects of landscape pattern on population dynamics, and landscape planning.

LA 5203. Ecological Dimensions of Space Making. (6 cr; SP-5211, 5213, 5202 or concurrent registration and/or one course in ecology or SP-5201, 5202 or concurrent registration and/or one course in ecology or # A-F only) A design studio experience drawing on ecological, cultural, and aesthetic influences to explore the development of design ideas that are responsive to ecological issues and human experience.

LA 5204. Landscape Ecology. (3 cr; SP-One course in ecology or #) Relationships among spatial patterns, temporal patterns and ecological processes in the landscape. Topics include factors affecting landscape pattern, measurement of landscape pattern, material transport through landscapes, effects of landscape pattern on population dynamics, and landscape planning.

LA 5351. AutoCAD I. (3 cr; SP-BED major or LA grad student or #) Basic concepts, tools, and techniques of computer-aided drawing. Introduction to current AutoCAD Release software. Strategies and techniques for producing dimensioned and annotated drawings. Introduction to 3-D drawing capabilities. Use of dimension variables, attributes, blocks, symbols, and creation of customized menus.

LA 5352. AutoCAD II. (3 cr; SP-5351, SP-BED major or LA grad student or #) Intermediate concepts, tools, and techniques of computer-aided drawing with current AutoCAD Release software. Strategies and techniques for producing dimensioned and annotated drawings. Use of dimension variables, attributes, blocks, symbols, and creation of customized menus.

LA 5371. Computer Methods I. (1 cr; SP-BED accelerated status or LA grad student or #) Introduction to current techniques, programs, and new editions of computer programs, and their application to landscape architecture computing.

LA 5372. Computer Methods II. (1 cr; SP-Arch/LA 5371, LA grad student or #) Current techniques and computer programs, and their application to landscape architecture computing.

LA 5373. Computer Methods III. (1 cr; SP-Arch/LA 5372, LA grad student or #) Advanced techniques and computer programs, and their application to landscape architecture computing in design, theory, and technology.

LA 5400. Topics in Landscape Architecture. (1-3 cr [max 12 cr]; SP-BED accelerated status or LA grad student or # A-F only) Current topics in landscape architecture. Taught by regular or visiting faculty in their areas of specialization.

LA 5401. Directed Studies in Emerging Areas of Landscape Architecture. (1-6 cr [max 12 cr]; SP-Sr BED major or LA grad student or # SP-BED accelerated status or LA grad student or #) Independent studies under the direction of landscape architecture faculty.

LA 5402. Directed Studies in Landscape Architecture History and Theory. (1-6 cr [max 12 cr]; SP-Sr BED major or LA grad student or # SP-BED accelerated status or LA grad student or # A-F only) Independent studies under the direction of landscape architecture faculty.

LA 5403. Directed Studies in Landscape Architecture Technology. (1-6 cr [max 12 cr]; SP-BED major or LA grad student or # SP-BED accelerated status or LA grad student or # A-F only) Independent studies under the direction of landscape architecture faculty.

LA 5404. Directed Studies in Landscape Architecture Design. (1-6 cr [max 12 cr]; SP-BED major or LA grad student or # SP-BED accelerated status or LA grad student or # A-F only) Independent studies under the direction of landscape architecture faculty.

LA 5405. Interdisciplinary Studies in Landscape Architecture. (1-6 cr [max 12 cr]; SP-Sr BED major or LA grad student or # SP-BED accelerated status or LA grad student or # A-F only) Research, planning, and/or design projects. Topics vary.

LA 5413. Introduction to Landscape Architectural History. (3 cr [max 3 cr]; SP-One course in history at 1xxx or higher; A-F only) Introductory course examines the multiple roots of landscape architecture by examining the making of types of landscapes over time. Emphasis on ecological and environmental issues, and issues related to political, economic, and social contexts of landscape architectural works.

LA 5431. History of Landscape Architecture: Individual Influences. (3 cr; SP-3431 or # A-F only) History of landscape architecture from 1700 to 1950 in the formative period of the profession, particularly in Great Britain, France, and the United States. Exploring an individual’s design in relationship to personal values, experiences, and places of influence.

LA 5571. Landscape Construction: Landform Systems and Spatial Performance. (4 cr; SP-BED major or LA grad student or #) Theory and professional applications of landform systems for design. Topics include landform typology, representation methods, manipulation techniques, use of land survey data, earthwork construction issues, and spatial accommodation of vehicles in landscape architecture, including road design.

LA 5572. Landscape Technology: Planted Form. (3 cr; SP-5211 and 5212 and one course in plant identification or #SP-5201 and 5203 and one course in plant identification or # A-F only) Lectures, presentations, field trips, readings, and projects exploring design principles related to using plants in the landscape. Explores cultural and ecological principles through design projects of various scales.

LA 5573. Landscape Technology: Introduction to Geographic Information Systems. (3 cr; SP-J or Sr BED major or LA grad student or #SP-J or Sr BED major or LA grad student or # A-F only)
Latin (Lat)

Department of Classical and Near Eastern Studies

College of Liberal Arts

Lat 1001. Beginning Latin I. (4 cr)
Gradual mastery of Latin structure in order to attain reading knowledge; practice in oral reading and composition.

Lat 1002. Beginning Latin II. (4 cr; SP–1001 or equiv)
Continuing work on Latin grammar and syntax; graduated readings from Roman authors including Cicero, Catullus, and Roman comedy.

Lat 1111. Honors Course: Beginning Latin, Recitation. (3 cr; SP–1112; regis in honors program or high ability as indicated by high school transcript)
Intensive Latin course covering material usually taught over two semesters. Students must also register for 1112 when taking this class.

Lat 1112. Honors Course: Beginning Latin, Recitation. (3 cr; SP–1111, regis in honors program or high ability as indicated by high school transcript)
Intensive Latin course covering material usually taught over two semesters. Undergraduates must also register for 3112 when taking this class.

Lat 3111. Intensive Latin. (3 cr; SP–3101-1002, 1111; 3112; previous exper in another foreign language desirable.)
Intensive Latin course covering material usually taught over two semesters. Students must also register for 1111 when taking this class.

Lat 3112. Intensive Latin, Recitation. (3 cr; SP–1001-1002, 1111; 3112; previous exper in another foreign language desirable.)
Drills and composition exercises. Students must also register for 3111 when taking this class.

Lat 3113. Republican Latin Authors. (4 cr; SP–1002 or 1111 or 3 yrs high school Latin or A)
Intermediate Latin reading featuring selections from Caesar, Cicero and Catullus. Grammar review; introduction to Latin metrics; history and culture of the late republic.

Lat 3114. Augustan Latin Authors. (4 cr; SP–3113 or A)
Students progress from intermediate to advanced Latin reading while surveying the world of Augustan Rome. Authors include Livy, Virgil, and Ovid.

Lat 3310. Advanced Undergraduate Latin: History. (3 cr [max 12 cr]; SP–3114 or equiv or #)
Roman history as the Romans wrote it; selections from Livy, Sallust, Tacitus, or Ammianus.

Lat 3320. Advanced Undergraduate Latin: Belles-Lettres. (3 cr [max 12 cr]; SP–3114 or equiv or #)
Selections from expository Latin literature (essays, epistles, monographs).

Lat 3330. Advanced Undergraduate Latin: Oratory. (3 cr [max 12 cr]; SP–3114 or equiv or #)
One or more appropriate authors studied each semester.

Lat 3340. Advanced Undergraduate Latin: Epic/Pastoral. (3 cr [max 12 cr]; SP–3114 or equiv or #)
One or more appropriate authors studied each semester.

Lat 3350. Advanced Undergraduate Latin: Lyric/Elegiac. (3 cr [max 12 cr]; SP–3114 or equiv or #)
One or more appropriate authors studied each semester.

Lat 3360. Advanced Undergraduate Latin: Satire. (3 cr [max 12 cr]; SP–3114 or equiv or #)
One or more appropriate authors studied each semester.

Lat 3370. Advanced Undergraduate Latin: Later Latin. (3 cr [max 12 cr]; SP–3114 or A)
Reading course covering authors of Late Antiquity, the Middle Ages and the Renaissance. Topics specified in Class Schedule.

Lat 3450. Advanced Undergraduate Latin: Classical Authors. (3 cr [max 12 cr]; SP–3114 or A)
Readings from various classical Latin authors. Topics specified in Class Schedule.

Lat 3951. Major Project. (4 cr; SP–Greek-Latin or Latin major, three 300x Latin courses or #)
Research project using documents and other sources from the ancient world. Students select project in consultation with a faculty member who directs the research and writing.

Lat 3960. Honors Course: Advanced Undergraduate Latin Reading. (3 cr [max 12 cr]; SP–Regis in honors program or high ability as indicated by transcript)
Student attends Latin 33xx, 3440, or 3450 and does additional work for honors credit.

Lat 3993. Directed Studies. (1-4 cr [max 12 cr]; SP–#)
Guided individual reading or study.

Lat 5012. Latin Prose Composition. (3 cr; SP–3114 or A)
Advanced understanding of Latin grammar, syntax, diction, and prose style through graduated exercises in prose composition.

Lat 5032. Text Criticism. (3 cr; SP–3114)
Theory and practice. Elements of paleography and manuscript study. Basic tools for analyzing a textual apparatus with some independence; constructing a critical edition of a literary text.

Lat 5310. Latin Literature: History. (3 cr [max 12 cr])
One or more appropriate authors studied each semester.

Lat 5320. Latin Literature: Epistles and Essays. (3 cr [max 12 cr])
One or more appropriate authors studied each semester.

Lat 5330. Latin Literature: Oratory. (3 cr [max 12 cr])
One or more appropriate authors studied each semester.

Lat 5340. Latin Literature: Epic and Pastoral. (3 cr [max 12 cr])
One or more appropriate authors studied each semester.

Lat 5350. Latin Literature: Lyric and Elegiac Poetry. (3 cr [max 12 cr])
One or more appropriate authors studied each semester.

Lat 5360. Latin Literature: Latin Dramatists. (3 cr [max 12 cr])
One or more appropriate authors studied each semester.

Lat 5370. Latin Literature: Satire. (3 cr [max 12 cr])
One or more appropriate authors studied each semester.

Lat 5380. Latin Literature: Legal Texts. (3 cr [max 12 cr])
One or more appropriate authors studied each semester.

Lat 5390. Literature: Religious Texts. (3 cr [max 12 cr]; SP–3114)
Reading and discussion of religious texts from Latin antiquity, such as Varro’s Antiquitates Divinae, Cicero’s De natura deorum, Apuleius’ Metamorphoses, or Christian writers (Tertullian, Cyprian, Lactantius, Jerome, Augustine).

Lat 5410. Latin of Late Antiquity. (3 cr [max 12 cr]; SP–34xx or equiv or #)
Pagan and Christian Latin literature selected from authors of the 3rd to 6th centuries A.D. Topics specified in Class Schedule.

Lat 5420. Medieval Latin. (3 cr [max 12 cr]; SP–34xx or equiv or #)
Literature from 6th to 15th centuries. Authors and genres vary; topics specified in Class Schedule.

Lat 5621. Latin Paleography. (3 cr; SP–3 Three 300x-500 Latin cr or #)
Analysis of various hands used in manuscripts of Latin authors with attention to date and provenance; transmission of ancient Latin literature.

Lat 5715. Introduction to the Historical-Comparative Grammar of Greek and Latin. (3 cr; SP–# or 2 yrs college Greek)
Historical and comparative grammar of Greek and Latin from their Proto-Indo-European origins to the classical norms.

Lat 5717. History of Latin. (3 cr)
Reading and analysis of documents illustrating the stylistic registers and evolution of the Latin language from its earliest attestations through the Middle Ages.

Lat 5993. Directed Studies. (1-4 cr [max 18 cr]; SP–#)
Guided individual reading or study.

Lat 5994. Directed Research. (1-12 cr [max 20 cr]; SP–#)
Guided research on original topic chosen by student.

Lat 5996. Directed Instruction. (1-12 cr [max 20 cr]; SP–#)
Supervised teaching internship.

Latin American Studies (LAS)

Institute for Global Studies

College of Liberal Arts

LAS 3017. Peoples and Cultures of Middle America. (3 cr; SP–JAnth 2017)
Surveys the Indian and Mestizo (Hispanic) cultures of Mexico and Guatemala and parts of Belize, Honduras, and Nicaragua. Describes both pre-Hispanic and Hispanic influences, with attention to area-wide patterns and local traditions.

LAS 3019. Hispanic Cultures of Latin America. (3 cr; SP–JAnth 2019; 1003 or #)
An overview of Hispanic cultures from Mexico to South America covering topics such as economy, social, and economic considerations. Overviews of issues and case studies.

LAS 3251. Role of Renewable Natural Resources in Developing Countries. (1 cr; SP–F SR 3251A-F only)
International perspectives on important resource issues including interaction of natural resource, social, and economic considerations. Overviews of issues and case studies.

LAS 3401. Early Latin America to 1825. (4 cr; SP–Hist 3401)
Native American and colonial periods to 1825, with emphasis on social, cultural, and economic aspects.

LAS 3402. Modern Latin America: 1825 to Present. (4 cr; SP–Hist 3402)
National and contemporary period 1825 to present, with emphasis on social, cultural, political, and economic change.

LAS 3405. Latin American Women’s Lives. (3 cr; SP–WoSt 3405; WoSt 1001, WoSt 1002 or WoSt 1003 or #)
An interdisciplinary approach to understanding women’s lives in Latin America. Use of ethnography, history, poetry, fiction, and “testimonio” to understand the conditions of women’s lives in Latin America.
Learning and Academic Skills (LASk)

College of Liberal Arts

LASk 1001. Mastering Skills for College Success. (2 cr)
Practical assistance to develop effective, efficient learning/academic performance skills. Improve reading, memorization, test-taking, critical thinking; identify academic and career Learning styles, motivation, life skills, and their relation to successful academic performance.

LASk 1101. Academic Success. (1 cr; SP–#; academic probation, S-N only)
Skilled assistance in identifying factors interfering with academic performance, selecting strategies and establishing a plan to promote academic success. Student learning style and skills, educational goals, life management skills, motivation, attitude as they relate to learning and academic performance.

LASK 1501. Returning to Learning. (2 cr)
Turn life goals into educational plans, address life management, focusing on learning/academic performance skills. Inventories about abilities, interests, and skills, Guidance for planning major and selecting courses, learning strategies, time management, note-taking, test-taking, writing skills.

LASk 3201. Effective Job Search and Interview Skills for Non-Native Speakers. (1 cr; SP–§5201, S-N only)
Practical assistance for career search process; immediate/long-term career objectives. Develop effective job search strategies; refine written, verbal, behavioral communication job seeking skills; deal with diversity issues. Videotape mock interviews.

LASk 3301. Career Development and Job-Seeking Skills for Students with Disabilities. (2 cr; SP–§5301)
Adapt career planning, job-seeking process to specialized educational, vocational, personal, and social needs of students with disabilities. Assess skills, interests, values, personality, goals as related to career decisions. Practical assistance occupational choices, resumes, interviewing, evaluating job offers. Legal rights, discrimination, disclosure issues.

LASk 3303. Internship Experience for Students with Disabilities. (2 cr; SP–#, S-N only)
Gain work experience, future employment. Combine practical internship experience with classroom activities. Try out/get work skills, identify employment strengths/weaknesses, improve job maintenance skills, determine reasonable job accommodations. Minimum four hrs/week at approved site.

LAS 2443. Chicana/o History to 1900. (3 cr; SP–§Chic 3442, §Hist 3441)
The history of the Mexican people from the 16th through 19th centuries. Historical theories of colonization, expansion, economy, assimilation, migration and settlement; race, class and gender, political, social and cultural interaction, and conflict.

LAS 3428. History of Relations Between U.S. and Mexico: 1821 to Present. (3 cr; SP–§Chic 3428, §Hist 3428)
U.S.-Mexico relations in the 19th and 20th centuries. Examines histories as they intersect in the late 1820s through the loss of Texas, the Mexican-American War, and economic relations between the two countries including NAFTA and the Chiaspas rebellion of 1994.

LAS 3302. Foundations of Brazilian Culture. (3 cr; SP–§Port 3502; Port 3003 or equiv)
Emphasis on Brazilian modernist society. History, culture (music, art, cinema, literature, intellectual thought, popular culture, media), and social problems (ethnicity, tropical deforestation). Discussions and readings are in Portuguese.

LAS 4121. Geography of Latin America. (3 cr; SP–§GeoG 4121)
Interplay of natural environment and history in shaping contemporary Latin America. Political ecology of natural resources, food supply and distribution, urbanization and the informal economy, migration, ethnicity, and the role of the state and international agencies in domestic economies.

LAS 4485. Housing in World Perspective. (3 cr; QP–DHA 3463, SP–§DHA 4465, DHA 2401, DHA 2463 or #; A-F only)
Evaluation of theories and concepts that allow an understanding of housing policies and housing choices of individuals, families, and households in developed and developing countries.

LAS 4479. Latin American Government and Politics. (4 cr; SP–§Pol 4479, Pol 1054 or Pol 3051 or non-pol sci grad student or #)
An overview of Latin American politics and political economy focusing on authoritarianism, human rights, and redemocratization; development and economic policy; social movements; ethnicity and religion; revolution. U.S.-Latin American relations.

Linguistics (Ling)

Institute of Linguistics and Asian and Slavic Languages and Literatures

College of Liberal Arts

Ling 1701. Language and Society. (3 cr)
Role of language in human social interaction; linguistic indicators of social status and attitudes; language and sex roles; linguistic ecology; language planning for multilingual communities; implications for education and public policy.

Ling 3001. Introduction to Linguistics. (4 cr; QP–3051, §5001; SP–3001, §5001)
Phonetics, phonology, morphology, syntax, semantics, and historical-comparative linguistics; language learning and psychology of language; linguistic universals; language in society.

Ling 3011. Honors Introduction to Linguistics. (4 cr; QP–3051, §5001; §3001, §5001; linguistics honors candidate or #; SP–3001, §5001; linguistics honors candidate or #)
Phonetics, phonology, morphology, syntax, semantics, and historical-comparative linguistics; language learning and psychology of language; linguistic universals; language in society.

Ling 3051. Honors: Thesis. (3 cr; QP–Ling honors candidate, #; SP–Ling honors candidate, #)
Supervised planning and research for honors thesis to be completed in 3052.

Ling 3052. Honors: Thesis. (3 cr; QP–3051H; SP–3051)
Supervised research, writing, and revision for honors thesis begun in 3051.

Ling 3101. Languages of the World. (3 cr; QP–3001 or 3001H or #; SP–3001 or 3011 or #)
Survey of language families of the world; classifying languages genetically and typologically; historical relationships among languages.

Ling 3301. Introduction to Phonetics. (4 cr; QP–§5301; 3001 or 3001H or §5001 or #3001 or #3001 or §5001 or #3001 or §5001 or #; SP–#5301, 3001 or 3011 or #3001 or #3001 or §5001 or #)

Ling 3601. Introduction to Historical Linguistics. (3 cr; QP–§5601; 3001 or #; SP–§5601, 3001 or #)
Historical change in phonology, syntax, semantics, and the lexicon; linguistic reconstruction; genetic relationship among languages.

Ling 3707. Ethnic Bilingualism in the United States. (3 cr; QP–Some knowledge of linguistics and a 2nd language helpful; SP–Some knowledge of linguistics and a 2nd language helpful)
Social, behavioral, and cognitive aspects of bilingualism; the linguistic experience of American immigrants and ethnic minority groups, especially Asian Americans; attitudes and public policies with regard to linguistic minorities; field experience in bilingual communities.

Ling 4002. Linguistic Analysis. (3 cr; QP–§5201, §5302; 3001 or #3001 or §5001 or #3001 or #3001 or #3001 or #; SP–#5201, §5302, 3001 or #5001 or #)
Techniques for analyzing phonological, morphological, and syntactic data from a variety of languages; discovering, stating, and justifying generalizations; comparison of diverse languages.

Ling 4901. Senior Project. (1 cr; QP–Ling major, #; SP–Ling major, #; S-N only)
Revision and/or expansion of a paper completed for a linguistics course.

Ling 5001. Introduction to Applied Linguistics. (4 cr; QP–§3001, §3001H; grad student or #; SP–3001, §3011, grad student or #)
Phonetics, phonology, morphology, syntax, semantics, and historical-comparative linguistics; language learning and psychology of language; linguistic universals; language in society.

Ling 5005. Introduction to Applied Linguistics. (3 cr; QP–3001 or 3001H or #3001 or #3001 or #; SP–3001 or #3001 or #)
Relationships between linguistics and neighboring disciplines; applications to practical fields such as lexicography, orthography, translation and interpreting, language planning, reading, language teaching, bilingual education, education of the deaf and correction of language disorders; computer applications; forensic applications. Topics may vary with each offering.
Ling 5101. Language Types and Linguistic Universals. (3 cr; QP–3001 or 3001H or 3001H or SP–3001 or 3011 or 5001 or #) Comparison of languages and language types; cross-linguistic similarities and universals of language, and their explanation.

Ling 5105. Field Methods in Linguistics I. (4 cr; QP–5201, 5302 or #) SP–5201, 5302 or #) Techniques for obtaining and analyzing linguistic data from unfamiliar languages through direct interaction with a native speaker.

Ling 5106. Field Methods in Linguistics II. (4 cr; SP–5105) Techniques for obtaining and analyzing linguistic data from unfamiliar languages through direct interaction with a native speaker.

Ling 5201. Introduction to Syntax. (3 cr; QP–3001 or 3001H or 3001H or SP–3001 or 3011 or 5001 or #) Examination of syntactic phenomena and constructions in a variety of languages; principles of grammar construction and evaluation; syntactic theories as instruments of grammatical analysis.

Ling 5202. Syntactic Theory. (3 cr; QP–5201, 5202 or #) A thorough foundation in modern syntactic theory through the investigation of a number of syntactic phenomena in English. Emphasizes syntactic argumentation and the development of constraints on grammar formalisms.

Ling 5205. Semantics. (3 cr; SP–5202 or #) Analysis of sentence meaning with attention to semantic properties and relations such as analyticity, entailment, quantification, and genericity. Philosophical background; formal techniques of semantic analysis; how sentence meaning depends on word meaning, syntax, and context. The role of semantics in grammatical theory.

Ling 5206. Linguistic Pragmatics. (3 cr; SP–5201, 5205 or #) The analysis of linguistic phenomena in relation to beliefs and intentions of language users, speech act theory, conversational implicature, presupposition, information structure, relevance theory, discourse coherence.

Ling 5301. Introduction to Phonetics. (4 cr; QP–5301; 3001H or 3001H or #) SP–5301; 3001H or 5001H or 5001 or #) Phonetic analysis and transcription of speech. Exploration of articulatory and acoustic correlates of speech sounds. Extensive practice transcribing. Emphasis on description of human speech. One section focuses on universal phonetics, another provides emphasis on English.

Ling 5302. Introduction to Phonology. (3 cr; QP–5301; SP–5301) Concepts and types of information needed for describing patterns in the sounds of words; for all speakers of all human languages, including current theoretical frameworks. Extensive practice identifying and analyzing phonological patterns in the words of a language.

Ling 5303. Phonological Theory. (3 cr; QP–5302 or # SP–5302 or #) Further exploration of the phonology of human languages. The course will prepare students to read papers in the literature and to do informed research in phonology.

Ling 5461. Conversation Analysis. (3 cr; QP–3001 or 3001H or 3001H or SP–3001; 5001; 3001 or 5001 or #) Discourse processes. Application of concepts through conversation analysis.

Ling 5462. Field Research in Spoken Language. (3 cr; QP–5751 or #) SP–5461 or # SP–5462; 5461 or # SP–5461 or #) Transcribing and analyzing talk and movement related to talk. Applying concepts to recorded conversations.

Ling 5501. Introduction to Language Acquisition. (3 cr; QP–3001 or 3001H or 5001 or #) SP–3001 or 3011 or 5001 or #) Overview of first and second language acquisition. Does not fulfill degree requirements for majors in linguistics or the MA in ESL.

Ling 5505. Introduction to Second Language Acquisition. (3 cr; QP–3001 or 3011H or 5001; a course on phonological and grammatical structure of a language; SP–3001 or 3011 or 5001, a course on phonological and grammatical structure of a language) Introduction to research on the language and learning processes of second language learners; the linguistic structure of their interlanguage or the cognitive and social factors which influence their acquisition of a new language.

Ling 5601. Introduction to Historical Linguistics. (3 cr; QP–5301; 3001H or 5001 or #) SP–5301; 3001 or 3011 or 5001) Historical change in phonology, syntax, semantics and the lexicon; linguistic reconstruction; genetic relationship among languages.

Ling 5701. Sociolinguistics. (3 cr; QP–3001 or 3001H or 5001 or #) SP–3001 or 3011 or 5001 or #) Social determinants of linguistic diversity, variation, and change. Topics may include social and regional dialects, language style and register, style-shifting and code-switching, the quantitative study of speech, linguistic and social inequality.

Ling 5721. Bilingualism. (3 cr; QP–3001 or 3001H or 5001 or #) SP–3001 or 3011 or 5001 or #) Sociolinguistic theory and methods in the study of bilingualism; language ecology in multilingual societies; language behavior in the bilingual individual; language in ethnic conflict; implications for public policy and planning.

Ling 5801. Introduction to Computational Linguistics. (3 cr; QP–3001 or 3001H or 5001 or #) SP–3001 or 3011 or 5001 or #) Programming experience helpful. Methods and issues in computer understanding of natural language. Programming languages and their linguistic applications. Lab projects.

Ling 5802. Computational Linguistics. (3 cr; QP–5401 or #) SP–5401 or 5801 or #) Computer processing of natural language. Applications to such areas as speech recognition and information retrieval.

Ling 5900. Topics in Linguistics. (3 cr; SP–#) Topics vary at each offering; see Class Schedule for specific topics.

Ling 5913. Fundamentals of Contemporary English. (3 cr; QP–5301 or 3001H or 5001 or SP–5301 or 3011 or 5001 or #) Word and sentence structure of contemporary English.

Ling 5922. Descriptive Studies of Modern English. (3 cr; QP–3001 or 3001H or 5001 or #) SP–3001 or 3011 or 5001 or #) Studies of selected aspects of the morphology, syntax, and/or semantics/pragmatics of modern English with emphasis on analysis of written or recorded texts.

Ling 5973. Directed Study. (1-3 cr; SP–#) Directed study for linguistics.

Management (Mgmt)

Department of Strategic Management
Curtis L. Carlson School of Management

Mgmt 2350. Introduction to Business and Business Careers. (4 cr; QP–45 cr) CSOM student; SP–30 cr CSOM student; A-F only) A contemporary introduction to issues related to the purpose of business; the impact of changing technologies and demographics; critical skills for successful business careers; researching contemporary business enterprises; exploring career options and resources.

Mgmt 3001. Fundamentals of Management. (2 cr; QP–5001, SP–5001; A-F only) Introduction to organizational analysis and behavior, the structure and functioning of complex organizations, leadership and management for establishing goals, policies, procedures, and plans; topics covered include motivation, culture, organizational design, group dynamics, performance appraisal, and negotiation.

Mgmt 4002. Managerial Psychology. (4 cr; A-F only) Behavioral principles, methods, and skills that underlie and compose dimensions of managerial competence and contribute to managers’ effectiveness in preventing and solving problems within and between individuals and groups; development of human resource skills management needs based partially on experiential exercises.

Mgmt 4004. Business Policy: Strategy Formulation and Implementation. (4 cr; QP–135 cr) completion of business core courses; SP–90 cr completion of business core courses; A-F only) Integrative perspective on overall direction of the enterprise involving both choice of products and markets and selection of organization structures and management styles; case analysis involving the identification of key issues, evaluation of options, and making recommendations under conditions of uncertainty and incomplete information.

Mgmt 4008. Entrepreneurial Management. (4 cr; A-F only) Assessing the opportunities and managing the constraints in developing new business; structuring the venture, perceiving the critical issues, and obtaining the skills needed to succeed. Management, operations, marketing, financial, legal, and competitive issues. Business plan for start-ups, buyouts, franchises, and the family firm.

Mgmt 5004. Negotiations. (2 cr; A-F only) Art and science of securing agreements between two or more parties who are interdependent and who are seeking to maximize their own outcomes; understanding individual, group, and organizational behavior in the context of these competitive situations; theory and process of negotiation applied to broad spectrum of problems faced by managers and professionals.

Mgmt 5050. Management of Innovation and Change. (2 cr; A-F only) Application of theories and research on how new organizational programs, products, and technologies are developed and implemented and what paths in these journeys lead to success and failure; diagnostic skills and useful principles in how innovation journey unfolds in wide variety of instances.

Mgmt 5101. Advanced Topics. (4 cr; A-F only) Specialized topics in management that vary and may include downsizing, ethics, trust, risk alliances, organizational identity, organizational change, industry definition, team pedagogy, organizational renewal, competitive advantage, hypercompetition, managing the knowledge worker, competence acquisition and preservation, and negotiation.

Mgmt 5175. Managing in Newly Emerging Global Markets. (2 cr) Understanding the institutional and cultural environments in major new emerging markets. Focus is on two or three countries from emerging markets (such as China, India, Eastern Europe, Mexico, Brazil and others), the problems and opportunities provided by these environments, and how to do business in these countries.

Marathi (Mar)

Institute of Linguistics and Asian and Slavic Languages and Literatures
College of Liberal Arts


Mar 1102. Beginning Marathi. (4 cr; SP–5312; 1101 or # Mgmt 1102) Emphasis on developing proficiency in all four language modalities—listening, reading, speaking, and writing.

For definitions of course numbers, symbols, and abbreviations, see inside back cover.
Marketing (Mktg)

Department of Marketing and Logistics Management
Curtis L. Carlson School of Management

Mktg 3001. Principles of Marketing. (4 cr; QP–Econ 1101 or equiv; SP–Econ 1101 or equiv; A-F only)
Introduction to terms, concepts, and skills useful in analyzing marketing problems. Covers factors outside the organization affecting its product, pricing, promotion, and distribution decisions. Utilizes cases from actual organizations and requires a written marketing plan, done individually or as a team.

Mktg 3010. Marketing Research. (4 cr; QP–3000; BA 1550 or equiv; SP–3001; BA 1550 or equiv; A-F only)
Methods for collecting and analyzing data to solve marketing problems. Topics include research design, secondary and primary data collection, sample design, and data analysis.

Mktg 4020. Advanced Logistics and Supply Chain Management. (2 cr; QP–3000; SP–3001; A-F only)
Analysis of the flow of physical product through channels of distribution and the linkages between the process of controlling such physical flows and the major functions of the firm, e.g., finance, marketing, and operations, with an emphasis on organizing the interactions between firms and developing an integrative supply chain management strategy.

Mktg 4030. Selling and Sales Management. (4 cr; QP–3000; SP–3001; A-F only)
Emphasis understanding the role of a sales manager to develop and implement a sales force plan that is an integral part of a company’s marketing strategy. Special attention on the impact of the sales manager’s decisions on the behavior of an individual salesperson.

Mktg 4040. Buyer Behavior. (4 cr; QP–3000; SP–3001; A-F only)
Application of the behavioral sciences to understanding buyer behavior. Topics include perception, memory, affect, learning, persuasion, motivation, behavioral decision theory, social and cultural influences, and managerial implications.

Mktg 4050. Integrated Marketing Communications. (4 cr; QP–3000; SP–3001; A-F only)
Management of the communication aspect of marketing strategy. Emphasis on advertising, sales promotion, public relations, and direct marketing. Topics include setting communications objectives and budgets, media selection, creative strategy, and sales promotion techniques.

Mktg 4060. Marketing and Distribution Channels. (4 cr; QP–3000; SP–3001; A-F only)
Design and management of channels of distribution in both consumer and industrial settings. Analysis of the interrelationships between marketing institutions in channels of distribution. Includes discussion and analysis of logistics and supply chain strategies.

Mktg 4070. International Marketing. (2 cr; QP–3000; SP–3001; A-F only)
Managing international marketing functions. Identifying marketing-based international business opportunities; understanding cultural factors in buyer behavior; constructing and evaluating global and culturally adjusted marketing strategies.

Mktg 4080. Marketing Strategy. (4 cr; QP–3000; SP–3001; A-F only)
Determination of product markets where organizations should compete based on their ability to create and maintain a competitive advantage. Emphasis on analyzing the external environment of business and the formation of a marketing strategy.

Mktg 4090. Marketing Topics. (2 cr; QP–3000; SP–3001; A-F only)
Selected topics and problems of current interest considered in depth. Class discussion and course projects.

Materials Science (MatS)

Department of Chemical Engineering and Materials Science
Institute of Technology

MatS 2001. Introduction to the Science of Engineering Materials. (3-4 cr; QP–Second yr IT; no cr for MatS majors; SP–Second yr IT; no cr for MatS majors)
Introduction to structure-property relationships of engineering materials. Atomic structure and bonding; crystal structures; imperfections in solids; strength of materials and strengthening mechanisms; phase transformations; heat treatment and control of microstructures; materials selection and design. Integrates properties of metals, ceramics, polymers, and composites. Laboratory experiments deal with material strength, creep, and fatigue of engineering alloys, and heat treatment of steel and aluminum.

MatS 2601. Introduction to Materials Science (Honors). (3 cr; QP–IT lower div honors program; SP–IT lower div honors program)
Physical principles which govern materials properties at the microscopic scale. Starting from the atomic structure and interatomic bonding, it moves to more complex, physical properties: mechanical, electrical, optical, and thermodynamical properties.

MatS 3011. Introduction to the Science of Materials. (3 cr; QP–Phys 1253, Math 3252, Math 3261 or # upper div IT or grad student; SP–Phys 1302 or # upper div IT or grad student, Math 2243, Math 2263)
Builds progressively from electrons to atoms to bonding to crystal structures. Defects, X-ray diffraction, phase diagrams, and microstructure as a basis for understanding mechanical properties and electrical properties; specific materials covered include metals, polymers, ceramics, semiconductors and composites.

MatS 3012. Introduction to Mechanical Behavior of Materials. (4 cr; QP–MatS 3400, 5011; SP–Completion of MatS 3011 with C or better)
Structure of crystalline materials, defects (including point defects, dislocations, and grain boundaries), the role of crystallography and defects in determining mechanical properties. Characterization of crystal structure and defects (using X-ray diffraction and TEM), behavior of defects during mechanical testing.

MatS 4001. Introduction to Thermodynamics of Materials. (3 cr; QP–Chem 5534, Math 2261; SP–Upper div IT, Math 2243, Math 2263)
Fundamental thermodynamic concepts, 1st, 2nd and 3rd Laws, behavior of gases, liquids and solids, phase diagrams, reaction equilibria involving gases and condensed phases, use of computer-based thermodynamic program(s), electrochemistry.

MatS 4002. Mass Transport and Kinetics. (3 cr; QP–5011, upper div IT or grad student; SP–Upper div IT, Math 2243, Math 2263)

MatS 4013. Introduction to Electrical and Magnetic Properties of Materials. (3 cr; QP–3011, upper div IT or grad student; SP–Grade of C or better in 3011 or # upper div IT or grad student)

MatS 4212. Introduction to Ceramic Materials. (3 cr; QP–5011, 5101, 5102; SP–Grade of C or better in 3011)
Structure of ceramics: crystal structures, non-crystalline (glass) structures, microstructure. Ceramic phase relationships: binary phase diagrams. Ceramic properties: thermal, mechanical, electrical, magnetic, optical. Computer applications will be included.

MatS 4214. Polymer Physical Properties. (3 cr; QP–5011, 3400; SP–Grad student or better in 3011 or #)
Polymer structure-property relations: structure and morphology of the crystalline and amorphous state. Crystalization kinetics, vitrification and the glass transition, mechanical properties, failure, permeability, optical and electrical properties, polymer composites, effect of processing on properties.

MatS 4221. Materials Design and Performance. (4 cr; QP–5012; SP–3012 or #)
Thermal and mechanical processing to control properties, selection of materials for electronic applications and other applications, analysis of costs/ performance, analysis of failure in metallurgical structures by use of fracture mechanics methodology. Laboratory experiments involve creep, fracture, fatigue, optical and SEM metallography, surface science analysis, and statistics.

MatS 4301. Materials Processing. (4 cr; QP–5112, 5610 or 5630; SP–4212, 4214)
Casting, solidification and plastic forming of metals; powder processing, forming operations, sintering of ceramics; and processing of thermoplastic and thermostet polymers. Computer applications of data collection and reduction. Additional laboratory projects available to graduate students.

MatS 4400. Senior Design Project. (3 cr; QP–Sr mat sci major; SP–Sr mat sci major)
Integration of coursework and lab experiences by applying scientific and engineering principles to comprehensive design project. Individual or team work on a project with faculty guidance. Areas of project selection typically include electronic materials, polymers, metals or ceramics. Written report and oral presentation required.

MatS 4511. Corrosion and Electrochemistry of Corrosion. (4 cr; QP–5011, 5101, upper div IT or grad student; SP–3011 or # upper div IT or grad student)
Electrochemical thermodynamics, electrochemical kinetics, theory of aqueous corrosion, theory of high temperature oxidation; specific topics include general corrosion, passivation, pitting, galvanic protection/corrosion, environmental degradation of mechanical properties, corrosion of electronic components, growth of oxide scales by diffusion, selective etching and design. Computers used to collect lab data.
**Math 1131. Finite Mathematics. (3 cr; SP–3 1/2 yrs high school math or minimum grade of C– in GC 1031 or 1111; SP– 3 1/2 yrs high school math or minimum grade of C– in 1031 or 1111) For students in prebusiness and social and behavioral sciences. Financial mathematics, probability, linear algebra, linear programming, Markov chains, some elementary computer programming.**

**Math 1142. Short Calculus. (3 cr; SP–§1211, §1251, §1351, §1551; 3 1/2 yrs high school math or minimum grade of C– in 1031; SP–§1271, §1371, §1571; 3 1/2 yrs high school math or minimum grade of C– in 1031) For students requiring a minimal amount of calculus. Derivatives, integrals, differential equations, maxima and minima, partial differentiation, applications.**

**Math 1151. Precalculus II. (3 cr; SP–§1008, §1111, §1201; 3 1/2 yrs high school math, placement exam or minimum grade of C– in 1051; SP–3 1/2 yrs high school math, placement exam or minimum grade of C– in 1011) Algebra, analytic geometry, and trigonometry beyond the usual coverage found in a three-year high school mathematics program.**

**Math 1257. Bridging Course: One Variable Calculus. (1.33 cr; SP–1251) This is a special course, offered only in fall 1999, for students who have completed Math 1251 and intend to take Math 1272.**

**Math 1261. Transition Calculus III. (2.67 cr; SP–1252) This is a special transition course, offered only in fall 1999, for students who have completed Math 1252 and need to finish the quarter-based freshman math sequence.**

**Math 1271. Calculus I. (4 cr; SP–§1142, §1211, §1251, §1551; 4 yrs high school math including trig, placement test or minimum grade of C– in 1131; SP–§1142, §1371, §1571; 4 yrs high school math including trig, placement test or minimum grade of C– in 1151 or 1155) First of a two-course sequence (1271–1272). Differential and integral calculus of one variable, including elementary differential equations and Taylor Polynomials (but not infinite series); vector geometry and analysis of two and three dimensions, including parametrized curves; polynomial derivatives; some numerical approximation.**

**Math 1272. Calculus II. (4 cr; SP–§1261, §1353, §1552; 1252 or equiv with minimum grade of C– in §1372, §1572 or equiv with minimum grade of C–) Second of a two-course sequence (1271–1272). Differential and integral calculus of one variable, including elementary differential equations and Taylor Polynomials (but not infinite series); vector geometry and analysis of three dimensions, including parametrized curves; partial derivatives; some numerical approximation.**

**Math 1371. Calculus: Concepts, Explorations, and Applications I. (4 cr; SP–§1251, §1551; background in precalculus and geometry and visualization of functions and graphs, familiarity with graphing calculators recommended, minimum grade of C– required to continue; SP–§1271, §1571; background in precalculus and geometry and visualization of functions and graphs, familiarity with graphing calculators recommended, minimum grade of C– required to continue) First-year, single-variable calculus with graphic, numeric, and analytical emphasis. Topics: polar coordinates and curves; infinite, power, Maclaurin, and Taylor series; parametric and vector-valued functions: arc length and curvature; first order differential equations, basic linear algebra.**

**Math 1471. Calculus I for Secondary Students. (4 cr; SP–§1271, §1371; consent of IT honors office, minimum grade of C– to continue; SP–§1271, §1371; consent of IT honors office, minimum grade of C– to continue) Emphasis on problem solving rather than theory. Differential and integral calculus with an introduction to linear algebra.**

**Math 1572. Honors Calculus II. (5 cr; SP–§1271, §1371; consent of IT honors office, minimum grade of C– to continue; SP–§1271, §1371; consent of IT honors office, minimum grade of C– to continue) Emphasis on problem solving rather than theory. Differential and integral calculus with an introduction to linear algebra.**

**Math 2243. Linear Algebra and Differential Equations. (4 cr; SP–1272 or equiv; SP–1272 or equiv) Linear algebra, with emphasis on eigenvalues; differential equations, including linear differential equations with constant coefficients, solved using eigenvalues; Series solutions and numerical methods for linear and nonlinear differential equations and systems.**

**Math 2263. Multivariable Calculus. (4 cr; SP–1261 or equiv; SP–1273 or equiv) The derivative as a linear map and the determinant as a measure of area change; differential and integral calculus of functions of several variables, including change of coordinates using Jacobians; line and surface integrals; Gauss, Green, Stokes Theorems; applications. Linear algebra developed as needed.**

**Math 2283. Sequences, Series, and Foundations. (3 cr; SP–1261 or equiv; SP–1272 or equiv) Elements of logic; mathematical induction; the real number system; general, monotone, and recursively defined sequences; convergence of infinite series and sequences; Taylor’s series; power series with applications to differential equations; Newton’s method.**

**Math 2373. Calculus: Concepts, Explorations, and Applications III. (4 cr; SP–§1353 or background in one-variable calculus and geometry and visualization of functions and graphs, minimum grade of C– to continue, familiarity with graphing calculators recommended, minimum grade of C– required to continue; SP–§1243, §2573; 1372 or background in one-variable calculus and geometry and visualization of functions and graphs, minimum grade of C– to continue, familiarity with graphing calculator recommended, minimum grade of C– required to continue) Multivariable calculus and an introduction to numerical analysis using a geometric, technological, and applied emphasis. Topics: functions, parameterization of curves/surfaces, vector analysis, differentiation, differential equations, linear systems, and linear algebra.**


Math 2573. Honors Calculus III. (5 cr; SP–1572, some of this part of the sequence may be taken for cr by students who have taken non-honors calc classes, approval of IT Honors office required) Honors-level treatment of calculus. Topics: more on vector analysis; linear algebra and differential equations.

Math 3113. Topics in Elementary Mathematics I. (4 cr; QP–Minimum grade of C–in 1031 or equiv; minimum grade of C–to continue; SP–Minimum grade of C–in 1031 or equiv; minimum grade of C–to continue) First in two-course sequence (3113-3118). Emphasis on arithmetic and geometric sequences, counting building on the counting techniques studied in college algebra. Graph theory using some of the counting techniques learned earlier in course, integers and rational numbers with an emphasis on aspects related to prime factorization, modular arithmetic with application.


Math 3252. Transition Multivariable Integral Calculus. (2.67 cr; QP–3252) Special transition course, offered only in fall 1999, for students who have completed Math 3251 and need to finish the quarter-based sophomore math sequence.

Math 3552H. Transition Honors Analysis III. (2.67 cr; QP–3551H) Special transition course, offered only in fall 1999, for students who have completed Math 3551H and need to finish the quarter-based sophomore honors sequence.

Math 3574. Honors Mathematics IV. (4 cr; QP–△; SP–53563; 2573 or equiv; consent of IT Honors office) Differentiation of complex valued-functions of a complex variable; major theorems on analytic functions; power series, Laurent series, other topics in sequences and series.

Math 4065. Theory of Interest. (3 cr; QP–1252 or equiv; SP–1252 or equiv) Time value of money. Annuities, sinking funds, bonds, and similar items. Primarily for mathematicians and business majors interested in actuarial science.

Math 4151. Elementary Set Theory. (3 cr; QP–One soph math course or #; SP–One soph math course or #) Basic properties of operations on sets, cardinal numbers, simply and well-ordered sets, ordinal numbers, axiom of choice, axiomatics.

Math 4152. Elementary Mathematical Logic. (3 cr; QP–53562; one soph math course or #; SP–51565; one soph math course or #) Propositional logic. Predicate logic: the notion of a first order language, a deductive system for first order logic, first order structures, Godel’s completeness theorem, axiom systems, and models of formal theories.


Math 4337. Computational Methods in Elementary Geometry. (1-3 cr; QP–3251 or equiv or SP–2263 or equiv or #) For preservice and in-service high school math teachers, as well as undergrad math majors planning a career in secondary education. Modern technological aids for teaching high school geometry.


Math 4457. Methods of Applied Mathematics I. (4 cr; QP–3251, 3261 or equiv; SP–2243, 2263 or equiv) First in two-course sequence. Modern analytic tools used in applications of mathematics; emphasis on technique. Linear algebra, ordinary and partial differential equations, calculus of variations. Fourier series, complex variables, optimization.


Math 4512. Differential Equations with Applications. (3 cr; QP–3261 or equiv; SP–2243 or equiv) Laplace transforms, series solutions, systems, numerical methods, plane autonomous systems, stability.


Math 4991. Independent Study. (1-4 cr [max 12 cr]; QP–#; SP–5285) May be used for CLA senior project.

Math 5067. Actuarial Mathematics I. (4 cr; QP–5056; one qtr 5xxx probability or statistics course; SP–4065, one sem 4xxx probability or statistics course) First in two-course sequence. Survival function; actuarial notation; actuarial present value for life insurance and life annuities; equivalence principle; net premiums and reserves; multiple life functions and decrement models; valuation of pensions; expense modeling; modified reserves; other topics at instructor’s discretion.

Math 5068. Actuarial Mathematics II. (4 cr; QP–△; SP–5067) Second in two-course sequence. Survival function: actuarial notation; actuarial present value for life insurance and life annuities; equivalence principle; net premiums and reserves; multiple life functions and decrement models; valuation of pensions; expense modeling; modified reserves; other topics at instructor’s discretion.

Math 5165. Mathematical Logic I. (4 cr; QP–Some familiarity with proofs, [3262 or Phil 5201 or CSci course in theory of algorithms; SP–Some familiarity with proofs, [2283 or Phil 5201 or CSci course in theory of algorithms]) First in two-course sequence. Theory of computability: notion of algorithm, Turing machines, primitive recursive functions, recursive functions. Kleene normal form, recursion theorem. Propositional logic.


Math 5335. Geometry I. (4 cr; QP–3251 or 3261; SP–2243 or 2263B) First in two-course sequence. Advanced Euclidean geometry; axiomatic and analytic hyperbolic geometry; projective geometry; symmetry and geometric transformations and their connection to linear algebra, group theory, and complex arithmetic; finite geometries; convex geometric figures.

Math 5336. Geometry II. (4 cr; SP–3353) Second in two-course sequence. Advanced Euclidean geometry; axiomatic and analytic hyperbolic geometry; projective geometry; symmetry and geometric transformations and their connection to linear algebra, group theory, and complex arithmetic; finite geometries; convex geometric figures.
Math 5345. Introduction to Topology. (4 cr; QP—Soph sequence or SP–2263, 2283)
Set theory, metric and topological spaces; basic concepts of general topology, including compactness and connectedness.

Math 5378. Differential Geometry. (4 cr; QP—3252, 3262 or equiv; SP–2263, 2283)
Basic geometry of curves in the plane and in space, including Frenet formulas for surfaces; differential forms and Riemannian geometry.

Math 5385. Introduction to Computational Algebraic Geometry. (4 cr; QP—3251 or equiv; SP–2263 or equiv)
Geometry of curves and surfaces defined by polynomial equations. Emphasis on concrete computations with polynomials on computer packages and on the interplay between algebra and geometry. Abstract algebra presented as needed; no algebra prerequisite.

Math 5467. Introduction to the Mathematics of Waves. (3 cr; QP—3261 or SP–2243 or equiv)

Math 5481. Mathematics of Industrial Problems I. (4 cr; QP—Two yrs calc, familiarity with some programming language, SP–2243, 2263, familiarity with some programming language, #)
Industrial problems such as crystal precipitation, air quality modeling, color film developing, electron beam lithography. Theoretical foundations and computational methods involving ordinary and partial differential equations, calculus of variations, and numerical analysis.

Math 5482. Mathematics of Industrial Problems II. (4 cr; QP—Two yrs calc, familiarity with some programming language, SP–2243, 2263, familiarity with some programming language, #)
Industrial problems such as crystal precipitation, air quality modeling, color film developing, electron beam lithography. Theoretical foundations and computational methods involving ordinary and partial differential equations, calculus of variations, and numerical analysis.

Math 5485. Introduction to Numerical Methods I. (4 cr; QP—3261 or equiv; SP–2263, 2283, familiarity with some programming language, #)

Math 5486. Introduction to Numerical Methods II. (4 cr; SP—SP–2283)
Second in two-course sequence. Solution of linear and nonlinear systems of equations. Interpolation and approximation by polynomials. Methods for eigenvalue problems such as crystal precipitation, air quality modeling, color film developing, electron beam lithography. Theoretical foundations and computational methods involving ordinary and partial differential equations, calculus of variations, and numerical analysis.

Math 5487. Computational Methods for Differential and Integral Equations in Engineering and Science I. (4 cr; QP—SP–2243; SP–2263 or equiv)

Math 5488. Computational Methods for Differential and Integral Equations in Engineering and Science II. (4 cr; QP—SP–3485)

Math 5525. Introduction to Ordinary Differential Equations. (4 cr; QP—3261, 3262, SP–2243, 2283)
Ordinary differential equations: solution of linear systems, qualitative and numerical methods for nonlinear systems. Linear algebra background, fundamental matrix solutions, variation of parameters, existence and uniqueness theorems, phase plane, rest points and their stability, periodic orbits, Poincare–Bendixon theory and strange attractors.

Math 5535. Dynamical Systems and Chaos. (4 cr; QP—3252, 3261, SP–2243, 2263)
Dynamical systems theory emphasizing iteration of one-dimensional mappings. Fixed points, periodic points, stability, bifurcations, symbolic dynamics, chaos, fractals, Julia and Mandelbrot sets.

Math 5583. Complex Analysis. (4 cr; QP—5553, 3252 or SP–3574; 2263 or equiv)


Math 5615. Honors: Introduction to Analysis I. (4 cr; QP—3252, 3262 or equiv; SP–2243, 2263, 2283)

Math 5616. Honors: Introduction to Analysis II. (4 cr; QP—SP–5613)

Same as Stat 5101. Logical development of probability and some basic issues in statistics. Probability spaces, random variables and their distributions and expected values, law of large numbers and central limit theorem, generating functions, sampling, sufficiency, and estimation.

Math 5652. Introduction to Stochastic Processes. (4 cr; QP—SP–2243, 5683 or Stat 5101)
Random walks, Markov chains, branching processes, martingales, queuing theory, Brownian motion.

Math 5654. Prediction and Filtering. (4 cr; QP—SP–2243, 5683 or Stat 5101)

Math 5705. Combinatorics A. (4 cr; QP—One soph math course, some linear algebra recommended; SP–2243 or 2263)
Basic enumeration, inclusion-exclusion, recurrence relations, generating functions (ordinary and exponential), elementary asymptotics, partitions, trees, listing algorithms, algorithmic matchings, bijections and involutions, Polya theory. Optional topics include extremal set theory, symmetric functions, and partially ordered sets.

Math 5707. Combinatorics B. (4 cr; QP—One soph math course, some linear algebra recommended; SP–2243 or 2283)
Combinatorics A is not a prerequisite. Elementary graph theory, including related algorithms, flows and networks, matching theory, and combinatorial optimization. Optional topics include designs, Latin squares, permanents, linear programming, Ramsey theory, coding theory and finite fields, and matroids.

Math 5711. Linear Programming and Combinatorial Optimization. (4 cr; QP—Linear algebra; SP–2243 or equiv)
Simplex method; connections to geometry; duality theory; sensitivity analysis; applications to cutting stock, allocation of resources, and scheduling problems; flows, matching transportation problems; spanning trees, distance in graphs; integer programs; branch and bound; cutting planes; heuristics; applications to travel salesman and knapsack problems.

For definitions of course numbers, symbols, and abbreviations, see inside back cover.
ME 3322. Heat Transfer and Fluid Flow. (4 cr; QP–IT upper div or wood and paper sci or grad student; SP–ME upper div regis in ME co-op program; A-F only)

ME 3324. Introduction to Thermal Science. (4 cr; QP–IT upper div or wood and paper sci or grad student; SP–IT student, Chem 2011, Math 2243, Phys 1301; A-F only)

ME 4042. Industrial Assignment II. (2 cr; QP–ME undergrad regis in ME co-op; SP–ME upper div, regis in ME Co-op program; A-F only)
Industrial work assignment in engineering intern program. Evaluation based on student’s formal written report covering the quarter’s work assignment.

ME 4043. Industrial Assignment III. (4 cr; QP–IT; SP–4042; A-F only)
Selection of suitable topics according to individual interests and faculty approval. Thesis and oral defense.

ME 4054. Design Projects. (4 cr; QP–ME upper div, ME 3201, ME 3203, ME 3205, ME 3303, ME 3342; or SP–2011, 3031, 3221, 3231, 3322, AEM 2021, AEM 3031; F-A only)
Students work in teams and undertake a single, substantial design project. Design problems are opened-ended. Lecture covers good product design processes. Teams give formal presentation of progress at midterm, design review and show completed work at the design show.

ME 4055. Extended Design Project. (4 cr; QP–ME upper div, 5254; SP–4054; A-F only)
Continuation of ME 4054 for students wishing to undertake a more substantial design project for an entire year. Permission granted when student takes ME 4054 and commits to undertake a two-semester design project. Meets with 4054.

ME 4081. Mechanical Engineering Honors Thesis I. (2 cr; QP–Upper div ME honors student; SP–Upper div ME honors student, A-F only)
Unstructured research course enabling honors students to do independent research supervised by faculty. Selection of suitable topics according to individual interests and faculty approval. Thesis and oral defense.

ME 4082. Mechanical Engineering Honors Thesis II. (2 cr; QP–Upper div ME honors student; SP–Upper div ME honors student, A-F only)
Unstructured research course enabling honors students to do independent research supervised by faculty. Selection of suitable topics according to individual interests and faculty approval. Thesis and oral defense.

ME 4131. Thermal Environmental Engineering Laboratory. (4 cr; QP–ME upper div, 3701, 3702, 3603 or 5603; SP–ME upper div or grad student, 3222 or 3323; A-F only)
Experiments in psychrometrics, refrigeration, air conditioning, solar energy, indoor air quality, and other topics related to refrigeration, building heating and cooling, and indoor air quality.

ME 4231. Motion Control Laboratory. (4 cr; QP–ME upper div, ME 3201, ME 3701, 3702; SP–ME upper div, 3031, 5281; A-F only)
Microprocessor programming, digital filters, frequency response theory, modeling of electromechanical systems, closed loop velocity and position control, programmable logic controllers, factory automation, open loop position control of a vibratory system using input shaping, closed loop position control using pole placement.

ME 4331. Thermal Engineering Laboratory. (4 cr; QP–ME upper div, 3303, 3701, 3702, AEM 3020, or CE 3400; SP–IT upper div or grad student, 3031, 3321, 3322; A-F only)
Measurement and analysis of heat transfer in single phase, multiphase, and reacting environments. Emphasis on experiments which are relevant to thermal/fluid systems as well as the statistical design of experiments and uncertainty analysis. Heat exchange.

ME 4431. Energy Conversion Systems Laboratory. (4 cr; QP–ME upper div, 3303, 3701, 3702, AEM 3200 or CE 3200; SP–Upper div ME or grad student; C grade or better in 3301, 3321, 3322 or 3324 with a C grade or A grade)
Senior lab in which material from courses is applied to analyze the operation and control of engines, power plants, heating and ventilation systems. Emphasis on principles underlying performance characteristics of devices, measurement techniques, interpretation of experimental data, and presentation of results.

ME 5080. Topics in Mechanical Engineering. (4 cr; QP–IT upper div or grad student; SP–Upper div IT or grad student, submission of permission form; A-F only)
Topics vary each semester.

ME 5090. Advanced Engineering Problems. (4 cr; QP–Subject to approval of department form; SP–ME upper div, #)
Special assignments in various fields of mechanical engineering and related areas including an independent study project.

ME 5101. Vapor Cycle Systems. (4 cr; QP–IT or IT grad student; ME 3303; SP–IT upper div or grad student; A-F only)
Vapor compression and absorption refrigeration systems; heat pumps, vapor power cycle analysis, regeneration, reheat, component cycle modifications, combines gas turbine—vapor cycle systems.

ME 5103. Thermal Environmental Engineering. (4 cr; QP–IT or grad student, 3303, 3342; SP–IT upper div or grad student, 3322 or 3323; A-F only)
Thermodynamic properties of moist air; psychrometric charts; HVAC systems; solar energy; human thermal comfort; indoor air quality; heating and cooling loads in buildings.

ME 5105. HVAC System Design. (4 cr; QP–IT upper div or grad student, ME 3303, 3342; SP–IT upper div or grad student, 3322 or 3323; A-F only)
Design procedures used for heat exchangers, cooling towers, hydronic systems, and air handling systems. HVAC system design for a commercial building.

ME 5113. Aerosol/Particle Engineering. (4 cr; QP–IT upper div or grad student, 3303; SP–IT upper div or grad student; A-F only)
Kinetic theory, definition, theory and measurement of particle properties, elementary particle mechanics, particle statistics; Brownian motion and diffusion, coagulation, evaporation and condensation, sampling and transport.

ME 5115. Air Quality and Air Pollution Control. (4 cr; QP–IT upper div or grad student; SP–IT upper div or grad student; A-F only)
Air pollution sources, atmospheric transport, transformations, fate, and emissions control. Air pollution control equipment,设计 optimization and computer graphical presentation of results.

ME 5123. Digital and Analog Control Laboratory. (4 cr; QP–IT or IT grad student; ME–3204 or grad student, EE 3250; SP–IT or IT grad student; A-F only)
Lab experiments illustrate and apply control theory to mechanical engineering systems. Emphasis on real-time control design and implementation, including dynamic modeling, controller design, analysis and simulation, hardware implementation, measurement techniques, sensor calibration, data acquisition, and processing.

ME 5241. Computer-Aided Engineering. (4 cr; QP–IT or IT grad student, 3201, 3203, 3205; SP–IT upper div or grad student, 3222, CSI 1133, Mat 5201; A-F only)
Introduction to computer-aided engineering to mechanical design. Design engineering projects and case studies using computer-aided design and finite element analysis software; design optimization and computer simulation.

ME 5243. Advanced Mechanism Design. (4 cr; QP–IT or IT grad student, 3203 or equiv; SP–Upper div IT or grad student, 3222 or equiv, basic kinematics and dynamics of machines knowledge of CAD packages such as Pro-E helpful; A-F only)
Analytical methods of kinematic, dynamic, and kinetoelastodynamic analysis and synthesis of mechanisms. Computerized design for function, path, and motion generation based on Burmester theory.

ME 5247. Stress Analysis, Sensing, and Transducers. (4 cr; QP–IT upper div or grad student, AEM 3016; SP–AEM 3011, Mat 5201; A-F only)
ME 5281. Analog and Digital Control. (4 cr; QP–IT or grad student, ME 5283; SP–5281) Continuous and discrete time feedback control systems. Frequency response, stability, poles and zeros; transient responses; Nyquist and Bode diagrams; root locus; lead-lag and PID compensators, Nichols-Ziegler design method. Digital implementation aliasing; computer-aided design and analysis of control system.

ME 5286. Robotics. (4 cr; QP–IT or grad student, ME 5283; SP–Upper div ME or AEM or CSci or grad student, 5281 or equiv; A-F only) Manipulator forward and inverse kinematics, homogeneous transformations and coordinate frames, the Jacobian and velocity control, task primitives and programming, computational issues; determining path trajectories; reaction forces; manipulator dynamics and control; vehicle kinematics, dynamics and guidance. Lab project demonstrates concepts.

ME 5288. Modeling and Simulation of Dynamic Systems. (4 cr; QP–IT or grad student, 5283 or equiv; SP–IT upper div and grad student, 5281; A-F only) Bond graphs as structured methodology for developing unified models of mechanical, electrical, magnetic, fluid, thermal, and hybrid systems. Causality and formulation of state-space equations. Analytical and numerical solution of equations of motion. Multipart fields, rigid body dynamics, and distributed parameter systems.

ME 5341. Case Studies in Thermal Engineering and Design. (4 cr; QP–IT or grad student, 5342; SP–IT upper div or grad student, 3321, 3322 or equiv; SP–Upper div or grad student, 3321, 3322 or equiv; SP–IT upper div or grad student, C or better in 3322 or 3324; A-F only) Basic spark ignition and diesel engine principles, air, fuel-air and actual engine cycles, cycle modeling, combustion and emissions, knock phenomena, flow and volumetric efficiency, mixture requirements, ignition requirements and performance. Lectures and complementary labs.

ME 5462. Gas Turbines. (4 cr; QP–IT or grad student, 3301 or equiv; SP–Upper div IT or grad student, 3321, 5322; A-F only) Gas turbine cycles, regeneration, recuperation, reheat, intercooling, combined cycle plants, and thermochemical regenerative cycle. Radial and radial flow compressors and turbines; combustor designs, energy analysis, emissions, and noise. Turbojet, fanjet, turboprop engine performance. Stationary power plants, vehicular propulsion, hybrid vehicles.

Medical Technology (MedT)

Department of Laboratory Medicine and Pathology

Medical School

MedT 1010. Orientation in Medical Technology. (1 cr; SP–Fr; S-N only) Orientation to the medical technology (clinical laboratory science) profession.

MedT 4010. Introduction to Clinical Laboratory Science. (1 cr; SP–Enrollment in MedT program; S-N only) Basic clinical lab techniques—centrifuges, analytical balances, photometry, microscopy, pipetting, calculations, and quality control. Blood collection, specimen handling, and safety.

MedT 4064. Introduction to Clinical Immunohematology. (2 cr; SP–#; A-F only) Principles of blood grouping, antibody identification, compatibility testing, serology, and immunology.

MedT 4065. Introduction to Clinical Immunohematology: Laboratory. (2 cr; SP–#; A-F only) Exercises illustrating basic techniques in blood grouping, antibody identification, compatibility testing, and detection of antibodies by serological and immunological methods.

MedT 4080. Seminar: Specialty Rotations. (1 cr; SP–#) Individual assignment to special projects or research in one of the clinical areas of chemistry, hematology, immunohematology, or microbiology.

MedT 4100. Virology, Mycology, and Parasitology for Medical Technologists. (2 cr; SP–One microbiology course with lab, one biochem course, A-F only) Basic aspects of lab diagnosis of viral, fungal, and parasitic infections.

MedT 4102. Principles of Diagnostic Microbiology. (4 cr; SP–One microbiology course with lab, one biochem course; A-F only) Current techniques used in lab diagnosis of infectious disease; isolating and identifying bacteria and yeasts; antimicrobial susceptibility testing.

MedT 4127. Introduction to Management and Education I. (1 cr; SP–#; A-F only) Basic concepts in management and education.

MedT 4128. Introduction to Management and Education II. (1 cr; SP–#; A-F only) Basic concepts in management and education.

MedT 4251. Hematology I: Basic Techniques. (3 cr; SP–Regis MedT or #; A-F only) Theory and application of basic principles and techniques in clinical hematology and hemostasis.

MedT 4252. Hematology II: Morphology and Correlation. (2 cr; SP–4251 or CLS 5251; A-F only) Fundamentals of examining blood and bone marrow, emphasizing the microscopic identification of immature and abnormal cells. Clinical correlation of lab findings in hematology and hemostasis.

MedT 4253. Hemostasis. (1 cr; SP–4251 or CLS 5251; A-F only) Theory and application of specific concepts and techniques in hemostasis and coagulation.

MedT 4263. Comparative Hemostasis. (1 cr; SP–#; A-F only) Theory and application of specific concepts and techniques in hemostasis and coagulation.

MedT 4310. Clinical Chemistry I: Lecture. (2 cr; SP–One organic chem course with lab, one biochem course, A-F only) Principles and theory of clinical chemistry to assess renal and metabolic disease/dysfunction, electrolyte balance, and acid-base balance. Introduction to principles and processes for quality management in the clinical lab.

MedT 4311. Clinical Chemistry I: Laboratory. (2 cr; SP–One organic chem course with lab, one biochem course, A-F only) Application of clinical chemistry principles and lab techniques in the analysis of urine, plasma, and body fluids. Emphasis on lab tests to evaluate renal function, electrolytes, and acid-base balance. Principles and processes for managing test quality.

MedT 4320. Clinical Chemistry II: Lecture. (2 cr; SP–One organic chem course with lab, one biochem course, 4310 or CLS 5310; A-F only) Principles and theory of clinical chemistry to assess metabolic disease/dysfunction involving hormones, enzymes, lipids/apolipoproteins, cardiac function, liver and digestive tracts. Emphasis on measurement methods and physiological significance.
MedT 4321. Clinical Chemistry II: Laboratory. (2 cr; SP-One organic chem course with lab, one biochem course, and one microbiology course) Application of clinical chemistry principles and lab techniques in the analysis of serum, plasma, and urine. Focus on tests to evaluate selected disorders. Development of lab skills and instrumentation use with emphasis on quality control and technique.

Medicinal Chemistry (MedC)

Department of Medicinal Chemistry
College of Pharmacy

MedC 5185. Principles of Biomolecular Simulation. (3 cr; QP-Chem 5521 or #; SP-Chem 3502 or #) Molecular simulation for students in medicinal chemistry, pharmacognosy, biochemistry, and chemical physics.


MedC 5202. Research and Development Process of Pharmaceutical Products. (2 cr; S-N only) New drug development process in the U.S. pharmaceutical industry.

MedC 5494. Advanced Methods in Quantitative Drug Analysis. (3 cr; QP—#; SP—MedC grad student) Quantitative methods (HPLC, GC, TLC, and immunoassays) for analysis of drugs and metabolites in biological fluids. Advanced techniques such as capillary electrophoresis, supercritical fluid chromatography, GC-MS, LC-MS, and tandem mass spectrometry. Chromatographic theory and statistical approaches to method validation.

MedC 5495. Vistas in Medicinal Chemistry Research. (1 cr; S-N only) Selected topics of current interest in medicinal chemistry.

MedC 5600. General Principles of Medicinal Chemistry. (3 cr; QP—Phc 1009, Bioi 5001; SP—MedC grad student or #; A-F only) Fundamental principles of drug receptors as therapeutic targets, drug-receptor interactions, enzyme inhibitors, drug metabolism and disposition.

Microbial Engineering (MicE)

Graduate School

MicE 5309. Biocatalysis and Biodegradation. (3 cr; SP-Chem through organic chem, microbial or advanced chem, knowledge of word processing, e-mail, WWW access; access to college-level sci library recommended) Assessing validity of information on biocatalysis and biodegradation; fundamentals of microbial catalytic metabolism as it pertains to biodegradation of environmental pollutants; biocatalysis for specialty chemical synthesis; display of this information on the World Wide Web.

Microbiology (MicB)

Department of Microbiology

Medical School

MicB 2022. General Microbiology. (2 cr; QP—#; Biol 5013, §MicB 5105, §VPB 3101; SP—#; A-F only) Soph with C avg in courses prerequisite to major sequence or # with 10 cr chemistry, 5 cr biological sciences or # not for biology majors; SP—§Biol 2032; §Biol 3301, §MicB 1009, §Chem 2022) Intended primarily for non-microbiology majors. Fundamental principals of microbiology; bacterial metabolism, growth and genetics; biology of viruses and fungi; control of microorganisms; host-microbe interactions; microorganisms and disease; applied microbiology.

MicB 2302. General Microbiology with Laboratory. (4 cr; QP—#; Biol 5013, §MicB 5105, §VPB 3101; SP—#; A-F only) Soph with C avg in courses prerequisite to major sequence or # with 10 cr chemistry, 5 cr biological sciences or # not for biology majors; SP—§Biol 2032, §Biol 3301, §MicB 1009, §Chem 2022) Intended primarily for non-microbiology majors. Fundamental principals of microbiology; bacterial metabolism, growth and genetics; biology of viruses and fungi; control of microorganisms; host-microbe interactions; microorganisms and disease; applied microbiology. Includes laboratory.

MicB 3301. Biology of Microorganisms. (5 cr; QP—#; Biol 5013, §MicB 5105, §VPB 3101, #; Biol 5001 or Biol 3021 or Biol 5331 or §S—#; Biol 2033, #; Biol 3301, #; MicB 2032, §VPB 2022, #; Biol 1002 or #; A-F only) Intended primarily for non-microbiology majors. Fundamental principals of microbiology; bacterial metabolism, growth and genetics; biology of viruses and fungi; control of microorganisms; host-microbe interactions; microorganisms and disease; applied microbiology. Includes laboratory.

MicB 4121. Microbial Ecology and Applied Microbiology. (3 cr; QP—§MicB 5606; 3103 or §5105 or Biol 5013 or #; SP—#; A-F only) Evolution and structure of microbial communities; population interaction within ecosystems; quantitative and habitat ecology; biogeochemo cycling; molecular microbial ecology, gene transfer in the environment; molecular phylogeny of microorganisms. Application of microbes in agriculture; production of commodity chemicals, drugs, and other high-value products.

MicB 4131. Immunology. (3 cr; QP—#; Biol 5001 or Biol 3021 or Biol 5331; MicB/VPB 2022 or #; Biol/MicB/VPB 2032 or #; Biol/MicB 3301; Biol/Bioc 3021 or Biol 4331) Molecular, genetic, and cellular bases for humoral and cell-mediated immunity; innate immunity; antigen recognition by B and T lymphocytes; interactions between lymphocytes and other cells of the immune system; cytokines; immunoregulation; key aspects of clinical immunology.

MicB 4141. Biology, Genetics and Pathogenesis of Viruses. (3 cr; QP—#; Biol 5003 and one of the following: Biol 5004 or Biol 5103 or MicB 5105 or Biol 4003 and one of the following: Biol 4004 or Biol/MicB 3301) Structure, composition, and properties of bacterial, plant and animal viruses; interaction with cells; effects on host cell metabolism; molecular biology of virus replication and genetics; techniques for studying virus properties; viral pathogenesis and tumorigenesis.

MicB 4151. Molecular and Genetic Bases for Microbial Diseases. (3 cr; QP—§MicB 3010 or Biol 5013 or MicB 5218 or #; SP—#; Biol/MicB 3301 or equiv; Biol/Bioc 3021 or Biol/4331 and GCB 302 or Biol 4003 recommended; not open to med students) Genetic basis of microbial pathogenesis. Impact of gene transfer and regulation on the evolution of microbial pathogens and on their capacity to colonize and induce disease. Biochemical and cellular interactions between bacteria and their human hosts.

MicB 4215. Advanced Laboratory: Microbial Physiology and Diversity. (3 cr; QP—#; 5321 or #; A-F only) Isolation and cultivation of a wide variety of bacteria. Physiological experiments on selected groups.

MicB 4235. Advanced Laboratory/Virology, Immunology and Microbial Genetics. (3 cr; QP—#; Biol 5152; 5218 or 5218, 5232, 5242 or 5424, Biol 3021 or Biol 5331 or Biol 5001; GCB 302 or Biol 5003; Biol/Bioc 3021 or equiv; Biol/MicB 3301, and two of the following: MicB 4311, 4312, 4313) Techniques and experimental methods in microbial genetics, immunology and virology used to study microbes and their interactions with a host.

MicB 4993. Directed Studies. (1-7 cr; QP—#; A-F only) Individual study on selected topics or problems with emphasis on selected readings and scientific literature.

MicB 4994. Directed Research. (1-7 cr; QP—#; A-F only) Lab or field investigation of selected areas of research.

MicB 5332. Applied Microbial Biochemistry. (3 cr; QP—#; Biol 3021 or Biol 5331 or MicB 5321 or MicB 5310; #; SP—#; Biol/5332 Biol/Bioc 3021 or Biol 4331 or #; MicB 4111, and MicB 3301 or #) Biochemistry of microorganisms and enzymes of industrial interest. Heterologous peptide overproduction by microorganisms and yeasts; polymer, antibiotic, organic acid, and amino acid production; genetics of industrially useful microorganisms; biological systems useful for biotransformation and environmental remediation; introduction to fermentation technology.
Middle Eastern Languages and Cultures (MELC)

Institute of Linguistics and Asian and Slavic Languages and Literatures
College of Liberal Arts

MELC 3491. Classical Islamic Civilization. (3 cr; SP–Course 3491, §Hist 3491)
Islamic legacy in the classical age (800-1400) in medical and natural sciences, mathematics, philosophy, literature, and transmission to Europe.

MELC 3505. Survey of the Middle East. (3 cr; SP–§Arab 3505, §Hist 3505)
Peoples, lands, and cultures of the Middle East. Historical survey from earliest civilizations to the present.

MELC 3511. Ancient Iran. (3 cr; SP–§CAS 3511)
The development of ancient Iranian culture under the Achaemenians and the Sassanians, the impact of the Zoroastrian religion on Iranians and of Hellenism on the east, especially on such domains as Bactria. Iran's contribution to the flourishing of the cultures of the Silk Road, the thread that connected distant China and Europe.

MELC 3512. Modern Iran. (3 cr; SP–§CAS 3512)
Development of medieval Iranian culture under the Arab, Turkic, and Mongol rules. Study two major trends: Islamization beginning after the Arab conquest until A.D. 1500; westernization from the Safavid to the Islamic Republic in 1979.

MELC 3526. Islam and Communism. (3 cr; SP–§CAS 3526)
Development of medieval Islamic culture in Transoxiana; formation of Sufi orders; rise and development of Communist ideology; introduction of socialist principles into Central Asia; clash of Islamic principles with Communist dicta; Pan-Islamism; Pan-Turkism.

MELC 3531. Central Asian Culture. (3 cr; SP–§CAS 3531)
Development of Central Asian cultures from the rise of the Turkic dynasties (6th c.) to the present. Indo-European indigenous population displaced by the Arabs, Turks, Mongols, and the Soviets. Major themes: Islamization; Turkification; Westernization; and Sovietization.

MELC 3532. Russia and Central Asia. (3 cr; SP–§CAS 3532)
Rise and fall of the Mongol Empire, formation of the Chaghatai Khanate and the Golden Horde. Russian expansion into Central Asia and rivalry with Britain. Russia and the Central Asian republics during and after the Soviet period.

MELC 3541. Islam in the Catholic Age: Arab Phase 600 A.D. to 900 A.D. (3 cr; SP–Arab 3541, §Hist 3541)
The rise of Islam in its Arabian setting. Role of the prophet, the Orthodox and Umayyad Caliphs. Development of Islamic state and empire. Status of Muslims and non-Muslims.

MELC 3542. Medieval Islam. (3 cr; SP–Arab 3542, §Hist 3542)
Islamic dynasties, Mamluks and Mongols, Crusaders and Assassins, Abbasid Caliphathe's disintegration and rise of Seljuk Turks.

MELC 3543. Arabs Under Mamluks and Ottomans: 1300-1920. (3 cr; SP–Arab 3543, §Hist 3543)
Arabs under Mamluk rule. Struggle against Crusaders and Mongols. Disintegration and reemergence under Muhammad Ali of Egypt, dynastic struggles in Syria, rise of Young Turks and Arab revolt.

MELC 3544. Arab World 1920 Until the Present. (3 cr; SP–Arab 3544, §Hist 3544)
Struggle in the Arab world for independence and its course since 1920. Emphasis on development, political stability and unity, political structures, and the Arab-Israeli conflict.

MELC 3601. Fiction of Iran and Central Asia. (3 cr; SP–§CAS 3601)
Social, political, and religious thought of Iranian and (Soviet) Central Asian writers of fiction since the early years of the 20th century; emphasizes themes of tradition, modernization (Westernization and Sovietization), women's rights, and secularization.

MELC 3602. Persian Poetry. (3 cr; SP–§CAS 3602)
Major poetic works of Iran in translation dealing with life at the medieval courts, Sufic poetry, and "new" poetry. Rudaki, Khayyam, Rumi, Hafiz, Yushij, and Farrukhzad are among the poets whose works are examined.

MELC 3993. Directed Studies. (1-10 cr; SP–§Arab 3993, §Hist 3993)
Study and discussion of the intellectual life of the region from the rise of the Ghaznavids (A.D. 1000) to the fall of the Timurids (A.D. 1500). Ibn Sina (Avicenna), al-Biruni, al-Ghazali, Rumi, Sa'di, and Ferdowsi are among the sages whose lives are examined.

MELC 5526. Islam and Communism. (3 cr; SP–§CAS 5526)
Development of medieval Islamic culture in Transoxiana; formation of Sufi orders; rise and development of Communist ideology; introduction of socialist principles into Central Asia; clash of Islamic principles with Communist dicta; Pan-Islamism; Pan-Turkism.

MELC 5532. Russia and Central Asia. (3 cr; SP–§CAS 5532)
Rise and fall of the Mongol Empire, formation of the Chaghatai Khanate and the Golden Horde. Russian expansion into Central Asia and rivalry with Britain. Russia and the Central Asian republics during and after the Soviet period.

MELC 5601. Fiction of Iran and Central Asia. (3 cr; SP–§CAS 5601)
Social, political, and religious thought of Iranian and (Soviet) Central Asian writers of fiction since the early years of the 20th century, emphasizing themes of tradition, modernization (Westernization and Sovietization), women's rights, and secularization.

MELC 5602. Persian Poetry. (3 cr; SP–§CAS 5602)
Major poetic works of Iran in translation dealing with life at the medieval courts, Sufic poetry, and "new" poetry are studied. Rudaki, Khayyam, Rumi, Hafiz, Yushij, and Farrukhzad are among the poets whose works are examined.

MELC 5993. Directed Studies. (1-10 cr; SP–§Arab 5993, §Hist 5993)
Study and discussion of the intellectual life of the region from the rise of the Ghaznavids (A.D. 1000) to the fall of the Timurids (A.D. 1500). Ibn Sina (Avicenna), al-Biruni, al-Ghazali, Rumi, Sa'di, and Ferdowsi are among the sages whose lives are examined.

Military Science (Mil)

Department of Military Science (Army ROTC)
Student Development & Athletics

Mil 0101. Military Science I Leadership Lab. (0 cr; SP–Enrollment in Mil 1011; A-F only)
Learn and practice basic skills. Gain insight into the Advanced Course in order to make an informed decision whether to apply for it. Build self-confidence and team building leadership skills that can be applied throughout life.

Mil 0201. Military Science II Leadership Lab. (0 cr; SP–Enrollment in Mil 1220)
Learn and practice basic skills. Gain insight into the Advance Course in order to make an informed decision whether to apply for it. Build self-confidence and team building leadership skills that can be applied throughout life.

Mil 0301. Military Science III Leadership Lab. (0 cr; SP–Enrollment in Mil 1310)
Learn and practice basic skills. Gain insight into the Advance Course in order to make an informed decision whether to apply for it. Build self-confidence and team building leadership skills that can be applied throughout life.

Mil 0401. Military Science IV Leadership Lab. (0 cr; SP–Enrollment in Mil 1410; A-F only)
Learn and practice basic skills. Gain insight into the Army ROTC program as a whole. Students develop, practice and refine leadership skills by serving in a variety of leadership positions.

Mil 0401. Military Science IV Leadership Lab. (1 cr; SP–Enrollment in Mil 1410; A-F only)
Gain insight into the Army ROTC program as a whole. Students develop, practice and refine leadership skills by serving in a variety of leadership positions.

Mil 0501. Military Science V Leadership Lab. (1 cr; SP–Enrollment in Mil 1510; A-F only)
Gain insight into the Army ROTC program as a whole. Students develop, practice and refine leadership skills by serving in a variety of leadership positions.

Mil 0601. Military Science VI Leadership Lab. (1 cr; SP–Enrollment in Mil 1610; A-F only)
Gain insight into the Army ROTC program as a whole. Students develop, practice and refine leadership skills by serving in a variety of leadership positions.

Mil 0701. Military Science IV Leadership Lab. (1 cr; SP–Enrollment in Mil 1410; A-F only)
Gain insight into the Army ROTC program as a whole. Students develop, practice and refine leadership skills by serving in a variety of leadership positions.
Mil 1010. Introduction to ROTC. (1 cr; SP–Enrollment in 1001)
Increase self-confidence through team study and activities in basic drill, physical fitness, rappelling, leadership reaction course, first aid, making presentations, and basic marksmanship. Learn fundamental concepts of leadership in a profession in both classroom and outdoor lab environments.

Mil 1011. Introduction to Leadership. (1 cr; SP–Enrollment in 1002)
Learn/apply principles of effective leading. Reinforce self-confidence through participation in physically and mentally challenging exercises. Relate organizational ethical values to the effectiveness of a leader. Participation in a weekend exercise is optional, but highly encouraged.

Mil 1220. Self/Team Development. (2 cr; SP–Enrollment in basic course; A-F only)
Learn/apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams. Develop skills in oral presentations, writing concisely, planning of events, coordination of group efforts, advanced first aid, land navigation, and basic military tactics. Fundamentals of ROTC’s Leadership Development program.

Mil 1221. Individual/Team Military Tactics. (2 cr; SP–Enrollment in basic course; A-F only)
Individual and team aspects of military tactics in small unit operations. Use of radio communications, making safety assessments, movement techniques, planning for team safety/security and methods of pre-execution checks. Practical exercises with upper division ROTC students.

Mil 3130. Leading Small Organizations I. (3 cr; SP–Enrollment in advanced course)
Series of practical opportunities to lead small groups, receive personal assessments and encouragement, and lead classroom and outdoor training of increasing complexity. Uses small unit defensive tactics and opportunities to plan and conduct training.

Mil 3131. Leading Small Organizations II. (3 cr; SP–Enrollment in advanced course)
Continues methodology of 1130. Analyze tasks; prepare written or oral guidance for team members to accomplish tasks. Delegate tasks and supervise. Plan for and adapt to the unexpected in organizations under stress.

Mil 3140. Leadership Challenges and Goal Setting. (3 cr; SP–Enrollment in advanced course)
Plan, conduct, and evaluate activities of the ROTC cadet organization. Articulate goals, put plans into action to attain them. Assess organization cohesion and develop strategies to improve it. Develop confidence in skills to lead people and manage resources. Learn/apply various Army policies and programs.

Mil 3141. Transition to Lieutenant. (3 cr; SP–Enrollment in advanced course)
Continues the methodology from 3140. Identify and resolve ethical dilemmas. Refine counseling and motivating techniques. Examine aspects of tradition and law as they relate to leading as an officer in the Army. Prepare for a future as a successful Army lieutenant.

Mil 3970. Directed Studies. (3 cr; SP–A)

Modern Greek (MdGk)

Department of Classical and Near Eastern Studies
College of Liberal Arts

MdGk 1001. Beginning Modern Greek I. (4 cr)
Speaking and reading demotic Greek. Pattern-practice drill, simple readings, some grammar.

MdGk 1002. Beginning Modern Greek II. (4 cr; SP–1001 cr #)
Speaking and reading demotic Greek. Pattern-practice drill, simple readings, some grammar.

MdGk 1003. Intermediate Modern Greek I. (4 cr; SP–1002 cr #)
Review the fundamentals of syntax through various readings from Modern Greek prose writers and poets. Provides additional grammatical elements which are reinforced through reading, conversation, and composition.

MdGk 1004. Intermediate Modern Greek II. (4 cr; SP–1003 cr #)
Review the fundamentals of syntax through various readings from Modern Greek prose writers and poets. Provides additional grammatical elements which are reinforced through reading, conversation, and composition.

Mortuary Science (Mort)

Department of Cell Biology and Neuroanatomy

Medical School

Mort 3005. History of Funeral Service. (2 cr; A-F only)
Development of funeral practices from a historical perspective with emphasis on ethnic and cultural groups that have had an impact on contemporary funeral service.

Mort 3012. Organization and Management of Funeral Business. (3 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Principles and concepts of business organization and structure. Focus is on differences/similarities of funeral home management in a small business setting versus a corporate funeral home setting.

Mort 3014. Funeral Service Rules and Regulations. (3 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Licensing/government regulations, compliance with regulations of state/federal regulatory agencies, cemetery and crematory rules and regulations, and Federal Trade Commission Funeral Practice Rule for the funeral industry.

Mort 3016. Funeral Service Marketing and Merchandising. (3 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Funeral home marketing and merchandising, including advertising, promotion, purchasing, and pricing.

Mort 3018. Funeral Practice. (3 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Practices and procedures related to funeral directing, including religious, ethical, and cultural differences. Develop event planning; conducting funeral ceremonies; record keeping; computer applications.

Mort 3020. Funeral Psychology and Counseling. (3 cr; A-F only)
Applied psychological principles helpful in dealing with clients, especially those experiencing emotional crisis. Principles, techniques, and basic helping skills of counseling as applied to the funeral arrangement conference.

Mort 3025. Mortuary and Business Law. (3 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Basic concepts and principles of business law. Review of mortuary law.

Mort 3031. Restorative Art. (2 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Theory and procedures of restorative art.

Mort 3055. Issues of Loss, Grief, and Bereavement. (3 cr; SP–Working understanding of grief and loss; A-F only)
Study of issues related to loss, grief, bereavement, and traumatology. Examination of complicated bereavement and traumatology, complicated vs. non-complicated loss. Treatment methods currently being used.

Mort 3061. Embalming I. (3 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Organic and biochemistry. Chemical changes in the human body during life, after death, and during chemical preservation. Disinfection, solutions, toxicology, and embalming fluids. Cardiovascular anatomy as it is applied to the practice of embalming dead human bodies.

Mort 3062. Embalming II. (3 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Theory and procedure of embalming.

Mort 3091. Independent Study in Funeral Service. (1-3 cr; max 3 cr; QP–Mortuary science major; SP–Mortuary science major)
Students complete a project supervised by a faculty member. Credit(s) is negotiated with the faculty member based on the size and scope of the project. Students must demonstrate that the project has value within the major.

Mort 3315. Restorative Art Laboratory. (1 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Practical principles and techniques for restorative art. Emphasis on modeling facial features with clay or wax and the use of restorative techniques and cosmetic application on dead human bodies.

Mort 3316. Embalming I Laboratory. (1 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Practices and procedures of embalming in a preparation room setting using dead human bodies.

Mort 3316. Embalming II Laboratory. (1 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Continuation of the embalming laboratory sequence. Students develop and refine embalming techniques and skills using dead human bodies.

Mort 3370. Funeral Service Seminar. (1 cr; QP–Mortuary science major; SP–Mortuary science major; A-F only)
Selected presentations related to topics and issues in funeral service.

Mort 3380. Funeral Service Practicum. (8 cr; QP–Mortuary science major who has completed all other coursework; SP–Mortuary science major who has completed all other coursework; S-N only)
Practical experience during one academic term in a funeral home as assigned by the program.

Museum Studies (MSt)

Graduate School

MSt 5011. Museum History and Philosophy. (3 cr; SP–A; F-A only)
Historical and philosophical roots of museum development in Europe and North America from the Renaissance to modern day museums and history centers. Emerging philosophical issues faced by museums today.

MSt 5012. Museum Practices. (3 cr; QP–8010; SP–5011 or 5012; A-F only)
Practical aspects of museum work. Standards, practices, responsibilities, and issues, all set in greater museum context. Curatorial and educational duties, collections management, security, funding, boards, public relations, installation, and budgeting.

MSt 5020. Internship. (1-4 cr; max 32 cr; SP–5011, 5012, A, S-N only)
Students arrange to perform a professional-level task in a museum of good standing under close supervision of a member of the museum’s professional staff. Instructor must approve a work plan and report.
Course Descriptions

Mus 0901. Junior Recital. (0 cr; SP–Music major; concurrent regis in applied music; #; A-F only) Preparation for junior recital. Student will be supervised by major applied instructor.

Mus 0951. Senior Recital. (0 cr; SP–Music major, concurrent registration in applied music; #; A-F only) Preparation for senior recital. Student will be supervised by major applied instructor.


Mus 1051. Class Piano for Nonmusic Majors I. (2 cr) For nonmusic majors with little or no keyboard background. Functional skills such as reading, harmonizing, playing by ear and improvising, along with basic technique and study of elementary solo and ensemble repertoire.

Mus 1052. Class Piano for Non Music Majors II. (2 cr [max 2 cr]) For nonmusic majors with little or no keyboard background. Functional skills such as reading, harmonizing, playing by ear and improvising, along with basic technique and study of elementary solo and ensemble repertoire.

Mus 1151. Piano: Class Lessons I. (2 cr; SP–Music major; A-F only) For freshman music majors with little or no keyboard background. Functional skills such as reading, transposing, harmonizing, improvising, and playing by ear, along with keyboard theory, technique, and repertoire.

Mus 1152. Piano: Class Lessons II. (2 cr; SP–Music major; A-F only) For freshman music majors with limited keyboard background. Functional skills such as reading, transposing, harmonizing, improvising, and playing by ear, along with keyboard theory, technique, and repertoire.

Mus 1155. Keyboard Skills I. (2 cr; SP–Undergrad music keyboard major or #; A-F only) For freshman keyboard majors and other music majors with extensive keyboard background. Emphasis is reading, transposing, harmonizing, improvising, and playing by ear, along with keyboard theory, technique, and repertoire.

Mus 1156. Keyboard Skills II. (2 cr; SP–Undergrad music keyboard major or #; A-F only) For freshman keyboard majors and other music majors with extensive keyboard background. Emphasis is reading, transposing, harmonizing, improvising, and playing by ear, along with keyboard theory, technique, and music learning skills.

Mus 1260. Voice Class. (2 cr [max 4 cr]; SP–Basic music/reading for learning and performing simple songs) The fundamentals of speech and singing including information about the vocal instrument, the vocal process, vocal technique, and how to learn and perform three simple songs.

Mus 1471. Guitar: Class Lessons I. (2 cr; A-F only) Fundamentals for the beginning guitarist; progressive development of skills. Basic strumming techniques, harmonizations in basic keys. Students must furnish acoustic guitar.

Mus 1472. Guitar: Class Lessons II. (2 cr; SP–1471 or #; A-F only) Fundamentals for the beginning guitarist; progressive development of skills. Advanced strumming techniques, bass runs, finger-picking strums. Students must furnish acoustic guitar.

Mus 1501. Foundations of Musical Theory: Analysis and Ear-Training I. (2 cr; SP–Diagnostic test administered by the School of Music; A-F only) Study the basics of common-practice tonal harmony and part-writing, the basics of music analysis in a variety of contexts, and the foundations of ear-training and sight singing.

Mus 1502. Foundations of Musical Theory, Analysis, and Ear-Training II. (2 cr; A-F only) Study the basics of common-practice tonal harmony and part-writing, the basics of music analysis in a variety of contexts, and the foundations of ear-training and sight singing.

Mus 1801. Music, Society, and Cultures. (3 cr; A-F only) Study rural, urban, and tribal musics throughout the world with the interdisciplinary methods of humanities and social sciences. Worldwide distribution of musical creativity with audio and video documentation.


Mus 3001. Foundations of Musical Thought. (4 cr; A-F only) Develop a range of strategies for listening to music and for thinking about music in an informed way. Wide range of musical styles including classical, ethnic, and popular idioms.

Mus 3021. Introduction to Music. (4 cr) Survey of European and American “art” and “popular” music in the context of those cultures; aural analyses of musical styles and forms.

Mus 3027. Lyric Song in Medieval Culture. (3 cr) Courtly, paraliturgical, and popular song traditions from 1100 to 1500 in specific contexts: castle, palace, monastery, nunnery, cathedral, theater, tavern, street, and countryside. Social roles of men and women as patrons, performers, poets, composers, writers. Historical narratives and recreate medieval performance traditions.

Mus 3029. Music in the 20th Century. (3 cr) Music in European and American culture from 1890s to present. Emphasizes interactions between high art, popular and ethnic musics, contributions of men and women as composers and performers, concurrent developments in the arts, dance, and literature, and music as social commentary.

Mus 3100. Accompanying Skills. (1 cr [max 8 cr]; SP–Jr or sr piano or organ major or #; A-F only) A practical introduction to every facet of the art of piano as an accompaniment and collaborative instrument.

Mus 3230. Chorus. (1 cr [max 8 cr]; SP–Choral and/or instrumental music background; audition, #) Includes the University Women’s Chorus, Men’s Chorus, Concert Choir, and Choral Union. Choruses participate in a variety of programs exploring both Western and non-Western repertoire from the Middle Ages through the 20th century. Concerts include touring, and collaborative campus and community performances.

Mus 3241. Vocal Literature I: German Lieder. (1 cr; SP–Vocal performance or accompanying major; 2 yrs music theory and music history; A-F only) An exploration of the German Lied, its origins, composers, and its history. Musical and textual analysis of representative works, examination of the poetry which serves as song text, and brief survey of poets in the German Romantic period. Extensive listening assignments.

Mus 3242. Vocal Literature II: French Melodie. (1 cr; SP–Vocal music or accompanying major; 2 yrs of music theory and music history; A-F only) The French Mélodie, its origins, composers, and development. Musical and textual analysis of representative works, examination of the poetry which serves as song text, and brief survey of the French Symbolist poets. Extensive listening assignments.

Mus 3261. Italian Diction for Singers. (1 cr; SP–Voice or choral music major; concurrent regis in applied voice; A-F only) The sounds and symbols of the International Phonetic Alphabet, rules for correct Italian lyric diction, rudimentary Italian grammar, and meanings of Italian musical expressive markings, and Italian words most commonly found in song texts.

Mus 3262. English Diction for Singers. (1 cr; SP–Voice or choral music major; concurrent regis in applied voice; A-F only) English lyric diction for performance of classical vocal music. Use International Phonetic Alphabet for standard transcriptions of song texts, compile a discography of British/American art songs, perform songs in class, and prepare poetry for oral presentation and improvisation.

Mus 3263. German Diction for Singers. (1 cr; SP–Voice or choral music major; concurrent regis in applied voice; A-F only) Principles and practice of German lyric diction for classical vocal music. Transcriptions of German Lieder into International Phonetic Alphabet, elementary German grammar and common song vocabulary, 4 to 5 German songs performed in class for critique, and rules for pronunciation.

Mus 3264. French Diction for Singers. (1 cr; SP–Voice or choral music major; concurrent regis in applied voice; A-F only) Principles and practice of French lyric diction for classical vocal music. Transcriptions of French mélodie into International Phonetic Alphabet, elementary French grammar and common song vocabulary, 4 to 5 French songs performed in class for critique, and rules for pronunciation.

Mus 3331. Jazz Improvisation I. (2 cr; SP–Music major or #; A-F only) Rudiments; analysis; improvisation on blues in three major keys and standard American popular jazz compositions from swing era to early bebop; applications of major and minor scales; ear training.

Mus 3332. Jazz Improvisation II. (1 cr; SP–Music major or #; A-F only) Transposition; analysis; improvisation on blues in three major keys and standard American popular jazz compositions from swing era to early bebop; II-V-I progressions; ear training.

Mus 3340. Jazz Ensemble. (1 cr [max 8 cr]; SP–Audition, #; A-F only) A 20-member performing organization covering significant jazz compositions and arrangements written specifically for this medium.

Mus 3350. Jazz Combo. (1 cr [max 8 cr]; SP–Audition, #; A-F only) A performance laboratory class with emphasis on improvisation and learning the jazz vocabulary. A minimum of two public performances is required each semester.

Mus 3351. Jazz Piano Class I. (2 cr; SP–1152 or #; A-F only) Keyboard skill development in chord-style symbolology, reading chord progressions, translating chord symbols into formula voicings, expanded harmonies, aural development, jazz style “comping.”

Mus 3352. Jazz Piano Class II. (2 cr; SP–1152 or #; A-F only) Keyboard skill development in chord-style symbolology, reading chord progressions, translating chord symbols into formula voicings, expanded harmonies, aural development, jazz style “comping.”

Mus 3390. Jazz Singers. (1 cr [max 10 cr]; SP–Audition, #; A-F only) Study and performance of representative vocal jazz literature.

Mus 3401. Basic Conducting. (2 cr; SP–1502, music major; A-F only) Beginning course in basic conducting techniques and role of the conductor.
Mus 3410. University Wind Bands. (1 cr; SP–Audition, #; A-F only)
Wind ensemble and symphony bands perform standard and contemporary literature; concerts and tour appearances. Players from all colleges may participate.

Mus 3420. Orchestra. (1 cr; SP–Audition, #; A-F only)
Symphony orchestra performs standard repertory and major works with chorus; concerts and tour appearances. Players from all colleges may participate.

Mus 3430. Campus Orchestra. (1 cr; SP–Audition, #; A-F only)
An orchestra for players who are not music majors and/or are unable to register for University Orchestra. Standard chamber orchestra and string orchestra performed in consultation with faculty mentor. Sign up in Undergraduate Studies office one term in advance.

Mus 3501. Piano Pedagogy I. (2 cr; SP–3501 or MusA 1301 or MusA 1401 or #)
Demonstration and discussion of teaching techniques, methods, and materials for group and individual instruction at the elementary, early intermediate, and intermediate levels.

Mus 3502. Piano Pedagogy II. (2 cr; SP–3501 or MusA 1301 or MusA 1401 or #)
Demonstration and discussion of teaching techniques, methods, and materials for group and individual instruction at the intermediate and early advanced levels.

Mus 3511. Advanced Piano Pedagogy I. (2 cr; SP–5102 or grad piano major or #; A-F only)
Demonstration and discussion of teaching techniques, methods, and materials for group and individual instruction at the intermediate and early advanced levels.

Mus 3512. Advanced Piano Pedagogy II. (2 cr; SP–5101 or grad piano major or #; A-F only)
Supervised teaching of a piano pupil or group of pupils for one semester (minimum 12 weeks for one half-hour per week). Supervising instructor will assist with selection of materials, periodic consultation, and observation (live or video taped) of selected lessons.

Mus 3513. Advanced Keyboard Skills I. (2 cr; SP–3502, sr or grad student; A-F only)
Diatonic and chromatic harmony at the piano. Realization of figured basses of the 17th and 18th centuries. Performance of chorale, orchestral, and chamber music of the 17th to 20th centuries, from open score using all clefs.

Mus 3512. Advanced Keyboard Skills II. (2 cr; SP–3502, sr or grad student; A-F only)
Diatonic and chromatic harmony at the piano. Realization of figured basses of the 17th and 18th centuries. Performance of chorale, orchestral, and chamber music of the 17th to 20th centuries, from open score using all clefs.

Mus 3514. Piano Literature. (2 cr; SP–1301 or MusA 1301 or MusA 1401 or #; A-F only)
Introduction to advanced keyboard literature from the Baroque to the mid-20th century. Study of typical forms, style features, technical issues, and performance practice for each period.

Mus 3515. Body Awareness in Activity: The Alexander Technique for Musicians. (2 cr; SP–Audition, #; A-F only)
Alexander technique with specific applications to music performance. Emphasis on body/mind awareness to promote technical ease and freedom.

Mus 3515. Organ Literature I. (2 cr; SP–3502, 3603, sr or grad student; A-F only)
Organ literature from the 14th century to the mid-18th century. Influence of organ design of various periods and national schools on the literature and its performance.

Mus 3515. Organ Literature II. (2 cr; SP–3502, 3603, sr or grad student; A-F only)
Organ literature from the 19th century to present, with emphasis on stylistic, historical, and performance practice for each period.

Mus 3516. Instrumental Accompanying Skills and Repertoire. (2 cr; SP–Accomp major; A-F only)
Performance class in accompanying skills particular to orchestral reductions and non-sonata instrumental accompanying. Repertoire to include, but not be limited to, classical and romantic string concerti, and “encore” pieces.

Mus 5170. Vocal Accompanying Skills and Repertoire. (2 cr; SP–Accomp major; A-F only)
Performance class in accompanying skills particular to vocal repertoire, with emphasis on coaching techniques and performance skills of pianists and singers.

Mus 5181. Advanced Piano Literature I. (2 cr; SP–Grad piano major or #; A-F only)
Literature for piano from late Baroque period to mid-20th century.

Mus 5182. Advanced Piano Literature II. (2 cr; SP–Grad piano major or #; A-F only)
Literature for piano from late Baroque period to mid-20th century.

Mus 5230. Chorus. (1 cr; SP–Choral and/or instrumental music background; audition, #)
University Women’s Chorus, Men’s Chorus, Concert Chor and Choral Union. Choruses participate in a variety of programs exploring both Western and non-Western repertoire from the Middle Ages through the 20th century. Concerts include touring, and collaborative campus and community performances.

Mus 5240. Chamber Singers. (1 cr; SP–Audition, #; A-F only)
Mixed chorus of about 24 voices. Performances each semester of works for small choirs.

Mus 5241. Vocal Literature I. (3 cr; SP–12 cr in MusA 1104 or MusA 1304, grad music major or #; A-F only)
Vocal literature of major and minor composers from the 17th century to present, structure, style, and performance practice.

Mus 5242. Vocal Literature II. (3 cr; SP–12 cr in MusA 1104 or MusA 1304, grad music major or #; A-F only)
Vocal literature of major and minor composers from the 17th century to present, structure, style, and performance practice.

Mus 5250. Opera Workshop and Ensemble. (1 cr; QP–Audition, #; A-F only)
Preparation and performance of operatic arias, choruses, and scenes. Participation in fully staged or workshop productions of music theatre repertoire.

Mus 5260. Stage Movement and Acting for Singers. (1 cr; SP–Audition, #; A-F only)
Basic techniques of stage movement and acting styles, application to various forms of music theatre.

Mus 5270. Voice Practicum. (1 cr; SP–Undergrad sr vocal major or #)
Teaching voice class or individual students with peer and faculty feedback. Assist in class voice instruction or teach two students weekly in conjunction with two one-hour observation labs. May be taken for two semesters.

Mus 5271. Diction for Singers. (1 cr; SP–12 cr of MusA 1304 or grad music major or #; A-F only)
Principles and techniques of singing in English, Italian, Spanish, German, and French. International Phonetic Association alphabet used.

Mus 5272. Diction for Singers II. (2 cr; SP–12 cr of MusA 1304 or grad music major or #; A-F only)
Principles and techniques of singing in English, Italian, Spanish, German, and French. International Phonetic Association alphabet used.

Mus 5275. Vocal Pedagogy I. (2 cr; SP–Vocal major or #)
Advanced study of mind/body preparations for singing, anatomy, and physiology of the vocal mechanism. Voice use and care, historical and comparative pedagogy, learning theories, models and guidelines for teaching, instrumental techniques, and diagnosing and solving vocal problems.

Mus 5276. Vocal Pedagogy II. (2 cr; SP–Vocal major or #; A-F only)
History of solo vocal performance; selection and preparation of beginning level solo vocal repertoire; development of vocal performance skills (interpretation, expression, artistry), recital programming, and vocal career counseling.
Mus 5277. Vocal Workshop. (1 cr; SP—Music major or #; A-F only) Short term vocal workshops address specific topics including voice science, pedagogy, and performance of vocal repertoire. One workshop focuses on class voice instruction.

Mus 5280. Opera Theatre. (2 cr; max 16 cr; SP—Audition, #; A-F only) Preparation and performance of fully-staged operatic production. Major involvement in singing, acting, and technical aspects of opera.

Mus 5283. Choral Conducting Technique. (1 cr; SP—#; A-F only) Choral conducting, rehearsal techniques, interpretation of music.

Mus 5284. Choral Conducting I: Gregorian Chant Through Baroque Era. (3 cr; SP—#; A-F only) Techniques and rehearsal procedures. Focus on music before 1750 including works by Lassus, Schutz, Bach, and Handel.

Mus 5285. Choral Conducting II: Classical Era to the Present. (3 cr; SP—#; A-F only) Techniques and rehearsal procedures. Focus on music after 1750 including works by Mozart, Haydn, Beethoven, Mendelssohn, Brahms, and Stravinsky.

Mus 5300. Jazz Rhythm Section Techniques. (1 cr; max 8 cr; SP—#; A-F only) Study and function of instruments in the jazz rhythm section. Bass line construction, voicings for piano and guitar, and style patterns for percussion.

Mus 5336. Jazz Arranging. (3 cr; SP—3502 or #; A-F only) Beginning techniques of arranging for jazz combo and jazz ensemble, vocalist and instrumental.

Mus 5340. Jazz Ensemble. (1 cr; max 6 cr; SP—Audition, #; A-F only) A 20-member performing organization covering significant jazz compositions and arrangements written specifically for this medium.

Mus 5341. Jazz Pedagogy. (2 cr; SP—#; A-F only) Teaching methods of vocal and instrumental jazz improvisation, basic arranging techniques, and jazz history; bibliographies and materials.

Mus 5342. Jazz Theory. (2 cr; SP—3502 or #; A-F only) Beginning techniques for basic chord construction, extended chords, and nomenclature in jazz idiom.

Mus 5390. Jazz Singers. (1 cr; max 10 cr; SP—Audition, #; A-F only) Study and performance of representative vocal jazz literature.

Mus 5410. University Wind Bands. (1 cr; max 8 cr; SP—Audition, #; A-F only) Wind ensemble and symphony bands perform standard and contemporary literature; concerts and tour appearances. Players from all colleges may participate.

Mus 5415. Literature for Band and Wind Ensemble. (2 cr; A-F only) Ensemble literature for winds and percussion; analysis and study of repertoire from classical period to the present.

Mus 5420. Orchestra. (1 cr; max 8 cr; SP—Audition, #; A-F only) Symphony orchestra performs standard repertoire and major works with chorus; concerts and tour appearances. Players from all colleges may participate.

Mus 5421. Suzuki Violin Pedagogy I. (2 cr; SP—Violin major or #; A-F only) Philosophy and teaching techniques of Japanese pedagogue Shinhichi Suzuki and their applications in Western culture. Discussion, playing experience, and observation of children’s lessons in the MacPhail Center Suzuki Program.

Mus 5422. Suzuki Violin Pedagogy II. (2 cr; SP—5421 or #; A-F only) Philosophy and teaching techniques of Japanese pedagogue Shinhichi Suzuki and their applications in Western culture. Discussion, playing experience, and observation of children’s lessons in the MacPhail Center Suzuki Program.

Mus 5423. Advanced Suzuki Violin Pedagogy I. (2 cr; SP—5422 or #; A-F only) Intensive examination of Suzuki techniques for intermediate and advanced violin students in Western society. Discussion, playing experience, observation of children’s lessons in the MacPhail Center Suzuki Program, and practical teaching experience.

Mus 5424. Advanced Suzuki Violin Pedagogy II. (2 cr; SP—5423 or #; A-F only) Intensive examination of Suzuki techniques for intermediate and advanced violin students in Western society. Discussion, playing experience, observation of children’s lessons in the MacPhail Center Suzuki Program, and practical teaching experience.

Mus 5427. Violin Pedagogy I. (2 cr; SP—Violin or viola major or #; A-F only) Private teaching of violin students at beginning, intermediate, and advanced levels. Discussion and demonstrations of pedagogical techniques.

Mus 5428. Violin Pedagogy II. (2 cr; SP—Violin or viola major or #; A-F only) Private teaching of violin students at beginning, intermediate, and advanced levels. Discussion and demonstrations of pedagogical techniques.

Mus 5429. Concerto Grosso Ensemble. (1 cr; max 8 cr; SP—Audition, #; A-F only) Study and performance of string orchestra and small chamber orchestra literature.

Mus 5440. Chamber Ensemble. (1 cr; max 8 cr; SP—Audition, #; A-F only) Performance of chamber music; duos, trios, quartets, quintets, and other ensemble combinations for instruments and/or voices.

Mus 5450. Orchestral Repertoire. (1 cr; max 3 cr; SP—#; A-F only) Investigation of practical and performance problems in standard orchestral repertoire with regard to style and interpretation.

Mus 5464. Cello Pedagogy. (2 cr; A-F only) Concentrated study of cello teaching methods. Provides students with the strategies for teaching cello privately, develops analytical skills, and increases knowledge of cello repertoire. For practical application in conjunction with string technique course.

Mus 5466. Guitar Pedagogy. (2 cr; SP—Guitar principal or major or #; A-F only) Historical survey of methods and etudes from late 18th century to present, reflecting variety of content and approach. Works by Aguado, Sor, Giuliani, Tarrega, Segovia, Carlevaro, Duncan, Iznaola, Dolsdgen, and others.

Mus 5470. Woodwind Chamber Ensemble. (1 cr; max 8 cr; SP—Audition, #; A-F only) Chamber music performance using homogeneous or mixed combinations of woodwind instruments.

Mus 5471. Woodwind Literature and Pedagogy I. (3 cr; SP—Music major or #; A-F only) A study of the major teaching materials for the five woodwind instruments including methods, duets, and solos used primarily for pedagogical reasons.

Mus 5472. Woodwind Literature and Pedagogy II. (3 cr; SP—Music major or #; A-F only) A study of chambers using one or more woodwind instruments. May include additional instruments such as piano, strings, and/or voice.

Mus 5473. History and Acoustics of Single Reed Instruments. (2 cr; SP—Music major or #; A-F only) Study of clarinet and saxophone history and literature, mechanical design and development, acoustics, modern schools of performance, selected teaching and performance techniques.

Mus 5480. University Brass Choir. (1 cr; max 8 cr; SP—Audition, #) The University Brass Choir is an ensemble of 16 brass and percussion players exploring unique literature that spans 400 years. From the rich antiphonal music of Giovanni Gabrieli (1557-1612) to the works of the 20th century. The Brass Choir performs in Twin Cities churches and concert halls.

Mus 5481. Trumpet Pedagogy. (2 cr; SP—Grad student or #; A-F only) Principles of trumpet pedagogy. Discussion of literature, history, and current teaching aids.

Mus 5485. Transcription for Winds. (2 cr; SP—5302 or #; A-F only) Principles of music manuscript and examination of transcription examples. Transcription projects with score and parts. Smaller projects that involve arranging motifs and original compositions.

Mus 5490. Percussion Ensemble. (1 cr; max 10 cr; SP—#; A-F only) Practice and performance of standard and contemporary compositions for percussion instruments in various combinations.

Mus 5491. Percussion Literature I. (2 cr; SP—Jr or Sr or grad student or #; A-F only) Repertoire derived from orchestral and band literature for snare drum, timpani, mallet instruments, and various percussion accessories. Major works of the 20th century written for solo percussion, percussion ensemble, and chamber groups of percussion and non-percussion instruments.

Mus 5492. Percussion Literature II. (2 cr; SP—Jr or Sr or grad student or #; A-F only) Repertoire derived from orchestral and band literature for snare drum, timpani, mallet instruments, and various percussion accessories. Major works of the 20th century written for solo percussion, percussion ensemble, and chamber groups of percussion and non-percussion instruments.

Mus 5501. Intensive Theory and Analysis of 20th-Century Music. (4 cr; SP—3502 or #; A-F only) Designed for music majors only, the course is comprised of an intensive introduction to the theory and analysis of art music in various styles developed during the 20th century.

Mus 5533. Music Since 1945. (3 cr; SP—3502, #; A-F only) Examine procedures and techniques of music composed since 1945. Integral serialism, sound mass, electronic music, indeterminacy, improvisation, and minimalism in the works of Babbitt, Lкрут, Davidovsky, Oliveros, Cage, Riley, and Reich.

Mus 5540. Composition. (2 cr; max 8 cr; SP—3502 or equiv; 3551 or grad student, #; A-F only) Expanded writing in three and more voice polyphonic and other iterative procedures. Study representative forms: motets, inventions, fugues, and chorale-based idiom. Analysis of works by Lassus, Palestrina, Victoria, Purcell, Buxtehude, Fischer, and Bach.

Mus 5541. Counterpoint I. (3 cr; SP—3501, 3511 or #; A-F only) Practice writing in polyphonic styles of Renaissance and Baroque; species counterpoint, canonic and fugal, and other iterative procedures. Study representative works: motets, inven- tions, fugues, and chorale-based idiom. Analysis of works by Lassus, Palestrina, Victoria, Purcell, Buxtehude, Fischer, and Bach.

Mus 5542. Counterpoint II. (4 cr; SP—5541; A-F only) Advanced writing in three and more voice polyphonic styles of Renaissance and Baroque. Analyze works of such composers as Lassus, Palestrina, and Bach; emphasis on canonic and fugal procedures.

Mus 5550. Composition. (2 cr; max 8 cr; SP—3502 or equiv; 3551 or grad student, #; A-F only) Original works in various forms. Development of individual compositional style in a post-tonal idiom. Exploration of a variety of forms, performing forces, and techniques.

Mus 5561. Orchestration I. (3 cr; SP—3502, A-F only) Orchestration of compositions in combination and full orchestra; year-long sequence. Score study of representative works from 18th through 20th centuries.

Mus 5562. Orchestration II. (3 cr; SP—5561; A-F only) Orchestration of compositions in combination and full orchestra; year-long sequence. Score study of representative works from 18th through 20th centuries.

Mus 5571. Schenkerian Analysis for Performers. (3 cr; SP—3501 or 3502; A-F only) Theory and analysis of tonal music using principles developed by Henrich Schenker. Basic concepts, notation, and their application to excerpts and short pieces from the 18th and 19th centuries.
Mus 5572. Chromaticism in Tonal Music. (3 cr; SP–3502)
Expansion of chromatic tonal practices through analysis of selected repertoire, completion of written exercises (figured bass, harmonization of melodies, model composition), ear-training, and keyboard exercises.

Mus 5591. Electronic Music History, Literature, Principles (3 cr; A-F only)
In-depth survey of electroacoustic music repertoire from tape and analog music through computer-generated compositions. Basic principles of acoustics, electronic sound generation and manipulation, and digital signal processing techniques. Intro to programming languages useful for digital sound synthesis. Work with editing software and MIDI applications.

Mus 5592. Digital Music Synthesis and Processing Techniques. (3 cr; SP–5591 or #; A-F only) Study of specific digital synthesis and processing topics such as filtering, formant synthesis, reverb, delay, distortion, and additive synthesis. Work with interactive MIDI applications.

Mus 5597. Music and Text. (3 cr; SP–3502; A-F only) Designed for music majors only, this course gives an introduction to the analysis of music with texts such as art song and opera.

Mus 5611. Resources for Music Research. (2 cr; SP–3603; A-F only) Development of skills in identifying, locating, and evaluating resources for research in music. Computer-searching techniques, acquaintance with basic reference sources in the field, preparation of the music research paper.

Mus 5620. Topics in Opera History. (3 cr [max 6 cr]; SP–grad music major or #; A-F only) Through the study of specific operas, students will examine the ways in which intersections of geography, politics, and musical style influenced and perpetuated operatic production within specific geographical and chronological boundaries. Periods/countries vary each semester.

Mus 5644. Music in 20th-Century American Culture. (3 cr; SP–3603, 5501 or #; A-F only) Stylistic and cultural bases of cultivated and vernacular traditions and their intersections. Topics include folk and ethnic musics, ragtime, city blues and jazz, rock, musical theater, impact of technology, modernism, nationalism, new accessibility.

Mus 5647. 20th-Century European/American Music. (3 cr; SP–3603 or equiv 5501 or equiv, 12 undergrad cr in music history) Emphasizes major artistic movements, stylistic turning points, social roles of music. Interactions between high art, popular, ethnic musics; contributions of men and woman as composers and performers.

Mus 5658. History of the Symphony in the 20th Century. (3 cr; SP–3603, 5501 or #; A-F only) History of symphony (and related genres) in Europe and America, ca. 1890 to present. Changing aesthetic concerns, structural, harmonic, and timbral innovations. Sociocultural contexts; analysis and criticism.

Mus 5666. Stravinsky. (3 cr; SP–5502, 12 cr music history, A-F only) Analysis and criticism of representative works; aesthetic concerns as expressed in writings of Stravinsky and others; influence upon European and American composers; biographical issues and contributions to artistic life, particularly the ballet.

Mus 5668. Beethoven’s Symphonies. (3 cr; SP–3603, #; A-F only) Analytical overview of selected movements from Beethoven’s 9 symphonies. Principles of sonata analysis (norm and deformation); introduction to wider contexts of interpretation and understanding (generic, expressive, social).

Mus 5804. Folk and Traditional Musics: Selected Cultures of the World. (3 cr; SP–1801 or 1804 or music grad student or #; A-F only) Study of selected music traditions from 5 to 7 world cultures. Genres, social institutions, concepts, styles, instruments, and usages.

Mus 5950. Topics in Music. (1-4 cr [max 15 cr]) Selected topics in music. Each offering focuses on a single topic. Topics specified in Class Schedule.

Mus 5993. Directed Studies. (1-4 cr [max 12 cr]; SP–#, #; A-F only) Guided individual reading or study.

Music, Applied (MusA)

School of Music
College of Liberal Arts

MusA 1101. Piano—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1102. Harpsichord—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1103. Organ—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1104. Voice—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1105. Violin—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1106. Viola—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1107. Cello—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.


MusA 1109. Flute—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1111. Oboe—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1112. Clarinet—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1113. Saxophone—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1114. Bassoon—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1115. French Horn—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1116. Trumpet—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1117. Trombone—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1118. Euphonium—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1119. Tuba—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1120. Percussion—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1122. Harp—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1123. Guitar—Elective. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1301. Piano—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1302. Harpsichord—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1303. Organ—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1304. Voice—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1305. Violin—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1306. Viola—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1307. Cello—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1308. Double Bass—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1309. Flute-Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1311. Oboe—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1312. Clarinet—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1313. Saxophone—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1314. Bassoon—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1315. French Horn—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1316. Trumpet—Major. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1317. Trombone—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1318. Euphonium—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1319. Tuba—Major. (2-4 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.

MusA 1321. Percussion—Major. (2 cr [max 16 cr]; SP–Audition, A-F only) Private instruction.
MusA 3308. Double Bass—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3309. Flute—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3311. Oboe—Major. (2-4 cr [max 24 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3312. Clarinet—Major. (2-4 cr [max 24 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3313. Saxophone—Major. (2-4 cr [max 24 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3314. Bassoon—Major. (2-4 cr [max 24 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3315. French Horn—Major. (2-4 cr [max 24 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3316. Trumpet—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3317. Trombone—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3318. Euphonium—Major. (2-4 cr; SP-Audition, ∆) Private instruction.
MusA 3319. Tuba—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3321. Percussion—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3322. Harp—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 3323. Guitar—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5101. Piano—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5102. Harpsichord—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5103. Organ—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5104. Voice—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5105. Violin—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5106. Viola—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5107. Cello—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5108. Double Bass—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5109. Flute—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5111. Oboe—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5112. Clarinet—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5113. Saxophone—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5114. Bassoon—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5115. French Horn—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5116. Trumpet—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5117. Trombone—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5118. Euphonium—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5119. Tuba—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5121. Percussion—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5122. Harp—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5123. Guitar—Elective. (2 cr [max 8 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5301. Piano—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5302. Harpsichord—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5303. Organ—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5304. Voice—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5305. Violin—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5306. Viola—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5307. Cello—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5308. Double Bass—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5309. Flute—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5311. Oboe—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5312. Clarinet—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5313. Saxophone—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5314. Bassoon—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5315. French Horn—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5316. Trumpet—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5317. Trombone—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5318. Euphonium—Major. (2-4 cr; SP-Audition, ∆) Private instruction.
MusA 5319. Tuba—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5321. Percussion—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5322. Harp—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5323. Guitar—Major. (2-4 cr [max 16 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5401. Piano—Secondary. (2-4 cr [max 24 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5402. Harpsichord—Secondary. (2-4 cr [max 24 cr]; SP-Audition, ∆; A-F only) Private instruction.
MusA 5403. Organ—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
MusA 5404. Voice—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
MusA 5405. Violin—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
MusA 5406. Viola—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
MusA 5407. Cello—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
MusA 5408. Double Bass—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
MusA 5409. Flute—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
MusA 5410. Oboe—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
MusA 5411. Clarinet—Secondary. (2-4 cr [max 24 cr]; QP-Audition, ∆; SP-Audition, ∆; A-F only) Private instruction.
Music Education (MuEd)

School of Music
College of Liberal Arts

MuEd 1201. Introduction to Music Education. (1 cr; A-F only)
Orientation to the profession of music education through in-school observations, readings, presentations, and self-reflection. Introduction to technology for music educators.

MuEd 1801. Introduction to Music Therapy. (2 cr; A-F only)
Methods, materials, and applications of music therapy in various clinical settings with emphasis on field observation.

MuEd 3301. Teaching Elementary Vocal and General Music. (3 cr; SP-Mus ed major or #; A-F only)
Methods, materials, curriculum development, principals of learning, the child voice, rhythm, music reading, history, appreciation, listening, creativity, classroom instruments, and applications of technology for elementary school classroom music.

MuEd 3302. Teaching Secondary General Music. (3 cr; SP-Mus ed major or #; A-F only)
Methods, materials, curriculum, and principles of learning. Strategies for teaching students in secondary schools to sing, play, create, listen to, and evaluate music. Interdisciplinary connections; the adolescent voice; guitar instruction; applications of technology; peer and field teaching.

MuEd 3350. Student Teaching in Classroom Music. (4-8 cr [max 8 cr]; SP–Mus ed major or #; A-F only)
Supervised teaching and observing of classroom and general music in elementary, junior high, and senior high schools. Weekly seminar emphasizing classroom management, curriculum development, and administration of music programs.

MuEd 3415. Choral Conducting and Methods I. (3 cr; SP-Mus ed major or music therapy major or #; A-F only)
Development of basic choral conducting skills and rehearsal techniques; diction for singing; repertoire and arranging for various choral ensembles.

MuEd 3416. Choral Conducting and Methods II. (3 cr; SP-Mus ed major or #; A-F only)
Development of choral conducting skills and rehearsal techniques; emphasizes interpretation of choral compositions; methods, materials, and curriculum for school choral ensembles; diction for singing.

MuEd 3450. Student Teaching in Vocal Music. (4-8 cr [max 8 cr]; SP–Mus ed major, #; A-F only)
Supervised teaching and observing of vocal music in elementary, junior high, and senior high schools. Weekly seminar emphasizing classroom management, curriculum development, and administration of music programs.

MuEd 3502. String Techniques and Teaching. (3 cr; SP-Mus ed major or #; A-F only)
Playing experiences on orchestral string instruments; historical and acoustical background; scoring for strings; principles of improvisation; basic concepts of teaching; methods and materials; techniques of individual and class instruction.

MuEd 3503. Woodwind Techniques and Teaching. (3 cr; SP-Mus ed major or #; A-F only)
Playing experience on instruments of the woodwind family; historical and acoustical background; scoring for brasses; principles of improvisation; basic concepts of teaching; methods and materials; class instruction.

MuEd 3504. Brass Techniques and Teaching. (3 cr; SP-Mus ed major or #; A-F only)
Playing experience on instruments of the brass family; historical and acoustical background; scoring for brasses; principles of improvisation; basic concepts of teaching; methods and materials; class instruction.

MuEd 3505. Percussion Techniques and Teaching. (3 cr; SP-Mus ed major or #; A-F only)
Playing experience on percussion instruments: historical and acoustical background; scoring for percussion; principles of improvisation; basic concepts of teaching; methods and materials; techniques of individual and class instruction.

MuEd 3516. Instrumental Music Methods. (3 cr; SP-Mus ed major; A-F only)
Techniques for teaching elementary school instrumental music program; emphasis on rehearsal techniques, literature, and materials for school use; school-based experiences; orchestration and arranging.

MuEd 3550. Student Teaching in Instrumental Music. (4-8 cr [max 8 cr]; SP–Mus ed major, #; A-F only)
Supervised teaching and observing of instrumental music in elementary, junior high, and senior high schools. Weekly seminar emphasizing classroom management, curriculum development, and administration of music programs.

MuEd 3800. Introduction to Clinical Music Therapy Practice. (4 cr; SP–Music therapy major or #; A-F only)
Introduction to lab and field studies of music therapy and music behavior. Pre-internship experiences in health, welfare, recreational, and educational settings.

MuEd 3801. Psychology of Music. (3 cr; SP–Psy 1001 or Psy 3604 or #; A-F only)
Basic study of the psychology and psychoacoustics of music including hearing, music perception and cognition, values and preferences, musical abilities, musical systems, media music effects, the influence of music on human behavior, and psycho-sociophysiological processes involved in musical behavior.

MuEd 3804. Applications of Music Therapy I: Music Therapy for Children in Rehabilitative Settings. (4 cr; SP–Music therapy major, #; A-F only)
Examination of specific techniques in quantification of study of music behavior; projects using behavioral observations.

MuEd 3805. Applications of Music Therapy II: Music Therapy in Long Term Care and Psychiatric Care. (4 cr; SP–Music therapy major, #; A-F only)
Examining a proposed curriculum for music therapy; and evaluating its effectiveness.

MuEd 3806. Preparing for a Music Therapy Career. (4 cr; SP–Music therapy major or #; A-F only)
Identify and explore current controversies, issues, and values encountered in music therapy. Explore and analyze counseling processes and techniques. Students are placed in a health care facility for the term to gain pre-internship experience.

MuEd 3855. Music Therapy Internship. (12 cr; SP–Music therapy major or #; F only)
Six-month resident internship in music therapy at an affiliated, approved hospital or clinic.

MuEd 5011. Music in the Elementary Classroom Curriculum. (2 cr; SP–Mus 1001, elem ed major grad student)
Overview of the fundamentals of music, methods, and materials for incorporating singing, rhythmic activities, classroom instruments, movement, listening, appreciation, and creation into the context of classroom curriculum.

MuEd 5112. Research in Music Education: Techniques. (3 cr; SP–Grad music ed major or #; A-F only)
Methods and techniques employed in investigating and reporting music education problems; proposal development; bibliographic skills involved in conducting a significant research study.

MuEd 5115. Research in Music Education: Measurement. (3 cr; A-F only)
Assessment of music behaviors, including test design, interpretation of test results, and evaluation and reporting of student achievement; published tests in music; uses of assessment and measurement in the classroom and in research.

MuEd 5211. Foundations of Music Education. (3 cr; A-F only)
An overview of the historical, philosophical, and psychological foundations of music education.

MuEd 5313. Youth Music: Preferences, Influences, and Uses. (2 cr; A-F only)
Youth music preferences and their determinants; how music influences youth behavior; students' and teachers' uses of commercial styles; particularly appropriate for educators and parents.

MuEd 5433. Techniques and Materials: Choral Ensembles. (2 cr; SP–Mus or music ed major or #; A-F only)
Research and literature on vocal and choral music education; choral curriculum issues; repertoire selection; rehearsal techniques.

MuEd 5606. Movement-Based Methods for Music Education. (2 cr; SP–Mus or music ed major or #; A-F only)
Participation in movement activities; study of Dalcroze philosophy and technique; applications of movement to music education; examination of research.

MuEd 5611. Teaching Music With Related Arts. (2 cr; A-F only)
Methods and materials for teaching music in cultural context including other art forms.

MuEd 5647. Teaching the Percussion Instruments. (2 cr; A-F only)
Contemporary approaches for teaching percussion in the schools; development of commercial materials and practice in performance techniques.

MuEd 5655. New Dimensions in Music Education. (2 cr; A-F only)
Analysis of recent curriculum trends and current issues.

MuEd 5664. Teaching Music on the Internet. (3 cr; A-F only)
Home page development techniques, investigation of software and materials, audio and video utilities, and research applications.

MuEd 5667. Computer-Based Music Instruction. (3 cr; SP–Mus or music ed major or #; A-F only)
Design and development of computer applications for the music classroom. Creating interactive audio and video presentations for music theory, ear training, composition, analysis, music history, and appreciation.

MuEd 5668. Computerized Music Notation. (3 cr [max 6 cr])
Fundamentals of music notation and printing utilizing the computer, MIDI keyboards, and Finale software program. Preparation of instrumental and vocal scores, part extraction and page layout. Basic techniques for sequencing and transcription.

MuEd 5750. Topics in Music Education. (1-4 cr [max 8 cr]; A-F only)
Selected topics in music education. Each offering focuses on a single topic.
CNR honors regis, #; A-F only)

NRES 3041. Experience and Training in a Field Setting. (1-3 cr; QP ∼ SP; A-F only) Students provide an oral description and summary of their internship as well as a structured paper or project on a topic related to their experience. Topic is agreed upon in consultation with faculty adviser.

NRES 3061. Water Quality: Management of a Natural Resource. (3 cr) Biophysical water quality in the context of today’s management concerns. Active learning approaches, and global and ecological perspectives toward understanding the management of surface and groundwater resources.

NRES 3202. Planning and Leadership in Natural Resource Management. (3 cr; QP ∼ A-F only) Study of the theory and practice of leadership, personal effectiveness, and approaches to planning in natural resource and environmental organizations. Readings, case studies, discussions, and lectures.

NRES 3205. Field Ecology in NRES. (4 cr; QP ∼ Biol 1009 or Biol 1201, Biol 3008 or EEB 3001 or FR 3104 or equiv; SB ∼ Biol 1009 or Biol 1011, Biol 3407 or EEB 3001 or FR 3104 or equiv) Field introduction to upland terrestrial, and aquatic habitats of northern Minnesota, their ecological processes, and aspects of management. Identification of common plants, animals, and soils. Application of field techniques. Field-oriented group problem solving.

NRES 3241. Natural Resource Policy and Administration. (3 cr; QP ∼ ApEc 1101 or Econ 1101; SP ∼ $5241; ApEc 1101 or Econ 1101) Basic concepts of political and administrative processes important to natural resource policy and program development. Focus on policy process, participants in policy development, and public programs. Use of case studies.

NRES 3245. Recreation Policy and Landscape-level Planning. (3 cr; QP ∼ FR 3104 or equiv; completion of all lower div requirements in RRM; A-F only) Broad themes of recreational land-use policy and planning in the United States. Selected historical and contemporary policy issues. Policy as product of social conflict over use of public resources. Landscape-level planning as means to implement policy and resolve social conflict.

NRES 3261. Economics and Natural Resources Management. (3 cr; QP ∼ ApEc 1101 or Econ 1101; SP ∼ $5261; ApEc 1101 or Econ 1101; A-F only) Economic concepts and tools for natural resources management. Financial and economic valuation, assessment methods, and links to planning and management. Cash flow analysis, benefit cost analysis methods and examples.

NRES 3293. Directed Study. (1-5 cr [max 12 cr]; QP ∼ SP; A-F only) Student selects and conducts a study of, or project, on a topic of personal interest in consultation with faculty member. The course is designated by initial proposal and reports of accomplishment.

NRES 3375. Wetlands Conservation. (3 cr; SP ∼ $5575) Freshwater wetland classification, wetland biota, current and historic status of wetlands, and the value of wetlands. National, regional, and Minnesota wetlands conservation strategies and the ecological principles used in wetland management are emphasized.

NRES 4010. Conservation of Plant Biodiversity. (3 cr; A-F only) Social and biological principles underlying the conservation of plant biodiversity at the individual, population, and community levels. Management and policy alternatives for maintaining biodiversity.

NRES 4195. Problem Solving in Natural Resources and Environmental Studies. (4 cr; QP ∼ $5210, all Rhet courses, 8 cr in area of concentration for NRES sr majors; 5245, FR 5130, FR 5222 for RRM sr majors; 4211, all required core courses, 8 cr in area of concentration for NRES sr majors; 3245, FR 4181, FR 4232 for RRM sr majors; A-F only) Opportunity to apply tools and skills obtained in classes on policy, planning, and managerial situations. Students will work with a “real world” client to produce a publishable technical report.

NRES 4200. Honors Seminar. (1 cr; QP ∼ NRES honors student; SP ∼ NRES upper div honors program; A-F only) Lectures and discussions of topics presented by faculty, students, and guest speakers.

NRES 4211. Survey, Measurements, and Modeling in Natural Resources. (3 cr; QP ∼ Math 1142 or Math 1251, Stat 3011; SP ∼ Math 1142 or Math 1271, Stat 3011) Survey design, measurement, and modeling in the study of natural resource issues. Emphasis on survey design, data collection, analysis of data, and model development and use. Methods encompass both ecological and economic interests.

NRES 4295. GIS for Problem Solving in Environmental Science and Management. (4 cr; QP ∼ FR 5130 or SP ∼ FR 4131 or A-F only) Application of spatial data inventory and analysis in complex environmental planning problems. Experience with common spatial data collection and database development methods, including GPS, DLG, TIGER, and NWI data, as well as spatial analysis. Topics identified by nonuniversity partners.

NRES 4395. Natural Resources Planning. (4 cr; QP ∼ NRES sr; SP ∼ NRES sr; A-F only) Natural resource planning for multiple resource uses; techniques and models for evaluating and assessing the trade-offs among alternative management plans. Case studies and laboratory exercises.

NRES 4801. Honors Research. (2 cr; QP ∼ NRES honors student; SP ∼ NRES upper div honors program; A-F only) First semester of an independent research project supervised by a faculty member.

NRES 4802. Honors Research. (2 cr; QP ∼ NRES honors student; SP ∼ NRES upper div honors program; A-F only) Students complete honors thesis and present an oral report.

NRES 4811. Natural Resources Interpretation. (3 cr; QP ∼ JR or SR student; SP ∼ JR or SR student; A-F only) First-hand experience on interpretive talks, self-guided trails, brochure development, exhibit design, and non-formal teaching pedagogy. Master planning and evaluation provides skills for professional interpreters to work in private, state, or federal agencies.

NRES 5000. Colloquium: Natural Resources and Environmental Studies. (1 cr; A-F only) Lectures from experts; readings and discussion of current environmental topics/issues. Topics vary and are announced each semester. Meets with NRES 3000.

NRES 5001. Colloquium: Perspectives on Treaty Rights. (2 cr) Readings and class discussion about the nature of treaty rights reserved by indigenous Americans with respect to utilization of natural resources. Special emphasis on Midwest issues. This web-assisted course meets with NRES 5001.

NRES 5002. Colloquium: Exotic Plants and Animals. (1 cr; A-F only) Lectures from experts; readings and discussion of current issues in exotic plants and animals. Meets with NRES 5002.

NRES 5003. Honors Colloquium. (1 cr; SP ∼ FR or soph, CHR honors regis, A-F only) Lectures from experts; readings and discussion of current environmental topics/issues.

NRES 5011. Ethics, Conflict, and Leadership in Resource Management. (3 cr) Readings and discussion of normative ethics and leadership considerations applicable to the management of natural resources and our natural environment.

NRES 5021. Plant Resource Management and the Environment. (3 cr; QP ∼ Biol 3008 or EEB 3001 or FR 3104 or equiv; SB ∼ 5021; Biol 3407 or EEB 3001 or FR 3104 or equiv) World vegetation management practices, extent, and implications. Emphasis on forest management, agriculture, and agroforestry; historical, current, and prospective practices; environmental and societal implications.

NRES 5331. Experience and Training in a Field Setting. (1-3 cr; QP ∼ SP; A-F only) Students provide an oral description and summary of their internship as well as a structured paper or project on a topic related to their experience. Topic is agreed upon in consultation with faculty adviser.

NRES 5301. Study of philosophy, art, science, and practice of leadership and its relationship to management and
environmental ethics. Leadership models, traits, behaviors, style, and group process. Development of personal leadership philosophy.

NRES 5241. Natural Resource Policy and Administration. (3 cr; QP-ApEc 1101 or Econ 1101, grad student or #; SP–§ 3241; ApEc 1101 or Econ 1101, grad student or #)

Basic concepts of political and administrative processes important to natural resource policy and program development. Focus on policy process, participants in policy development and public programs. Use of case studies.

NRES 5245. Recreation Policy and Landscape-level Planning. (3 cr; QP–Grad student or #; SP–§ 3245; grad student or #; A-F only)

Broad themes of recreational land-use policy and planning in the United States. Selected historical and contemporary policy issues. Policy as product of social conflict over use of public resources. Landscape-level planning as means to implement policy and resolve social conflict.

NRES 5261. Economics and Natural Resources Management. (3 cr; QP–ApEc 1101 or Econ 1101, grad student or #; SP–5261; ApEc 1101 or Econ 1101, grad student or #; A-F only)

Economic concepts and tools for natural resources management. Financial and economic valuation, assessment methods, and links to planning and management. Cash flow analysis, benefit cost analysis methods and examples.

NRES 5575. Wetlands Conservation. (3 cr; QP–Sr or grad student or #; SP–§ 5575; Sr or grad student or #)

Freshwater wetland classification, wetland biota, current and historic status of wetlands, and the value of wetlands. National, regional, and Minnesota wetlands conservation strategies and the ecological principles used in wetland management are emphasized.

NRES 5703. Agroforestry: Role in Watershed Management. (2 cr; QP–Biol 1009 or Biol 1201, Chem 1001 or Chem 1051; SP–Biol 1009 or Biol 1011, Chem 1001 or Chem 1021)

Agroforestry systems, what they are, their intended purpose, and production and watershed protection benefits derived from such practices. Role of agroforestry in sustainable development. Agroforestry examples/case studies presented from North America and developing countries.

Naval Science (Nav)

Department of Naval Science (Naval ROTC)

Nav 1000, Professional Training in Naval Science. (1 cr [max 1 cr]; QP–Enrolled in NROTC; SP–Fr enrolled in NROTC; S-N only)

Instruction and training in basic military subjects and professional development, including military leadership, close order drill, marksmanship, honors and ceremonies, personnel inspections, and computer-based war game simulations. Classes and small group seminars on leadership and ethical issues with case studies.

Nav 1101, Introduction to Naval Science. (3 cr; A-F only)

Nav organization, customs and traditions, officer and enlisted rank and rating structures, uniforms and insignia, shipboard duties, seamanship, damage control, and safety. Core values of the naval services, Navy regulations, and the Uniform Code of Military Justice.

Nav 1102, Seapower and Maritime Affairs. (3 cr; SP–#; A-F only)

Historical influences on the development of the U.S. Navy from the American Revolution to the present. Examination of several critical, contemporary issues in naval/maritime affairs.

Nav 2000, Professional Training in Naval Science. (1 cr [max 1 cr]; QP–Enrolled in NROTC; SP–Soph enrolled in NROTC; S-N only)

Instruction and training in basic military subjects and professional development, including military leadership, close order drill, marksmanship, honors and ceremonies, personnel inspections, and computer-based war game simulations. Classes and small group seminars on leadership and ethical issues with case studies.

Nav 2201, Ship Systems I (Naval Engineering). (3 cr; SP–#; A-F only)

Detailed study of ship characteristics and types, including ship design, hydrodynamic forces, stability, compartmentation, propulsion, electrical and auxiliary systems, damage control and administration. Basic concepts of theory and design for steam, gas turbine, diesel, and nuclear propulsion.

Nav 2202, Ship Systems II (Science and Technology in Naval Weapons Systems). (3 cr; SP–#; A-F only)

Processes of evaluation, detection, threat analysis, weapon selection, delivery, guidance, and explosives. Physical effects of radars, ships, and sonar. Facets of command, control, and communications are explored as a means of weapons system integration.

Nav 3000, Professional Training in Naval Science. (1 cr [max 1 cr]; QP–Enrolled in NROTC; SP–Fr enrolled in NROTC; S-N only)

Instruction and training in basic military subjects and professional development, including military leadership, close order drill, marksmanship, honors and ceremonies, personnel inspections, and computer-based war game simulations. Classes and small group seminars on leadership and ethical issues with case studies.

Nav 3301, Navigation I (Piloting and Celestial Navigation). (3 cr; SP–#; A-F only)

Theory and practical knowledge of how to pilot a ship near land. Coordinate systems, chart reading, dead reckoning, fixes, tides, currents, and anchoring. Theory of navigating based on the observance of celestial bodies.

Nav 3302, Navigation II (Seamanship and Ship Operations). (3 cr; QP–1201, 1202, 1203; SP–3301, #; A-F only)

National and international nautical rules of the road, seamanship, tactical maneuvering and signaling, relative motion, vector-analysis, formation tactics, ship employment, ship behavior and characteristics. Application of the maneuvering board in solving motion problems.

Nav 3310, Evolution of Warfare. (3 cr; SP–#; A-F only)

Great military leaders of history. Traces the development of warfare from the dawn of recorded history to the present, focusing on the impact of major military theorists, strategists, tacticians, and technological developments.

Nav 4000, Professional Training in Naval Science. (1 cr [max 1 cr]; QP–Enrolled in NROTC; SP–Fr enrolled in NROTC; S-N only)

Instruction and training in basic military subjects and professional development, including military leadership, close order drill, marksmanship, honors and ceremonies, personnel inspections, and computer-based war game simulations. Classes and small group seminars on leadership and ethical issues with case studies.

Nav 4401, Leadership and Management I. (3 cr; SP–#; A-F only)

Advanced level of study of organizational behavior and management. Major behavioral theories are examined in detail. Practical applications are explored using exercises, case studies, and seminar discussions.

Nav 4402, Leadership, Management, and Ethics II. (3 cr; QP–Mgrmt 3001; SP–4401 or Mgmt 3001; #; A-F only)

Develops students’ understanding of the junior officer role and the myriad of responsibilities faced as a leader, manager, and professional officer of the Naval Services. Continues to develop specific competencies in the areas of leadership, management, professional administration, and development. Emphasis on Naval Service ethics and core values.

Nav 4410, Amphibious Warfare. (3 cr; SP–#; A-F only)

Traces the development of amphibious doctrine and its expansion in the Pacific Campaign during World War II. Detailed case studies of Tarawa, Iwo Jima, and Okinawa give the student an appreciation for the amphibious planning process.

Neuroscience (NSc)

College of Biological Sciences

NSc 3101. Introduction to Neuroscience I: From Molecules to Molecules. (3 cr; QP–# Phsl 3101, Biol 3101; Biol 3021 or 5331, Biol 5004 or #5004; Sp–Biol 3101, Biol/Biol 3021 or Biol 4331, Biol 4004 or #4004)

Basic principles of cellular and molecular neurobiology and nervous systems.

NSc 3102. Introduction to Neuroscience II: Biological Basis of Behavior. (3 cr; QP–Biol 3102, Biol 3101; NSc 3101 or Phsl 3101; Sp–Biol 3102, Biol 3101 or NSc 3101 or Phsl 3101; A-F only)

Organization of neural systems and subsystems underlying the sensory and motor aspects of behavior.

NSc 3105. Neurobiology Laboratory I. (1-5 cr; QP–# Phsl 3105, Biol 3105; NSc 3101 or Phsl 3101 or #; Sp–Biol 3105, Biol 3101 or NSc 3101 or Phsl 3101; A-F only)

Principles, methods, and laboratory exercises for investigating neural mechanisms and examining experimental evidence.

NSc 3115. Neurobiology Laboratory II. (1-5 cr; QP–# Phsl 3115; NSc 3102 or Phsl 3102 or #; Sp–Biol 3115, Biol/Phsl 3115; Biol 3020 or NSc 3102 or Phsl 3102; A-F only)

Principles, methods, and laboratory exercises for investigating neural mechanisms and examining experimental evidence.

NSc 4993. Advanced Topics in Neurobiology. (3 cr; QP–Biol 3101, Biol/Biol 3102 or #; Sp–Biol 3105, Biol/Phsl 4151, Biol/NSc/Phsl 3101 or #; A-F only)

Primarily for undergraduates majoring in neuroscience or related areas. In-depth study of topics such as neurodevelopment, neurochemistry or molecular neuroscience, sensory systems, motor control, and behavioral neuroscience.

NSc 4993. Directed Studies. (1-7 cr [max 7 cr]; QP–#; A-F; max of 10 cr or 5970 and/or 5990 may count toward major requirements; Sp–#; A-F; max of 7 cr or 4993 and/or 4994 may count toward major requirements; S-N only)

Individual study of selected topics with emphasis on selected readings and use of scientific literature.

NSc 4994. Directed Research. (1-7 cr; QP–#; A-F; max of 10 cr or 5970 and/or 5990 may count toward major requirements; Sp–#; A-F; max of 7 cr or 4993 and/or 4994 may count toward major requirements; S-N only)

Lab or field investigation of selected areas of research.

NSc 5011. Perception. (3 cr; QP–Psy 3001 or Psy 3051 or #; Sp–Psy 3031 or Psy 3051 or #)

Cognitive, computational, and neuroscience perspectives on visual perception. Topics include color vision, visual sensitivity and adaptation, cells and circuits in the eye, structure and function of the visual brain.

NSc 5037. Psychology of Hearing. (3-4 cr; QP–Psy 3031 or #; Sp–Psy 3031 or #)

Biological and physical aspects of hearing, auditory psychophysics, theories and models of hearing, perception of complex sounds including music and speech, clinical and other applications.
Norwegian (Nor)
Department of German, Scandinavian, and Dutch College of Liberal Arts
Nor 1001. Beginning Norwegian. (4 cr)
Emphasis on working toward novice-intermediate low proficiency in all four language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.).

Nor 1002. Beginning Norwegian. (4 cr; SP–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 Norwegian culture.

Nor 1003. Intermediate Norwegian. (4 cr; SP–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.

Nor 1004. Intermediate Norwegian. (4 cr; SP–1103)
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.

Nor 3011. Advanced Norwegian. (4 cr; SP–3011)
Designated to help students achieve advanced proficiency in Norwegian. Discussion of fiction, film, journalistic, and professional prose is complemented by grammar and vocabulary building exercises and a systematic review of oral and written modes of communication.

Nursing (Nurs)
School of Nursing
Nurs 1020. Challenge of Nursing. (2 cr)
Overview of the nursing profession, including career opportunities and challenges. Survey of contemporary nursing and its historical roots and stages.

Nurs 3690. Life Span, Growth, and Development I. (2 cr; QP–One general psychology and one general biology course or #–SP–One general psychology and one general biology course or #)
An introductory, multimedia course that incorporates biological, sociological, and psychological perspectives of human life span development from the prenatal period through young adulthood.

Nurs 3691. Life Span, Growth, and Development II. (1 cr; QP–3690; one general psychology and one general biology course or #–SP–3690, one general psychology and one general biology course or #)
An introductory, multimedia course that incorporates biological, sociological, and psychological perspectives of human life span development for the period of young adulthood through aging and the death experience.

Nurs 4000. Introduction to Public Health. (2 cr; SP–1 yr college-level courses)
Health and risk factors of populations. Principles of epidemiology and environmental health are applied to selected public health issues. Emphasis on the multiple factors that affect health and distribution of health care resources.

Nurs 4100. Introduction to Nursing, Health, and Health Promotion. (5 cr; QP–5002; SP–4000; #101, #102, #103, #104)
The nature of nursing and nursing practice, and the relationship among their foundational concepts: health, person, and environment. Concepts of health, health assessment, and health promotion for the individual within the context of family and community.

Nurs 4101. Clinical Practicum: Health and Health Promotion. (2 cr; SP–4100, #102, #103; #104; S–N only)
Focus on health promotion/disease prevention. Emphasis on health assessment and strategies for promoting health in individuals across the life span.

Nurs 4102. Foundational Interventions for Nursing. (2 cr; QP–5000, Patho Phys or #–Pharmacology or #–SP–4100, #101, #103, #104)
Learn to perform psychomotor skills used in standardized health assessment and selected nursing complementary, and delegated medical interventions when caring for persons throughout the life span in a variety of contexts.

Nurs 4103. Therapeutic Communication in Health Care. (3 cr; QP–Admission to Nurs or #–SP–4110, #101, #102, #103, #104)
Develop the use of self in the therapeutic nurse-client relationship. Apply the principles of interpersonal communication with clients and other health professionals. Develop interpersonal skills for interaction with clients, families, and communities.

Nurs 4104. Ethical Sensitivity and Reasoning in Health Care. (2 cr; SP–4100, #101, #102, #103 or #)
Develop sensitivity to the range and complexity of ethical issues/dilemmas in health care. Use ethical principles and theories to reason about ethical problems. Examine use of key ethical concepts in addressing specific morally troubling issues in health care settings.

Nurs 4200. Care of Adults with Health Disruptions I: Physiological Conditions. (16 cr; SP–4100, 4101, #102, 4103, 4104, #202, #205, #210, #4210, #4302, #4306)
Nursing care of adults experiencing acute and chronic physiological disruptive events. Emphasis on recognition of response patterns, formulation of goals, selection and application of appropriate interventions, and evaluation of client outcomes.
Nurs 4202. Core Interventions for Nursing Practice. (2 cr; QP-SP 4200, 4200, 4205, 4205, 4300, 4300) Learn to perform the psychomotor skills used in core nursing, complementary, and delegated medical interventions when caring for persons or families, throughout the life span, experiencing health disruptions or transitions.

Nurs 4205. Nursing Theory and Research. (3 cr; QP-Undergrad in Nurs; SP-Undergrad in Nurs, 4200, 4202, 4202, or 4200, 4300, 4300) Examine knowledge basic to the discipline and practice of nursing. Relationships among research, theory/theoretical formulations, and practice. Research process is introduced with attention to utilization of research in practice.

Nurs 4206. Honors Course: Nursing Theory and Research. (3 cr; QP-Nurs honors student; SP-Nurs honors student) Examine knowledge basic to the discipline and practice of nursing. Relationships among research, theory and practice are analyzed. Research process is introduced with attention to utilization of research in practice. Students develop honors research proposal.

Nurs 4210. Care of Adults with Health Disruptions II: Psychiatric Illnesses. (4 cr; QP-SP 4100, 4101, 4102, 4103, 4104, 4200, 4202, 4205, 4300, 4306) Form therapeutic relationship with clients experiencing psychiatric illnesses. Develop skill in collaborating with a multidisciplinary team to assess biopsychosocial needs, develop a holistic plan of care, help clients negotiate care, and evaluate client outcomes.

Nurs 4300. Family-Centered Nursing Care of Infants, Children, and Adolescents. (2 cr; SP-4100, 4101, 4102, 4103, 4104, 4202, 4202, 4205, 4310 or 4302, 4306, 4310) Content and experience in caring for children and families when they are acutely or chronically ill. Didactic presentations cover situations and conditions common to children. Practice opportunities at hospitals, health care agencies, schools, and community organizations.

Nurs 4302. Expanded Interventions for Nursing Practice. (2 cr; SP-4200, 4300, 4306, 4310 or 4200, 4210, 4306) Experience of building on core interventions for nursing practice to perform psychomotor skills in expanded nursing, complementary, and delegated medical interventions when caring for persons throughout the life span in differing contexts.

Nurs 4405. Critical Care Nursing Practice. (3 cr; QP-SP 4400, 4401, 4402, 4300, 4306) A foundation for interpreting the structure and processes of health care delivery including the roles of health professionals. Examine social, economic, technological, and political factors influencing health care quality, access, and cost. Analyze ethical implications of health resource utilization.

Nurs 4501. Holistic Care of Childbearing Families. (4 cr; SP-4100, 4101, 4102, 4103, 4104, 4202, 4205, 4300 or 4302, 4306) Explores the scope of the nurse's role during the antepartum period, birth experience, and immediate postpartum phase. Emphasis on health promotion, risk reduction, and active participation of clients to achieve optimum family health.

Nurs 4400. Health Care of Populations. (3 cr; QP-SP 4200, 4210, 4300, 4302, 4306, 4310, 4401, 4402, 4404, 4406, 4410) Synthesize knowledge and skills to promote and protect the health of populations through systematic assessment, planning, intervention, and evaluation. Emphasis on nursing research, roles, public health values, and collaborative activities promoting population health.

Nurs 4401. Health Care of Populations: Clinical Practicum. (2 cr; SP-4200, 4210, 4300, 4302, 4306, 4310, 4400, 4402, 4404, 4406, 4410) Guided practice in population-based nursing to promote and protect health through systematic assessment, planning, intervention, and evaluation.

Critical examination of interdisciplinary collaboration, partnering with culturally diverse populations, and ethical decision-making in public health.

Nurs 4402. Taking Ethical Action in Health Care. (1 cr; QP-SP 4200, 4200, 4205, 4300, 4300, 4310) Distribution of scarce resources to meet health care needs in various health care settings. Ethics in a managed care environment. Increasing focus on how to take ethical action in health care.

Nurs 4404. Applied Nursing Research and Research Utilization. (2 cr; SP-4205 or 4306) Design and carry out a research project of limited scope to develop fundamental skills in systematic inquiry, and interpreting and evaluating research as it applies to nursing practice. The final product is a scholarly research report.

Nurs 4405. Honors Course: Applied Research and Research Utilization. (2 cr; QP-Nurs honors student; SP-4206) Fundamental skills in systematic inquiry, and interpreting and evaluating research for applicability to nursing practice. Implement the study proposed in 4206 and write a scholarly research report to serve as the honors research project or thesis.

Nurs 4406. Leadership and Management for Shaping Professional Nursing Practice. (4 cr; QP-SP 4100, 4102, 4205, 4306) Provides a basis for synthesis of current leadership and management theories within the professional practice of nursing to examine the interaction among professional nursing issues, health care trends, and the leadership potential of nurses.

Nurs 4407. Honors Course: Seeking Solutions to Global Health Issues. (2 cr; SP-4405 or 4306) Global health issues are examined from an interdisciplinary perspective. Emphasis on ethical and cultural sensitivity, and on understanding the complexities of the issues in order to propose realistic actions that could be taken for resolution.

Nurs 4410. Critical Care Nursing. (3 cr; QP-SP 4140, 4141, 4142, 4200, 4210, 4300, 4306, 4310, 4400, 4404, 4406, 4409) Acquire fundamental knowledge underlying the care of patients with life-threatening conditions and their families in a highly technological and unpredictable environment. Analyze relationships of multisystem alterations in functioning from complex physiological disruptions using advanced critical thinking and prioritization skills.

Nurs 4500. Critical Care Nursing Practice. (3 cr; QP-SP 4400, 4401, 4402, 4404, 4406, 4410; A-F only) Participate in the care of critically-ill patients with a nurse preceptor. Synthesize theoretical knowledge and practice skills. Increase competence in evaluating patient data from numerous sources and provide safe, organized care to patients with life-threatening, multisystemic problems.

Nurs 4800. Nursing Topics. (1-16 cr or max 16 cr) QP-SP. Exploration of a topic to meet individual student needs.

Nurs 4801. Research Topics. (1-16 cr or max 16 cr) QP-SP Exploration of research topic to meet individual student needs.

Nurs 5141. Ethical Issues in the Health Care of Elders. (3 cr; QP-Sr undergrad or Nurs sr or #) Survey of common ethical issues in health care that confront elders, their families, health care providers, and the broader society.

Nurs 5170. Research Topics. (1-16 cr or max 16 cr) QP-SP Exploration of research topic to meet individual student needs.

Nurs 5171. SPSS Programming and Data Analysis. (2 cr; QP-Inferential statistics, grad or professional student, # for undergrad; SP-Inferential statistics, grad or professional student, # for undergrad) Focus on skills needed to properly collect and analyze data using SPSS for Windows. While learning the basic skills for analysis, statistics are reviewed to ensure appropriate analysis and correct interpretation of output.

Nurs 5200. Holistic Health Assessment and Therapeutics for Advanced Practice Nurses. (3 cr; QP-Admission to advanced practice nursing or #) Health assessment knowledge and skills for advanced practice nursing with patients across the age span, including pregnancy. Select nursing interventions and complementary therapies are examined for their application to specific populations and illnesses.

Nurs 5202. Introduction to Complementary Healing Practices. (3 cr) Historical and cultural context of the allopathic and complementary healing traditions. Philosophes and paradigms of selected complementary therapies and culturally based healing traditions; descriptions of selected interventions.

Nurs 5222. Advanced Physiology. (3 cr; QP-Grad in nurse practitioner/nurse-midwifery, # for undergrad) Systems approach to human physiology and pathophysiology to focus on physiologic changes across the life span. Emphasis on clinical application using population-specific content related to various specialty areas in advanced practice nursing.

Nurs 5223. Assessment of Psychopathology for Advanced Practice Psychiatric/Mental Health Nursing. (4 cr; QP-Nurs grad student or #) Advanced concepts from nursing theory and research, biopsychosocial, neuroendocrine, neurophysiological, and neurophysiology used in the assessment of psychiatric symptoms and disorders across the age continuum. During clinical, develop proficiency in the assessment of psychopathology in clients with psychiatric symptoms.

Nurs 5224. Clinical Pharmacotherapeutics. (3 cr; QP-Grad student, # SP-Grad student, #) Advanced practice nurses in primary care get a foundation in pharmacotherapeutics across the life span. Topics include pharmacodynamics/kinetics/epidemiology, client patterns of medication use, selection of appropriate drugs for selected client conditions, and prescriptive writing privileges for advanced practice nurses.

Nurs 5225. Psychopharmacology for Advanced Practice Psychiatric/Mental Health Nursing. (3 cr; QP-SP-Grad student or #) Advanced concepts in neuroscience, psychopharmacology, and clinical management related to psychopharmacologic treatment of psychiatric disorders and symptoms. Current scientific knowledge of psychopharmacology and its application to problems seen in a variety of clinical settings.

Nurs 5300. Health Behavior Intervention: Theory and Application. (3 cr; QP-Grad student or #) Interdisciplinary course examines theoretical foundations and research base of intervention strategies to promote health behavior acquisition, behavioral change, and maintenance for adults (individuals and groups). Critical examination of health behavior and patterns and health risk assessment; approaches to program creation.

Nurs 5340. Group as a Health Care Intervention. (2 cr; SP-Grad student) Theoretical concepts and research findings from the areas of group therapy and dynamics are applied in the development of a model for using group as an intervention for various clinical populations.

Nurs 5501. Professional Issues in Nurse-Midwifery. (1-2 cr; QP-Nurs grad major, SP-Nurs grad major, #) Analysis of professional issues that confront and impact the practice of certified nurse-midwives. History and development of the professional organization including certification, legislation, ethical dimensions, public policy, and clinical practice issues.

Nurs 5520. Women's Issues: A Health Perspective. (3 cr; QP-Upper div or grad student or # SP-Upper div or grad student) Multidisciplinary exploration and analysis of a broad range of women's health issues: physiological,
developmental, historical, sociocultural, feminist, nursing and medical. Topics include health promotion and reproductive health issues across the life span.

Nurs 5603. School Nursing in the Educational System and Community. (3 cr; OP– #; SP– PS 5960, 8040, 8100, 5963 or 55963, #; SP–B100, 8600, 8621, 8241 or #; SP–F only) Emphasis on knowledge of school health problems, assessment and intervention strategies, integration of research findings, and applications with individuals, families, and communities.

Nurs 5604. Advanced Health Assessment and Interventions with Adolescents. (3 cr; OP– #; SP– CPSy 5303 or equiv or #) Development of one-on-one health assessment and intervention strategies appropriate for working with teenagers. Integrates knowledge from nursing, public health, health behavior, and adolescent development as a framework for clinical assessment and intervention approaches.

Nurs 5800. Nursing Topics. (1-4 cr; SP– #) Course allows students to study a topic not included in regular courses, or for faculty to offer a course to determine interest in a topic.

Nurs 5801. Policymaking, Health Policy, Political Action and Nursing. (3 cr; OP–Nurs grad student) Analysis of sociocultural values, public policymaking, health care policy, and the relationship to the health care delivery system. The impact of health care policy on the profession and practice of nurses, and on consumers. Emphasizes participation of nurses in policymaking and political action.

Nurs 5802. Spirituality and Nursing Practice. (2 cr; OP– For undergrad cr: Nurs sr or RN; for grad cr: RN with baccalaureate; SP– For undergrad cr: Nurs or RN; for grad cr: Nurs grad student or #) Exploration of the concept of spirituality as integral to the whole person. Discussion of spiritual nursing care interventions.

Nurs 5803. Transcultural Nursing: Theories and Issues. (2 cr; OP– One cultural anthrop course; Nurs undergrad or grad student or RN; SP– One cultural anth course or #) Study of cultural factors that influence theories, issues, and nursing care practices in diverse cultures and subcultures. Emphasis on nursing within international systems of health care and nursing practices related to various health-illness systems in this country and worldwide.

Operations and Management Science (OMS)

Department of Operations and Management Science

Curtis L. Carlson School of Management

OMS 1550. Business Statistics: Data Sources, Presentation, and Analysis. (4 cr; OP– Math 1111 or equiv, 20 cr completed; SP– Math 1111 or equiv, 20 cr completed; A-F only) Business statistics concepts/methods for applying: exploratory data analysis, basic inferential procedures, statistical process control, regression analysis, experimental design, and time series. Objectives are to improve students’ "statistical thinking abilities" and their managerial decision making and problem solving capabilities.

OMS 3001. Introduction to Operations Management. (2 cr; A-F only) Basic concepts, principles, and techniques for managing manufacturing and service operations. Emphasis on decision making in the operations function of organizations. Quantitative and qualitative methods for improving the management of operations stressed. Management students provided with an appreciation of the operations function of organizations.

OMS 3041. Project Management. (2 cr; OP– 3000 or #; SP– 3000 or #; A-F only) Principles and methods useful for planning and controlling a project, including development of project plan, resource planning and scheduling, and project monitoring and control. Selected computerized packages are utilized, including PERT and CPM, and examples of different types of projects from manufacturing and service industries are used.

OMS 3056. Production and Inventory Management. (4 cr; OP– 3000 or #; SP– 3001 or A-F only) Concepts and principles related to designing, controlling, and improving production and inventory management systems throughout the supply chain. Topics include capacity planning, inventory planning, production planning, forecasting methods, Material Requirements Planning (MRP), Just-In-Time, and theory of constraints.

OMS 3059. Quality Management. (4 cr; OP– 3000 or #; SP– 3001 or #; A-F only) Planning and organizing quality improvement of processes, products and services; quality aspects of product/service design; quality determination cost, customer/vendor relations; process control; quality control; management of improvement process; and organizational assessment of quality. Introduction of concepts relevant to service/manufacturing.

OMS 5170. Simulation Modeling and Analysis. (4 cr; SP– BA 1550 or MBA 6120 or A-F only) Techniques and application of computer simulation modeling and analysis. Includes animations of existing or proposed real-world facilities and processes. Experiments in simulation programming language and environment. Simulation models and animations demonstrating actual operation of models. Planning, analysis, and interpretation of simulation experiment results.

Pharmacy (Phar)

Department of Pharmacy Practice

College of Pharmacy

Phar 1001. Orientation to Pharmacy. (1 cr; S-N only) The pharmacist’s role, issues faced by the pharmacy profession, and information on the University of Minnesota College of Pharmacy.

Phar 1002. Health Sciences Terminology. (2 cr; SP–$5201) Self-study course designed to provide students with a working knowledge of terminology used in the health sciences.

Phar 5201. Health Sciences Applied Terminology. (2 cr; SP–$41002) Self-study course designed to provide students with advanced knowledge of medical terminology and its application in the content of patient medical records and clinical cases.

Phar 5270. Therapeutics of Herbal and Other Natural Medicinals. (2 cr; SP–Organic chem, physiology, patho-physiology of disease states, third-yr Phar; A-F only) Interdisciplinary course which will encompass the pharmacology, clinical indications, drug interactions of the most commonly used products today in nontraditional complementary health care. Explore the historical significance as well as evidenced-based role of these products in health care today. Case studies help students understand the clinical application of these products. Designed for practitioners and students in the health sciences.

Phar 5280. Principles of Health Care Counseling. (1 cr)

Pharmacy Practice (Phar)

Department of Pharmacy Practice

College of Pharmacy

Phar 1001. Orientation to Pharmacy. (1 cr; S-N only) The pharmacist’s role, issues faced by the pharmacy profession, and information on the University of Minnesota College of Pharmacy.

Phar 1002. Health Sciences Terminology. (2 cr; SP–$5201) Self-study course designed to provide students with a working knowledge of terminology used in the health sciences.

Phar 5201. Health Sciences Applied Terminology. (2 cr; SP–$41002) Self-study course designed to provide students with advanced knowledge of medical terminology and its application in the content of patient medical records and clinical cases.

Phar 5270. Therapeutics of Herbal and Other Natural Medicinals. (2 cr; SP–Organic chem, physiology, patho-physiology of disease states, third-yr Phar; A-F only) Interdisciplinary course which will encompass the pharmacology, clinical indications, drug interactions of the most commonly used products today in nontraditional complementary health care. Explore the historical significance as well as evidenced-based role of these products in health care today. Case studies help students understand the clinical application of these products. Designed for practitioners and students in the health sciences.

Phar 5280. Principles of Health Care Counseling. (1 cr)

Philosophy (Phil)

Department of Philosophy

College of Liberal Arts

Phil 1001. Introduction to Logic. (4 cr) Application of formal techniques for evaluating arguments.

Phil 1002. Introduction to Philosophy. (4 cr) Problems, methods and schools of philosophy; historical and contemporary.

Phil 1003. Introduction to Ethics. (4 cr) Central concepts and principal theories of moral philosophy.

Phil 1004. Introduction to Political Philosophy. (4 cr) Central concepts and principal theories of political philosophy.

Phil 1005. Scientific Reasoning. (4 cr) Techniques for understanding and evaluating scientific information as presented in the popular media and in more specialized publications. Emphasis on general reasoning skills that do not require extensive training in particular sciences.

Phil 1006. Philosophy and Cultural Diversity. (4 cr; SP–$1002) Central problems and methods of philosophy through culturally diverse texts. Focus will be critical and comparative, reflecting a range of U.S. philosophical traditions.

Phil 1007. Introduction to Political Philosophy Practicum. (1 cr; OP–$11004; SP–$11004) Students are required to do at least two hours a week of community service and connect their service activities in writing to issues discussed in 1004.
Phil 1011. Honors Course: Introduction to Logic. (4 cr)
Application of formal techniques for evaluating arguments.

Phil 1012. Honors Course: Introduction to Philosophy. (4 cr)
Problems, methods, and schools of philosophy; historical and contemporary.

Phil 3001. General History of Western Philosophy: Ancient Period. (4 cr)
Major developments in ancient Greek philosophic thought: pre-Socrates, Socrates, Plato, Aristotle, Hellenistic thinkers.

Phil 3005. General History of Western Philosophy: Modern Period. (4 cr)
Major developments in philosophic thought of the modern period: renaissance beginnings, Descartes through Kant.

Phil 3231. Philosophy and Language. (4 cr)
Philosophical issues concerning the nature and use of human language.

Phil 3234. Knowledge and Society. (4 cr)
Critical discussion of concepts such as knowledge, objectivity, justification, rationality, evidence, authority, expertise, and trust in relation to the norms and privileges of gender, race, class, and other social categories.

Phil 3302. Moral Problems of Contemporary Society. (4 cr)
Selected moral problems of private and public life.

Phil 3304. Law and Morality. (4 cr)
A study of the relationship among law, morality, and our role as citizens.

Phil 3305. Medical Ethics. (4 cr)
Moral problems confronting physicians, patients, and others concerned with medical treatment, research, and public health policy. Topics include abortion, euthanasia, genetic engineering, informed consent, proxy decision-making, and allocation of medical resources.

Phil 3307. Social Justice and Community Service. (4 cr)
Exploration of concepts of justice, charity, equality, freedom, community service in connection with current social issues. Perspectives from philosophy, history, literature, and student involvement in the community service for at least three hours per week.

Phil 3308. Social Justice and Community Service. (4 cr)
Special exploration of diversity in connection with concepts of justice, charity, equality, freedom, community service. Perspectives from philosophy, history, literature, and student involvement in the community. Community service for at least three hours per week. Students may enroll in this course without having taken 3307.

Phil 3311. Introduction to Ethical Theory. (4 cr)
Nature and justification of moral judgments and moral principles; analysis of representative moral views.

Phil 3502. Introduction to Aesthetics. (4 cr)
Development of aesthetic theories with applications to specific aesthetic problems.

Phil 3602. Scientific Thought. (4 cr; SP–One course in philosophy or natural science)
Introduction to philosophical issues concerning the nature of scientific knowledge. Reading of historical and contemporary sources that describe major scientific achievements and controversies.

Phil 3607. Philosophy of Psychology. (4 cr; SP–One course in philosophy or psychology)
Major theories of mind including the “invention” of the mind by Descartes, classical empiricism, the impact of Darwinism, Freud’s theories, Gestalt psychology, behaviorism, Chomsky’s rationalism, contemporary functionalism, the computer model.

Phil 3900. Honors Seminar. (3 cr; SP–honors regis, 6 cr of 3xxx-5xxx philosophy courses)
Topics of contemporary interest varying from semester to semester.

Phil 3910. Major Seminar. (3 cr; SP–Phil major or #)
Development and presentation of the major project.

Phil 3993. Directed Studies. (1-3 cr; SP–#, A, U)
Guided individual reading or study.

Phil 4003. Medieval Philosophy. (3 cr)
A survey of several major figures of the medieval Christian synthesis, e.g., Augustine, Anselm, Aquinas, Scotus, Ockham.

Phil 4004. 19th-Century Philosophy. (3 cr)
A survey of several major figures from the 19th century, e.g., Hegel, Schopenhauer, Mill, Kierkegaard, Marx, Nietzsche.

Phil 4008. Survey of Contemporary Philosophy. (3 cr; SP–3005 or #)
A survey of major figures in contemporary philosophy, both analytic and phenomenological, e.g., Dewey, Russell, Wittgenstein, Heidegger, Carnap, de Beauvoir.

Phil 4009. Existentialism. (3 cr; SP–3005 or 4004 or #)
Central themes—such as being-in-the-world, freedom, and engagement of several important existentialist thinkers, e.g., Kierkegaard, Jaspers, Sartre, de Beauvoir, Baldwin.

Phil 4010. Selected Ancient Philosopher. (3 cr; SP–3001 or #)
One or more major writings of a selected ancient philosopher, e.g., Plato’s Parmenides, Plato’s Sophist, Aristotle’s Metaphysics.

Phil 4030. Selected Medieval Philosopher. (3 cr; SP–3001 or 4003 or #)
A major work of a selected medieval philosopher, e.g., Anselm’s Proslogion, Aquinas’s Summa contra Gentiles, Books I and II, Nicholas of Cusa’s On Learned Ignorance.

Phil 4414. Political Philosophy. (3 cr; SP–3001 or #)
Philosophical issues concerning the nature and sources of knowledge and the justification of political belief.

Phil 4614. Philosophy of Technology. (3 cr; SP–One philosophy course or #)
Philosophical problems and methods; the social role of technology, the impact of technology on philosophy and/or physics or #)

Phil 4760. Selected Topics in Philosophy. (3 cr; SP–One course in philosophy or education or #)
Philosophical accounts of the concept and principles of justice.

Phil 4762. Philosophy and Feminist Theory. (3 cr; SP–One course in philosophy or education or #)
Philosophical relevance of cybernetics, artificial intelligence, and computer simulation.

Phil 4766. Selected Topics in Philosophy. (3 cr; SP–Three 3xxx-5xxx philosophy courses or #)
Philosophical problems of contemporary interest.

Phil 4993. Directed Studies. (1-3 cr; SP–#, A, U)
Guided individual reading or study.

Phil 5202. Symbolic Logic II. (4 cr; SP–5201 or #) Elementary foundations, including the concepts of enumerability and nonenumerability. Turing machines and recursive functions; the results of Church, Gödel, and Tarski and the philosophical significance of those results.

Phil 5211. Modal Logic. (3 cr; SP–5201 or #) Axiomatic and semantic treatment of propositional and predicate modal logics; problems of interpreting modal languages.

Phil 5221. Philosophy of Logic. (3 cr) Attempts to answer the question, “What is logic?” Topics include the scope of logic; disputes about alternative logics; various theories concerning the nature of logical truth (e.g., conventionalism, the view that logical truths are contingent).

Phil 5222. Philosophy of Mathematics. (3 cr; SP–5202 or Sophmore matric) Major philosophical questions arising in connection with mathematics: What is mathematics about? How do we know the mathematics we do know? What is the relation between mathematics and the natural sciences. Selected readings of leading contributors such as Frege, Dedekind, Russell, Hilbert, Brunner, Gödel, Quine.

Phil 5325. Biomedical Ethics. (3 cr; SP–490 undergrads) A survey of major topics and issues in biomedical ethics, including patients’ rights and duties, informed consent, confidentiality, ethical issues in medical research, the initiation and termination of medical treatment, euthanasia, abortion, and the allocation of medical resources.

Phil 5415. Philosophy of Law. (3 cr; SP–1003 or 1004 or 3302 or social science major or #) Analytical accounts of law and legal obligation.

Phil 5606. Philosophy of Quantum Mechanics. (3 cr) Problems of interpretation in ordinary (nonrelativistic) quantum mechanics. Two-slit experiment, Schrödinger cat paradox (measurement problem). Einstein-Podolsky-Rosen paradox. Leading approaches to interpretation (Copenhagen, hidden variables, universal wave function) and their connections with philosophical issues.

Phil 5760. Selected Topics in Philosophy. (3 cr; SP–Three 2xxx-5xxx courses in philosophy or #) Philosophical problems on contemporary interest. Topics specified in Class Schedule.

Phil 5993. Directed Studies. (1-3 cr; SP–A, L) Guided individual reading or study.

PE 1004. Diving. Springboard. (1 cr) OP–1007 or equiv; SP–1007 or equiv) Fundamentals of diving. Students actively learn proper mechanics and technique to insure safety, while learning new skills. Technical and numerical aspects through lecture and participatory testing.

PE 1007. Beginning Swimming. (1 cr) Introduction to basic aquatic safety, fundamentals of swimming and hydrodynamics. Principles of hydrodynamics and stroke mechanics; five basic strokes; basic rescue techniques with use of pool equipment; hydrotherapy for disabilities and other conditions; opportunities for competitive activities, lifetime enjoyment of aquatics.

PE 1014. Conditioning. (1 cr) Fundamentals of personal fitness. Principles of fitness; health and maintaining fitness; components of fitness; principles of training/conditioning programs; nutrition; weight control; common fitness injuries; motivation and consistency in fitness programs; stress management.

PE 1015. Weight Training. (1 cr) Introduction to weight training. Basic aspects of weight training including exercise selection and technique, charting workouts, program design, nutritional considerations, and safety.

PE 1016. Posture and Individual Exercise. (1 cr) Good posture techniques, individual exercises, fitness concepts, and mental techniques. Specific overall body and mind techniques to include flexibility exercises, cardiovascular fitness, resistance training, nutrition management, weight control, stress management, and self-image.

PE 1029. Handball. (1 cr) Hand and eye coordination, footwork in practice and game conditions, and skills and strategies of service and rally for the court sport handball (four-wall version). Novice to intermediate levels of play accommodated.

PE 1031. Sabre Fencing. (1 cr) Basic sabre techniques, movement, an overview of fencing as a recreational sport and an Olympic sport, and the history of fencing.

PE 1032. Badminton. (1 cr) Fundamentals including etiquette, terminology, game rules for singles and doubles, footwork, shot selection, and strategy.

PE 1033. Foil Fencing. (1 cr) Fending fundamentals, including basic foil techniques, movement, a general overview of fencing as a recreational sport and an Olympic sport, and the history of fencing.

PE 1034. Judo. (1 cr) Basic skills for throwing, falling, grappling (mat work), choking, arm and neck techniques; contest judo from Jiu-Jitsu; fundamental rules and scoring of contests. Videotapes used for technique instruction and contest appreciation.

PE 1035. Karate. (1 cr) Japanese Traditional Shotokan Karate (JTSK) is non-contact—no protective pads or gear are worn. Structural foundation, discipline and control, posture, basic body dynamics, blocking, kicking, punching techniques, as well as basic sparring (kumate) and forms (kata).

PE 1036. Racquetball. (1 cr) Fundamentals of racquetball, including equipment; safety and etiquette; terminology; game rules of singles, doubles, and cutthroat; grips; basic strategies; serves and shots.

PE 1037. Squash Racquets. (1 cr) Entry-level technique, basic equipment, international dimension courts, and fitness.

PE 1038. Beginning Tennis. (1 cr) Fundamental strokes, including forehands, backhands, volleys, lobs, overheads, and serves; introduction to doubles play; terminology, rules, and etiquette.

PE 1041. Cycling. (1 cr) Fundamentals of cycling, including physical fitness associated with aerobic training, stretching, safety, and bike maintenance. Students should provide bicycle in good working condition.

PE 1042. Orienteering. (1 cr) Fundamentals, including navigation of an orienteering course using map and compass; types of orienteering courses; multiple techniques and tactics of orienteering. Course is physically challenging and requires participation in three orienteering meets (Sunday afternoons).

PE 1043. Beginning Horse Riding. (1 cr) Techniques, styles, and communication of English riding. Students will learn riding techniques at a walk, trot, canter, and jumping.

PE 1044. Self-Defense. (1 cr) Physical, psychological, and de-escalation skills for avoiding crisis situations. Distance, body language, and tone of voice are addressed. Physical skills include striking, kicking, shifting, blocking, releasing techniques, floor defenses, and applications to armed attackers and multiple attackers.

PE 1048. Bowling. (1 cr) Fundamentals, including stance, approach and delivery, scoring, bowling terminology, and etiquette.

PE 1053. Ice Skating. (1 cr) Basic turns, basic stops, balance techniques, and various other skills from both the forward and backward positions. Equipment, safety issues, ice skating terminology.

PE 1055. Golf. (1 cr) Proper grip, stance, ball address, swing, club selection, psychological management, rules, and etiquette. Basic instruction in analyzing, assisting with, and coaching golf.

PE 1056. Nordic (Cross-Country) Skiing. (1 cr) Introduction to and direct experience on cross-country skiing trails.

PE 1057. Beginning Skiing. (1 cr) Introduction to alpine skiing. Students are taught to stop, turn, and use lifts, as well as safety, etiquette, and purchase of equipment. Class held at Highland Hills ski area in Bloomington.

PE 1059. Track and Field. (1 cr) Introduction to track and field: conditioning and training, events and skills, strategies, track and field knowledge, equipment, facilities, and technology.

PE 1065. Tumbling and Floor Exercise. (1 cr) Basic tumbling skills, including rolls, handstands, cartwheels, extensions, handsprings, and tucks (flips), accompanied by the appropriate spotting techniques.

PE 1067. Basketball. (1 cr) Fundamental skills and rules of basketball, with emphasis on basic court movement and different offensive and defensive strategies.

PE 1072. Soccer. (1 cr) Fundamentals of soccer including sporting behavior both on and off the field, game rules, soccer terminology, participation and competition drills, fundamental soccer skills, practical instruction in strategy.

PE 1073. Softball. (1 cr) Development of basic skills for lifetime involvement.

PE 1074. Beginning Volleyball. (1 cr) Basic skills, team play, rules, officiating, and strategy.

PE 1075. Ice Hockey. (1 cr; OP–1053 or equiv; SP–1053 or equiv) Offensive and defensive strategies and techniques, goal tending, scrimmage play. Students need their own equipment.

PE 1107. Intermediate Swimming. (1 cr; OP–1007 or equiv; proficient ability to swim 100 meters; SP–1007 or equiv; proficient ability to swim 100 meters) Intermediate swimming skills. Fundamentals of swimming and hydrodynamics.

PE 1133. Intermediate Foil Fencing. (1 cr; OP–1033 or equiv; SP–1033 or equiv) Intermediate to advanced technical and tactical actions in foil, rudimentary epee skills, and intermediate to advanced footwork. Roles, officiating skills, batting tactical skills.

PE 1135. Intermediate Karate. (1 cr; OP–1035 or equiv; SP–1035 or equiv) Additional techniques of Japanese Traditional Shotokan Karate taught through Ippon Kumite (one-step sparring), San Kumite (three-step sparring), and Heian Shoden Kata and Nidan Kata (forms). Testing for orange belt is optional.
Physical Medicine and Rehabilitation (PMed)

Department of Physical Medicine and Rehabilitation

Medical School

PMed 1002. Orientation to Physical Therapy. (1 cr; S-N only)
Introduction to the profession of physical therapy through lectures, discussions, patient presentations, clinic visit, videotapes, and exposure to treatment equipment.

PMed 1003. Orientation to Occupational Therapy. (1 cr; S-N only)
Survey of the profession through lectures, films, demonstrations, and tours. For students investigating the field of occupational therapy.

PMed 5100. Seminar I: Overview of Rehabilitation Science. (2 cr; SP–RA-F only)
History and future of physical rehabilitation, health-care models, epidemiology of physical disorders, research on treatment outcomes, measurement issues, clinical evaluation of traditional vs. nontraditional rehabilitation strategies.

PMed 5135. Pathokinesiology. (2 cr; SP–RA-F only)
Lecture and lab emphasizing anatomical, physiological, and biomechanical aspects of normal and pathological human motion, including analysis techniques.

PMed 5161. Theory of Physical Medicine and Rehabilitation Applied to Medical Sciences. (3 cr [max 4 cr]; QP–Regis OT or PT student or #; A-F only)
Clinical science lectures focusing on diagnostic procedures and medical, surgical, and rehabilitation management of patient problems in orthopedics, surgery, pediatrics, dermatology, medicine, cancer, and speech. Includes correlation to current practice and presentation of patients.

PMed 5182. Functional Neuroanatomy/Neurophysiology. (4 cr; QP–Regis OT or PT student or #; S-N only)
Neuroanatomical structures as functional systems and basic neurophysiologic concepts with emphasis on applications for understanding and treating physical dysfunctions.

PMed 5215. Clinical Practice of Physical Therapy I. (2 cr; SP–Regis PT student; S-N only)
First of three-course sequence. Emphasizes sensitivity to needs of patients, families, and health care coworkers. Patient handling techniques, communication skills, awareness of cultural differences, psychological aspect of disability, and use of community resources.

PMed 5216. Clinical Practice of Physical Therapy II. (1 cr; SP–Regis PT student; S-N only)
Second of three-course sequence. Emphasizes sensitivity to needs of patients, families, and health care coworkers. Patient handling techniques, communication skills, awareness of cultural differences, psychological aspect of disability, and use of community resources.

PMed 5217. Clinical Practice of Physical Therapy III. (2 cr; SP–Regis PT student; S-N only)
Third of three-course sequence. Emphasizes sensitivity to needs of patients, families, and health care coworkers. Patient handling techniques, communication skills, awareness of cultural differences, psychological aspect of disability, and use of community resources.

PMed 5221. Therapeutic Procedures. (3 cr; SP–Regis PT student; A-F only)
Theory and techniques, therapeutic massage, ultraviolet radiation, medical and athletic bandaging, aspesis and isolation, therapy, hydrotherapy, positive pressure devices, volumetric measurements.

PMed 5233. Electrotherapy and Electrophysiological Testing. (2 cr; SP–Regis PT student; A-F only)
Theory and technique of movement analysis and treatment using electrophysiological testing and therapeutic devices.

PMed 5231. Biomechanics. (3 cr; SP–Regis PT student; A-F only)
Forces and structures internal and external to the body responsible for both normal and abnormal human movement, including analysis techniques and independent assignments. Muscle function, palpation, posture, and gait of normal individuals with analysis to detect deviation from the norm.

PMed 5255. Clinical Internship I. (3 cr; SP–Regis PT student; S-N only)
Five-week, full-time internship. Select and perform physical therapy evaluation techniques, interpret results, define rationale for physical therapy service, develop a care plan, implement treatment program, and communicate patient/client care process as a physical therapy professional.

PMed 5260. Professional Issues in Physical Therapy. (3 cr; SP–Regis PT student; A-F only)
Current professional issues, dilemmas, and trends in health care. Evaluation and treatment skills in physical therapy specialty areas.

PMed 5281. Therapeutic Exercise I. (3 cr; SP–Regis PT student; A-F only)
Principles of skeletal muscle, connective tissue, and collagen physiology, physics, and neurology as basis for therapeutic exercise. Exercise physiology and related microanatomy of the musculoskeletal and respiratory systems as they relate to rehabilitation problems. Tissue response to treatment for loss of mobility and endurance and strength training.

PMed 5282. Therapeutic Exercise II. (3 cr; SP–Regis PT student; A-F only)
Principles of neuropsychology, neurology, motor control, and motor learning as basis for therapeutic intervention in motor dysfunction.

PMed 5283. Musculoskeletal I. (4 cr; SP–Regis PT student; A-F only)
First of two-course sequence. Problem-solving approach to evaluating, treating, and preventing selected musculoskeletal conditions across the life span. Chart review, history taking, strength testing, functional testing, gait and posture examination, special orthopedic tests. Therapeutic exercises, orthopedic ambulation, joint mobilization, splinting, patient education.

PMed 5284. Musculoskeletal II. (4 cr; SP–Regis PT student; A-F only)
Second of two-course sequence. Problem-solving approach to evaluating, treating, and preventing selected musculoskeletal conditions across the life span. Chart review, history taking, strength testing, functional testing, gait and posture examination, special orthopedic tests. Therapeutic exercises, orthopedic ambulation, joint mobilization, splinting, patient education.

PMed 5287. Neurorehabilitation I. (4 cr [max 4 cr]; SP–Regis PT student; A-F only)
Assessment and rehabilitation of patients with neurological conditions (e.g., cerebral vascular disease traumatic brain injury, multiple sclerosis, Parkinson’s disease, amyotrophic lateral sclerosis). Using treatment procedures, orthotics, and equipment to improve function and prevent, stabilize, or decrease impairments.

PMed 5288. Neurorehabilitation II. (4 cr; SP–Regis PT student)
Assessment and rehabilitation of patients with neurological, immunological, and vascular conditions.

PMed 5290. Administration and Teaching Practice. (4 cr; SP–Regis PT student; A-F only)
Learning experiences and special assignments related to physical therapy administration.

PMed 5293. Research Design in Physical Therapy. (3 cr [max 3 cr]; SP–Regis PT student; A-F only)
Predictive research, elementary statistical concepts, analysis et al. see pitlitic literature, research proposal.

Phys 1101. Fundamental Physics I. (4 cr; QP–High school algebra, plane geometry, trigonometry; SP–High school algebra, plane geometry, trigonometry) Primarily for students interested in technical areas. The fundamental principles of physics in the context of the everyday world. The use of kinematics and dynamics principles together with quantitative and qualitative problem solving techniques to understand natural phenomena. Lecture, recitation, and lab.

Phys 1102. Fundamental Physics II. (4 cr; QP–1041; SP–1101) Primarily for students interested in technical areas. A continuation of 1101, emphasizing the fundamental principles of physics in the context of the everyday world. Use of conservation principles together with quantitative principles to solve quantitative problems. Description of motion, forces, conservation principles, fields, and the structure of matter with applications to 20th-century physics such as classical and quantum mechanical waves, optics, special relativity, and the atomic structure of materials.

Phys 2001. Introductory Thermal and Statistical Physics. (2 cr; QP–3254, Math 3261 or equiv; SP–1302 or 1402, Math 2243 or Math 2373 or Math 2573)

Phys 2300. Introductory Thermodynamics. (4 cr; QP–1302 or 1453, Math 3261 or equiv; SP–Phys 2403; 1302, Math 2243 or Math 2373 or Math 2573)

Third semester of calculus-level general physics emphasizing the use of fundamental principles to solve quantitative problems. Description of motion, forces, conservation principles, fields, and the structure of matter with applications to 20th-century physics such as classical and quantum mechanical waves, optics, special relativity, and the atomic structure of materials.

Phys 2403. Honors Physics III. (4 cr; QP–Phys 1453H, selection for IT honors or consent of IT honors office; SP–1303; selection for IT honors or consent of IT honors office) Third semester of comprehensive calculus-level general physics emphasizing the use of fundamental principles to solve quantitative problems. Applications to 20th-century physics such as classical and quantum mechanical waves, optics, special relativity, and the atomic structure of materials.

Phys 2601. Quantum Physics I. (4 cr; QP–1253 or equiv; Math 2601 or equiv; SP–Phys 2403; 3245 or 345H recommended SP–2303 or 2403, Math 2263 or Math 2374 or Math 2574) Introduction to quantum mechanics and selected topics from its application to atomic, molecular, condensed-matter, nuclear, elementary-particle, and statistical physics. Associated lab is 2505.

Phys 2605. Quantum Physics Laboratory. (3 cr; QP–Phys 3512 or Phys 3501, SP–2601) Laboratory experiments in atomic, solid state, and nuclear physics offered in conjunction with 2601.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phys 3701</td>
<td>Laboratory-Based Physics for Teachers.</td>
</tr>
<tr>
<td>Phys 3500</td>
<td>Principles of modern physics; introductory physics designed for students intending to be education majors. Topics selected to apply to elementary school curriculum include the earth's motion, properties of matter, heat and temperature, kinematics, and electric current.</td>
</tr>
<tr>
<td>Phys 3940</td>
<td>Junior Honors Seminar. (1-3 cr; max 3 cr)</td>
</tr>
<tr>
<td>Phys 4001</td>
<td>Analytical Mechanics. (3 cr; QP–Math 2621 or equiv; SP–Math 2623 or Math 2374 or Math 3574)</td>
</tr>
<tr>
<td>Phys 4002</td>
<td>Electricity and Magnetism. (4 cr; QP–5022 or SP–4001)</td>
</tr>
<tr>
<td>Phys 4051</td>
<td>Methods of Experimental Physics I. (1.5 cr; QP–3516 or equiv; SP–2503 or equiv lab experience or</td>
</tr>
<tr>
<td>Phys 4052</td>
<td>Methods of Experimental Physics II. (1.5 cr; QP–5122 or SP–4051)</td>
</tr>
<tr>
<td>Phys 4100</td>
<td>Quantum Mechanics. (4 cr; QP–3513; SP–2601)</td>
</tr>
<tr>
<td>Phys 4111</td>
<td>History of 19th-Century Physics. (3 cr; QP–3512 or equiv; SP–4001, 4002 or #)</td>
</tr>
<tr>
<td>Phys 4121</td>
<td>History of 20th-Century Physics. (3 cr; QP–3512 or equiv; SP–4001, 4002 or #)</td>
</tr>
<tr>
<td>Phys 4211</td>
<td>Introduction to Solid-State Physics. (3 cr; QP–5102 or equiv; SP–4001, 4002)</td>
</tr>
<tr>
<td>Phys 4221</td>
<td>Magnetism: Physics, Geophysics, and Engineering. (3 cr; QP–5101 or equiv; SP–5001, 5002, 5003)</td>
</tr>
<tr>
<td>Phys 4303</td>
<td>Waves, Optics, and Relativity. (3 cr; QP–5024 or SP–4001, 4002)</td>
</tr>
<tr>
<td>Phys 4311</td>
<td>Introduction to Nuclear Physics. (3 cr; QP–5101 or equiv; SP–4001)</td>
</tr>
<tr>
<td>Phys 4312</td>
<td>Research project in physics area of contemporary interest. Project must be approved by faculty coordinator before registration.</td>
</tr>
<tr>
<td>Phys 4611</td>
<td>Introduction to Space Physics. (3 cr; QP–2601, 4001, 4002)</td>
</tr>
<tr>
<td>Phys 4621</td>
<td>Introduction to Plasma Physics. (3 cr; QP–5022 or # SP–4052, #)</td>
</tr>
<tr>
<td>Phys 4711</td>
<td>Introduction to Optics. (3 cr; QP–5024 or # SP–4002)</td>
</tr>
<tr>
<td>Phys 4811</td>
<td>Introduction to Relativity and Cosmology. (3 cr; QP–5022, 5371 or SP–4001, 4411)</td>
</tr>
<tr>
<td>Phys 5000</td>
<td>Quantum Mechanics I. (4 cr; QP–5102 or equiv adv calc or # SP–4001, 4002)</td>
</tr>
<tr>
<td>Phys 5001</td>
<td>Quantum Mechanics II. (4 cr; QP–5101 or equiv adv calc or # SP–4001, 4002)</td>
</tr>
<tr>
<td>Phys 5024</td>
<td>Introduction to Electric and Magnetic Fields—Transitional Course. (2.67 cr; QP–5023, A-F only)</td>
</tr>
<tr>
<td>Phys 5042</td>
<td>Analytical and Numerical Methods of Physics II. (4 cr; QP–Two 5xxx Math courses; SP–Grad student or #)</td>
</tr>
<tr>
<td>Phys 5043</td>
<td>Survey of mathematical techniques, both analytic and numerical, needed for physics. Application to physical problems.</td>
</tr>
<tr>
<td>Phys 5071</td>
<td>Physics for High School Teachers: Experimental Foundations and Historical Perspectives. (3 cr; QP–Gen physics, # or for physics grad student or grad physics minor; SP–Gen physics, # no cr for physics grad student or grad physics minor)</td>
</tr>
<tr>
<td>Phys 5072</td>
<td>Signal analysis, medical imaging, medical X-rays, tomography, radiation therapy, nuclear medicine, MRI, and similar topics.</td>
</tr>
<tr>
<td>Phys 5090</td>
<td>Colloquium Seminar. (3 cr; QP–Grad student or adv undergrad in physics, SP–Grad student or adv undergrad in physics)</td>
</tr>
</tbody>
</table>
Phys 5980. Introduction to Research Seminar. (1 cr) QP–Grad student or upper div phys major; SP–Grad student or upper div phys major. Introduction to the research activities of the School of Physics and Astronomy.

Phys 5993. Directed Studies. (1-5 cr; max 15 cr) QP–F&SP–A; SP–A; SP–A

Independent, directed study in physics in areas arranged by the student and a faculty member.

Phys 5994. Directed Research. (1-5 cr; max 15 cr) QP–F&SP–A; SP–A

Problems, experimental or theoretical, of special interest to students. Written reports.

**Physiology (Phsl)**  
**Department of Physiology**  
**Medical School**

**Phsl 1001. Human Physiology.** (3 cr; SP–High school chem; high school bioi)

How major organ systems function (nervous system, circulatory system, endocrine system, renal system, respiratory system, and gastrointestinal system). Laboratory experiences include group projects and investigations of human physiology. Emphasis on developing critical thinking and problem-solving skills.

**Phsl 3015. Human Physiology.** (4 cr; SP–1 yr college bioi; 1 yr college chem)

For pre-allied health sciences majors. How major organ systems function (nervous system, circulatory system, endocrine system, renal system, and gastrointestinal system). Laboratory experiences include group projects and investigations of human physiology. Emphasis on developing critical thinking and problem-solving skills.

**Phsl 3021. Principles of Physiology.** (4 cr; SP–1 yr college chem and physics and math through integral calculus)

Human physiology with emphasis on quantitative aspects. Organ systems (circulation, respiration, gastrointestinal, renal, endocrine, and central nervous systems), cellular transport processes, and scaling in biology. Papers on current topics of interest based on published laboratory research required.

**Phsl 3055. Problems in Physiology.** (1.5 cr; max 20 cr) QP–F&college physio; SP–F&college physio; SP–A

Individualized study in physiology. Students address a selected problem in physiology through library or laboratory research supervised by physiology faculty. Not suitable for graduate credit.

**Phsl 4151. Research Topics in Neuroscience.** (3 cr; max 1 yr) QP–Phsl 3055, Phsl 3056, SP–Physiology undergraduate major, Phsl 3071, SP–Physiology undergraduate major, Phsl 3071, SP–A; SP–A

Students pursue a selected topic in physiology through library or laboratory research supervised by physiology faculty. Not suitable for graduate credit.

**Phsl 5049. Research in Physiology.** (2 cr; max 10 cr) QP–Physiology undergraduate major, Phsl 3055, Phsl 3056, SP–Physiology undergraduate major, Phsl 3071, SP–A

Independent lab research project in physiology, supervised by physiology faculty.

**Phsl 5095. Problems in Physiology.** (1-5 cr; max 20 cr) QP–Physiology undergraduate major, Phsl 3055, Phsl 3056, SP–Physiology undergraduate major, Phsl 3071, SP–A

Students pursue a selected topic in physiology through library or laboratory research supervised by physiology faculty.

**Phsl 5201. Computational Neuroscience I: Membranes and Channels.** (3 cr; QP–Calculus through differential equations; SP–Calculus through differential equations)

Neural excitation (ion channels, excitation models, effects of neural morphology) using UNIX workstations to simulate empirical results. Includes the Hodgkin-Huxley model, nonlinear dynamic systems analysis, voltage and ligand gated ion channels, ion transport theories, and impulse initiation and propagation.

**Phsl 5202. Computational Neuroscience II: Neural Systems and Information Processing.** (3 cr; QP–Understanding of UNIX, Phsl/Nsc 5201 or equiv; SP–Understanding of UNIX, Phsl/Nsc 5201 or equiv) Quantitative examination of information processing by neural networks based on experimental data and theoretical models. Neural codes, neural network models and information processing, neural control systems, computational maps.

**Phsl 5444. Membrane and Muscle: Biochemistry and Physiology.** (3 cr; QP–Bio 5444, §Mdc 5444, §VPB 5444, 5025 or Bio 5021 or Biol 5331 or §SP–Bio 5444, §Mdc 5444, §VPB 5444, 5025 or Bio 5021 or Biol 4331 or §SP–A


**Phsl 5461. Cellular and Molecular Neuroscience.** (4 cr; QP–A; SP–A)

Cellular and molecular approach to studying the nervous system. Lectures by a team of faculty, problems designed to teach physiological concepts, and discussion of original research papers. Required for first-year neuroscience students and appropriate for graduate students.

**Plant Biology (PBio)**  
**Department of Plant Biology**  
**College of Biological Sciences**

**Pbio 1212. Plants and Society.** (3 cr)

Roles that plants play and have played in human biological and cultural development.

**Pbio 4321. Taxonomy of Minnesota Flora.** (3 cr; QP–Bio 1103 or Bio 3012; SP–Bio 2022 or Bio 3007) Identification of common vascular plants of Minnesota and surrounding region; distinguishing characteristics of local taxa; descriptive terminology; use of manuals of floras. Includes lab and field trips.

**Pbio 4404. Developmental Plant Anatomy.** (3 cr; QP–Bio 1103 or Bio 3012 or Bio 3812; SP–Bio 2022 or Bio 3007)

Introduction to the microscopic structure and development of plants at the cell, tissue, and organ level. Emphasis on relationships between anatomy and the ontogeny, phylogeny, and ecology of seed plants with the reference to lower vascular plants.

**Pbio 4511. Flowering Plant Systematics.** (3 cr; QP–Bio 1103 or Bio 3012 or Bio 3812; SP–Bio 2022 or Bio 3007) Systematics of the flowering plants of the world. Ecology, geography, origins, and evolution of flowering plants; family characteristics; floral structure, function, and evolution; pollination biology; methods of phylogenetic reconstruction; molecular evolution; taxonomic terms; methods of collection and identification.

**Pbio 4801. Plains and Boreal Flora.** (4 cr; QP–Taxonomy course, SP–Taxonomy course, A–F only)

Survey of state summer flowering plants and ferns with particular reference to local flora. Identification of important plant families using technical keys, and field recognition of common species and habitat preferences; collecting methods, literature, and taxonomic methods.

**Pbio 4993. Directed Studies.** (1-7 cr; max 7 cr)

QP–A; 10 cr max of 5970 or 5990 may count toward major; SP–A; §SP–A max of 4993 and/or 4994 may count toward major; S–N only

Individual study on selected topics or problems with emphasis on selected readings and use of scientific literature.

**Pbio 4994. Directed Research.** (1-7 cr; max 7 cr)

QP–A; 10 cr max of 5970 or 5990 may count toward major; SP–A; §SP–A max of 4993 and/or 4994 may count toward major; S–N only

Individual study or field investigation of selected areas of research.

**Pbio 5109. Current Questions in Fungal Biology.** (2 cr; QP–Bio 5003 or GCB 3022; SP–Bio 4003 or GCB 3022; A–F only)

Diversity of fungi and their interactions with other organisms. Pathogenic and mutualistic interactions with animals and plants. Use of fungal systems for drug discovery and understanding pathogenicity, signal transduction, morphogenesis, and evolution.

**Pbio 5221. Molecular Evolution.** (2 cr; QP–Bio 5003 or GCB 3022; SP–Bio 4003 or GCB 3022; A–F only)


**Pbio 5412. Plant Physiology.** (3 cr; QP–Bio 1103 or Bio 3012 or Bio 3812; Bio 5001 or Bio 3021 or Bio 5331; SP–Bio 2022 or Bio 3002 or Bio 3007; Bio/BioC 3021 or BioC 4331)

Physiological and biochemical bases of plant systems with emphasis on higher plants.

**Pbio 5414. Plant Cell and Molecular Biology.** (3 cr; QP–Bio 1103 or Bio 3012 or Bio 3812; Bio 5003 or GCB 2022; SP–Bio 2022 or Bio 3001 or Bio 3002, Bio/BioC 3021 or BioC 4003 or GCB 3022)
Aspects of recombinant DNA technology and other technologies in cell and molecular biology. Appropriate for those without extensive background in these areas but who wish to understand the potential uses of current cell and molecular technologies in the plant sciences.

PlPa 5416. Plant Morphology, Development, and Evolution. (4 cr; QP: Biol 1103 or Biol 3012 or Biol 3812; SP: Biol 2022 or Biol 3002 or Biol 3007) Evolutionary history of land plants. Morphological changes in vegetative and reproductive structures. Morphology of green algal ancestors, nonvascular land plants, and spore bearing and seed bearing vascular plants are analyzed in an evolutionary framework.

PlPa 5640. Discussions in Plant Molecular Biology. (2 cr [max 4 cr]; QP: Biol 3012, Biol 5003, GCB 5034; SP: $P$Bio 5416; Biol 3002, Biol 4003, GCB 5024 or $G$CB 5034) Selected topics in plant molecular biology for students with a strong interest in the subject. Classical and recent papers that have led to current understanding of transposable elements, genomic structure and functions, and mechanisms of hormone action and gene regulation.

PlPa 5960. Special Topics. (1-3 cr [max 6 cr]; QP: Biol 1103 or Biol 3012 or Biol 3812; SP: Biol 2022 or Biol 3002 or Biol 3007) In depth treatment of specialized topics in plant biology.

Plant Pathology (PlPa)

Department of Plant Pathology
College of Agricultural, Food, and Environmental Sciences


PlPa 1002. Plant Diseases and Your Garden. (2 cr) Characteristics and causes of diseases that can affect the growth of plants with emphasis on flowers, small fruits, and vegetables. In-depth study of 18 different plant diseases that may appear in your garden, why they occur, and how to avoid them.

PlPa 1003. All About Mushrooms. (1 cr) Recognition of edible, poisonous, common, or conspicuous forms of mushrooms as well as mushroom folklore, art and recipes, and ecology. Field trip. For students with some elementary biology but no formal education in mycology.

PlPa 1004. Diseases of Turfgrasses. (2 cr) Turfgrass diseases, insect and nematode problems, the role of turfgrass ecology in disease development. Tools to diagnose turfgrass diseases and provide recommended strategies for diseases. Safe and effective pesticide strategies and integrated pest management plans for management.

PlPa 2001. Introductory Plant Pathology for Horticulturists. (3 cr; QP: Biol 1009 or equiv; SP: Biol 1009 or equiv) Pathogens that cause plant disease; symptoms resulting when susceptible plants and causal agents interact, roles the environment and phys-chemical stresses have on incidence and severity of plant disease, and examples of how techniques of plant disease control may be integrated.

PlPa 2002. Diseases of Field Crops. (3 cr; QP: Biol 1009 or equiv; SP: Biol 1009 or equiv) Dynamics of plant pathogens and their control in plant disease. Crops discussed are found in common rotations practiced in Minnesota, i.e., small grain, corn, soybeans, potatoes, sugar beets, and dry beans.

PlPa 3001. Plant Disease Biology and Management. (1 cr; QP: Biol 1009 or equiv; SP: Biol 1009 or equiv) Introduction to organisms that cause plant diseases. Symptoms of plant diseases, economic losses due to plant diseases, and chemical and biological strategies for managing plant diseases will be discussed.

PlPa 3002. Air Pollution, People, and Plants: The Science and the Ethics. (3 cr; QP: Biol 1009 or equiv; Chem 1051, 1052, SP: Biol 1009 or equiv; Chem 1021, 1022) History of air pollution, its sources and types; global climate change; air pollution effects on human health, crops and forests; air pollution control and international perspective; risk perception and assessment; public ethics and decision making.

PlPa 3003. Diseases of Forest and Shade Trees. (3 cr) Diseases of trees in urban and forested areas. Biology, ecology and control of tree diseases. Labs provide experience identifying disease agents and learning appropriate integrated control procedures.

PlPa 3090. Research in Plant Pathology. (2 cr) Assignment of special problems to undergraduates desiring opportunity for independent research in plant pathology.

PlPa 4000. Plant Pathology Practicum. (1 cr [max 5 cr]) Introductory class for students considering the profession of plant disease specialists. From the Department of Plant Pathology.

PlPa 4096. Professional Experience Program: Internship. (1-3 cr [max 18 cr] QP: $P$Bio 5416 or equivalent, # complete internship contract available in COAFES Career Services before registering; UC only; SP: COAFES undergrad, # complete internship contract available in COAFES Career Services before registering; UC only; S–N only) Supervised practicum with professional experience in plant pathology and related industries including the Plant Disease and “Diag–U” clinics. Evaluative reports and consultations with faculty advisers and employers.

PlPa 5090. Issues in Plant Pathology. (2-4 cr) See Class Schedule or department for current offerings.

PlPa 5102. Epidemiology and Plant Disease Resistance. (3 cr; QP: 5–201 or equiv; SP: 5–201 or equiv) Concepts and methodology in the quantitative study of plant disease epidemics and host plant resistance. Disease assessment, analysis of disease in time and space, models for epidemic progress, environmental influences on epidemic development, crop loss assessment, disease forecasting, and ecology of host–parasite interactions, as well as development of plant disease management strategies.


PlPa 5201. Biology of Plant Diseases. (4 cr; QP: Biol 1009 or equiv; SP: Biol 1009 or equiv) Principles and concepts of plant disease caused by selected viruses, bacteria, fungi, nematodes, and environmental factors. Pathogen biology, interaction of pathogens and the environment; epidemiology and control measures appropriate to plant disease.

PlPa 5202. Field Plant Pathology. (2 cr; QP: # SP– #) Characteristics of a variety of plant diseases. Field trips to observe symptoms and effects of diseases, and to learn about prevention and control of diseases in field, forest, golf course, greenhouse, nursery, orchard, and urban environments.

PlPa 5203. Biology and Ecology of Fungi. (3 cr; QP: Biol 1009 or equiv; SP: Biol 1009 or equiv) Major groups of fungi, their roles in ecosystems and human society, environmental and nutritional needs, and modes of dissemination and survival. Representative species of fungi observed and manipulated.

PlPa 5301. Plant Genomics. (3 cr; QP: intro genetics course or # SP: intro genetics course or #) Introduction to genomics with emphasis on plants and relevant model organisms. Topics include DNA marker and sequencing technology, comparative genomics, whole genome sequencing, DNA chips and microarrays, EST libraries and SAGE analysis, gene–knockout systems, genome databases, sequence comparison and clustering algorithms, visualization tools.

PlPa 5599. Special Workshop in Plant Pathology. (1-4 cr) Workshops on a variety of topics in plant pathology offered at locations other than the Twin Cities campus. See Class Schedule or department for current offerings.

Polish (Plsh)

Institute of Linguistics and Asian and Slavic Languages and Literatures
College of Liberal Arts

Plsh 1101. Beginning Polish. (4 cr) Develop basic proficiency in listening, speaking, reading, and writing and become acquainted with Polish culture. First of four courses designed to satisfy CLA language graduation requirement.

Plsh 1102. Beginning Polish. (4 cr; SP: 1101 or equiv) Develop basic proficiency in listening, speaking, reading and writing to acquaint students with Polish culture. Second of four courses designed to satisfy CLA language graduation requirement.

Plsh 3001. Intermediate Polish. (4 cr; SP: 3001 or equiv) Conversation, composition, advanced grammar, translation, and readings in appropriate literature. Third of four courses designed to satisfy CLA language graduation requirement.

Plsh 3002. Intermediate Polish. (4 cr; SP: 3001 or equiv) Conversation, composition, advanced grammar, translation, and readings in appropriate literature. Fourth in a sequence of courses designed to satisfy CLA language graduation requirement.

Plsh 3601. Survey of Polish Literature: Baroque through Romanticism. (3 cr) Reading and analysis of major works of Polish literature from Baroque through Romanticism.

Plsh 3602. Survey of Polish Literature: 1863 to the Present. (3 cr) Reading and analysis of major works of Polish literature from 1863 to the present.

Plsh 5990. Topics. (3 cr) Topics specified in Class Schedule.

Plsh 5993. Directed Readings. (1-3 cr) Guided individual reading or study in Polish language, literature, and culture.

Political Science (Pol)

Department of Political Science
College of Liberal Arts


Pol 1015. Mass Politics in a Media Age. (3 cr) Examines how American public opinion, political parties, and the mass media influence policies. Morality, media and new media technologies. Explores the historical role of media in political and social movements.

Pol 1025. Global Politics. (4 cr) Study of international relations and issues in contemporary world affairs. Forms of state interaction from violent conflict to cooperation and integration; activities of international institutions; transnational relations involving non-state actors such as international businesses, human rights networks, and environmental movements.

Pol 1026. We and They: U.S. Foreign Policy. (4 cr) Contemporary foreign policy issues; how the United States makes foreign policy in a global era; historical background. How two regions (such as the Middle East and China) affect and are affected by U.S. policy.

Pol 1054. Repression and Democracy Around the World. (4 cr) Introduction to political life in all its worldwide variety. Focus on repression, democracy, rights, corruption, gender, and political change. Guest lectures by political science professors who are experts on different parts of the world. Non-majors welcome.

Pol 1201. Political Ideas and Ideologies. (4 cr) Analysis of key concepts and ideas (e.g., freedom, equality, democracy) as they are constructed by major theories and ideologies (liberalism, conservatism, socialism, etc.).

Pol 3051. Power and Choice: Who Gets What, When, and Why. (3 cr) Introduction to major concepts and issues in political science including political participation, policy making; justice, legitimacy, political development, and types of political systems. Explore empirical and normative problems and compare among major countries.

Pol 3070. Faculty-Supervised Individual Field Work. (1-12 cr; max 12 cr) SP – R, Δ Faculty-supervised research related to work in political or governmental organizations.

Pol 3080. Faculty-Supervised Individual Internships. (4-12 cr; max 15 cr) SP – R, Δ Internship with government or community organizations arranged by the department and awarded concurrently each spring semester.

Pol 3085. Qualitative Analysis in Political Science. (4 cr; SP–R 9 cr social sciences or #) SP – F only Introduction to empirical research techniques, or how one tests a political hypothesis using data. Topics such as setting up a research question in political science, proper research design, and some basic techniques of data analysis.

Pol 3109. Honors Course: Researching Politics. (3 cr; SP-Pol honors major; A-F only) Seminar meets each spring to give students a solid start on their honors theses. Research design, methods of data collection, and analysis and strategies for scholarly writing. Intended for juniors in political science who have been admitted to CLA honors.

Pol 3110. Honors Thesis Cr. (1-4 cr; max 4 cr) SP – 3109, Pol honors major; A-F only Individual research and writing of departmental honors thesis.

Pol 3210. Practicum. (1-3 cr; max 6 cr) SP – # Offers different kinds of out-of-class opportunities to complement the readings, assignments, and objectives of the political science course. Opportunities vary according to demands of the parent course.

Pol 3215. Current Controversies and Problems in Politics. (3-4 cr) Exploration and examination of contemporary controversies in American politics (e.g., affirmative action, health care, abortion, euthanasia) as they affect questions of citizenship and cultural diversity.

Pol 3225. American Political Thought. (3-4 cr) Puritans, American Revolution, Constitution, pro- and anti-slavery movements, civil war, industrialism, westward expansion, Native Americans, immigration, populism, socialism, social Darwinism, women’s suffrage, red scares, Great Depression, United States as world power, free speech, pluralism, and multiculturalism.

Pol 3235. Democracy and Citizenship. (3-4 cr; SP–1201 recommended) Surveys models of democracy based on individual rights; pluralism; civic republicanism; community activism. Examines dilemmas of democratic government and citizenship in a race, class, and gender-stratified society; explores its possibilities in a changing world.


Pol 3252. Renaissance, Reformation, and Revolution: Early Modern Political Thought. (3 cr; SP–5252) Thinkers, themes, and discourses from the Renaissance to the French Revolution. Renaissance Humanists; Machiavelli; More; Reformation; Luther; Calvin; Natural Law; Grotius; Divine Right; Common Law; Bacon; English Revolutionaries; Hobbes; Locke; Astell; Enlightenment; Rousseau; French Revolutionaries; Hume; Burke; Wollstonecraft.

Pol 3253. Modernity and its Discontents: Late Modern Political Thought. (3-4 cr; SP–3253) Theoretical responses to and critical interpretations of Western economy, society, politics, and democracy (especially in the culture in the modern age; theories of history; class struggle; end of metaphysics and death of God; technology and bureaucracy; psychology of culture in Hegel, Marx, Tocqueville, Mill, Nietzsche, Weber, Freud.

Pol 3321. Issues in American Public Policy. (3 cr; SP–1001 or equiv) Analysis of the politics of the policy process including agenda formation, formulation, adoption, implementation, evaluation. Attention to selected policy areas.

Pol 3322. Civil Liberties in America. (3-4 cr) Political importance of civil liberties in American society. Tolerance as a political phenomenon. Issues such as free speech, privacy, religion, race, gender.

Pol 3352. Fieldwork in the Legislature. (3-4 cr; SP–1001 or equiv) Field study of Minnesota Legislature; campaigns and elections, party leadership, committee structure, staffing, lobbying, relations with other branches. Students arrange work assignments with legislators.

Pol 3441. Politics of Environmental Protection. (3-4 cr; SP–5441; cr for grad students only) How the American political system deals with environmental issues, how third world countries deal with environmental problems, how industrialism, westward expansion, native Americans, first world countries deal with environmental problems.

Pol 3451. Politics and Society in the New Europe. (3 cr; SP–3051 or Soc 1001 or #) Examines the changing politics and society of the new European Union. Political behavior, general political participation, and values, political parties, welfare state, the future of European integration, and political stability and democratization.

Pol 3477. Political Development. (3 cr; SP–1054 or 3051 or #) Political processes and problems associated with economic development; the political economy of underdevelopment and development; problems of state building and the development of political institutions.

Pol 3739. Politics of Race, Class, and Ethnicity. (3-4 cr; SP–6 cr in social science) An introductory examination of how race, ethnicity, and class interact in the political process with particular attention to political conflict through comparative analysis of the United States, South Africa, and Brazil.

Pol 3751. Fieldwork in Politics. (3 cr; SP–1001 or equiv or #) Field study of political organizations, leadership, campaigns. Students arrange work assignments with candidates.

Pol 3766. Political Psychology. (3 cr; SP–1001 or equiv or #) Examines how political behavior of citizens and political elites is shaped by psychological factors including personality, attitudes, values, emotions, and cognitive sophistication. Topics include political activism and apathy, leadership charisma, mass media, group identifications, and political culture.

Pol 3835. International Relations. (3 cr) Introduction to the theoretical study of international relations. Students learn to appreciate how the choice of theoretical perspectives shapes one’s understandings of the structure and practices of global politics.

Pol 3872. Global Environmental Cooperation. (3-4 cr; SP–3872) Emergence of the environment as a key aspect of the global political agenda. Nongovernmental and governmental international organizations. Politics of protection of the atmosphere, forest, seas, and other selected issues. International security and the environment.

Pol 3873. Global Citizenship and International Ethics. (3 cr) Case studies of ethics in intervention, war, weapons, and environmental practices, and human rights are used to examine the global ethical responsibilities of individual citizens and public officials. Effectiveness of transnational social movements in influencing policy at domestic and international levels.

Pol 4275. Contemporary Political Theory. (3-4 cr; SP–1201 recommended) The 20th-century crisis of Western humanism in major works of contemporary political thought from World War II to the present. Relationships between force and freedom; ideology and truth; authority and resistance. Thinkers may include Arendt, Camus, Beauvoir, Fanon, Foucault, Habermas, Rawls, Sartre, Said. Ideas may include communitarianism, feminism, postcolonialism, postmodernism, socialism.

Pol 4280. Topics in Political Theory. (3-4 cr; max 8 cr; SP–3252) Topics in historical, analytical, or normative political theory. Topics vary.

Pol 4303. American Democracy in Crisis. (3-4 cr; SP–1001 or equiv, non-pol sci grad major or #) No single individual in the American political system is the subject of such high expectations as the president. Examine whether the president’s political and constitutional powers are sufficient to satisfy the high expectations that Americans have of him. Should presidents be expected to dominate American politics?

Pol 4306. Presidential Leadership and American Democracy. (3-4 cr; SP–1001 or equiv, non-pol sci grad major or #) Compare the performance of the American political system with the promises of democracy. Discuss a range of interpretations of democratic government and the American national governing process.

Pol 4308. Congressional Politics and Institutions. (3-4 cr; SP–1001) Origin and development of U.S. congressional institutions, parties, committees, leaders, lobbying and elections, and relations between Congress and executive branch. Relationship between campaigning and governing, the nature of representation, and the biases of institutional arrangements.

Pol 4309. Justice in America. (3 cr; SP–1001 or 1002, non-pol sci grad major or equiv or #) The American judiciary, the selection of judges and how and why these individuals and institutions behave the way they do. What influences judicial decisions? What impact do these decisions have? Why do people comply with them?

Pol 4310. Topics in American Politics. (3 cr; SP–1001 or equiv or #) See Class Schedule for description.
Pol 4315. State Governments: Laboratories of Democracy. (4 cr; SP–1001 or equiv, non-pol sci grad major or #)
Political behavior, governmental institutions, and public policies in American states; comparison among states, between state and national government, with special attention given to Minnesota.

Pol 4322. Rethinking the Welfare State. (3–4 cr)
Discuss concepts and arguments about welfare states in advanced industrial countries. Are welfare states the result of sectional interests, class relations, or citizenship rights? Compare American social policy with policies in other western countries.

Pol 4327. The Politics of American Cities and Suburbs. (3 cr; SP–1001 or 1002, non-pol sci grad major or equiv or #)
Development and role of American local government; forms and structures, relationships with states and the federal government; local politics and patterns of power and influence.

Pol 4331. Thinking Strategically in Domestic Politics. (3–4 cr)
A survey of applications of rational-choice and game theories to important features of domestic politics in the United States and elsewhere.

Pol 4410. Topics in Comparative Politics. (3 cr)
Topics of current analytical or policy importance to comparative politics. Topics vary.

Pol 4461. European Government and Politics. (4 cr; SP–Pol 1054 or 3051 or non-pol science grad student or #)
European political institutions in their social settings; power and responsibility; governmental stability; political decision making, government and economic order.

Pol 4467. Politics and Market in Contemporary Japan. (3–4 cr; SP–EAS 4467, 1054 or 3051 or non-pol sci grad student or #)
Study how Japan combined rapid economic development and social stability in the postwar period and the strengths and the weakness of the Japanese model of capitalism, particularly in today’s new “globalized” world.

Pol 4471. After Communism: Russia and the Commonwealth of Independent States. (3–4 cr; SP–1054 or 3051 or non-pol sci grad student or #)
Politics of the newly independent states of the former Soviet Union, particularly Russia. Political transformation, the sources of political stability and instability, economic reform, and the problems of a multinational state.

Pol 4473. Chinese Politics. (3–4 cr; SP–EAS 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.

Pol 4477. Struggles and Issues in the Middle East. (3–4 cr; SP–1054 or 3051 or non-pol sci grad student or #)
Turkey, Iran, Israel, and selected Arab states. Domestic politics of religious/secular, ethnic, economic, environmental, and other policy/identity issues. Regional politics of water access, Israeli/Palestinian/Arab world relationships, oil and the Persian/Arabian Gulf, and human rights.

Pol 4478. Contemporary Politics in Africa and the Colonial Legacy. (3–4 cr; SP–1054 or 3051 or non-pol sci grad student or #)
Examines how current politics in mainly, though not exclusively, sub-Saharan Africa have been shaped by the pre-colonial and colonial processes. Reality of independence; recurrent political and economic crises; global context and prospects for effective democracy.

Pol 4479. Latin American Politics. (4 cr; SP–EAS 4479; 1054 or 3051 or non-pol sci grad student or #)
An overview of Latin American politics and political economy focused on authoritarianism, human rights, and redemocratization; development and economic policy; social movements; ethnicity and race; religion; revolution; U.S.-Latin American relations.

Pol 4481. Governments and Markets. (3–4 cr; SP–1054 or 3051 or non-pol sci grad student or #)
Study the coexistence between democracy and markets with attention to the experiences of countries in North America and Europe.

Pol 4483. Grassroots Politics. (3–4 cr)
Politics from the bottom up: politics of daily life, powerlessness, workplace politics, everyday resistance to organizing, protest, rebellion, and social movements.

Pol 4485. Human Rights and Democracy in the World. (3–4 cr; SP–At least one 1xxx or 3xxx course in pol sci, non-pol sci grad major or #)
Examine the question of human and democracy rights in global and comparative perspectives. Explore the history of ideas about human rights and democracy and contrast economic, political, psychological, and ideological explanations for repression.

Pol 4487. The Struggle for Democratization and Citizenship. (3–4 cr)
Traces the origins of the democratic process with particular emphasis on how the disenfranchised fought to become included. Begins with the history of the democratic movement from its earliest moments in human history to the present and attempts to draw a balance sheet.

Pol 4501. The Supreme Court and Constitutional Development I. (3 cr; SP–1001 or 1002 or non-pol sci grad major or equiv or #)
Historical and analytical approaches to examine the Court’s landmark decisions, exploring theory and techniques of judicial review, and relating the Court’s authority to the wider political and social context of American government.

Pol 4502. The Supreme Court and Constitutional Development II. (3 cr; SP–1001 or 1002 or equiv or non-pol sci grad major or #)
Examining the Supreme Court’s interpretation of the Bill of Rights and the 14th amendment, this course focuses on freedom of speech, press and religion, crime and punishment, segregation, desegregation and affirmative action, abortion and privacy.

Pol 4523. The Politics of the Regulatory Process. (3 cr; SP–1001 or 1002 or equiv or #, 4309 or 4501 or 45 if or # of non-pol sci grad major)
Operations of regulatory agencies considered in context of political and legal environment. Principles of federal administrative law, informal procedures, interest group activity; philosophy of regulation; politics and processes of deregulation.

Pol 4561. Comparative Legal Systems. (3 cr; SP–1054 or 3051 or non-pol sci grad major or #)
Survey of the principal legal systems of the Western world. Examine the policies of the legal system in relation to political and economic systems and the contrast between the common law and civil law traditions.

Pol 4573. American Political Parties. (3–4 cr; SP–1001 or equiv or #)
The American two-party system; party influence in legislatures and executives; decline of parties and their future.

Pol 4576. American Political Culture and Values. (3–4 cr; SP–1001 or equiv or non-pol sci grad major or #)
Empirical analysis of basic political values—individualism, freedom, and equality; dominant beliefs about democratic principles, materialism, capitalism, citizenship, patriotism and heroism.

Pol 4615. Public Opinion and Voting Behavior. (3–4 cr; SP–1001 or equiv or #)
Major factors affecting electoral decisions; public opinion formation and change. Data analysis lab required.

Pol 4810. Topics in International Politics and Foreign Policy. (3–4 cr [max 8 cr])
Analysis of selected issues in contemporary international relations. Topics vary.
Portuguese (Port)

Department of Spanish and Portuguese
College of Liberal Arts

Port 1101. Beginning Portuguese. (4 cr) Speaking and understanding Portuguese; pronunciation; introduction to writing and reading; basic grammar; cultural aspects of language and civilizations of Portuguese-speaking world.

Port 1102. Beginning Portuguese. (4 cr; SP–1101 cr or #) Speaking and understanding Portuguese; pronunciation; introduction to writing and reading; basic grammar; cultural aspects of language and civilizations of Portuguese-speaking world.


Port 1104. Intermediate Portuguese. (4 cr; SP–1103 or #) Speaking and comprehension. Development of reading and writing skills based on materials from Portugal and Brazil. Grammar review; compositions and Port pronunciation.

Port 3001. Portuguese for Spanish Speakers. (4 cr; SP–Span 3015 or # or speakers of other Romance languages) Study of Portuguese based on student knowledge of Spanish. Contrastive approach to Portuguese phonics and morpho-syntactic structures.

Port 3002. Portuguese Conversation and Composition. (4 cr; SP–1104 or 3001) Improvement of all four language skills (speaking, comprehension, reading, and writing). Readings and discussions on Brazil, Portugal, and/or Lusophone Africa.

Port 3501. Foundations of Lusophone Cultures. (3 cr; SP–3401; 3003) Introduction to Portuguese culture. Literature, history, film, and popular music. Historical, political, and cultural development of Portugal from 1400s until late twentieth century.

Port 3502. Foundations of Brazilian Culture. (3 cr; SP–3402; 3003 or equiv) Emphasis on modern Brazilian society. History, culture (music, art, cinema, literature, intellectual trends, popular culture, media), and social issues (ethnicity, tropical deforestation).

Port 3503. Literatures and Cultures of Lusophone Africa. (3 cr; SP–3403#) Origins and development of Lusophone Africa (Angola, Cape-Verde, Guinea-Bissau, Mozambique, and São Tomé and Príncipe) using literature, cultural and literary criticism, history, anthropology, and various media (film, art, music, Internet). Main cultural problematics pertaining to Lusophone Africa as well as its fundamental literary texts.


Port 3910. Topics in Lusophone Literatures. (3 cr [max 9 cr]; SP–3501 or 3502 or 3503) Critical reading of Lusophone literary texts (Brazil, Portugal, Lusophone Africa) representing various genres (novel, short story, poetry). Terminology of criticism, literary problems, and techniques.

Port 3970. Directed Readings. (1-4 cr [max 9 cr]; SP–3501 or 3502 or 3503 or 3910) Guided individual reading or study

Port 5520. Portuguese Literary and Cultural Studies. (3 cr [max 9 cr]; SP–#) Study of origins and development of modern Portuguese nation (late 15th century to present) using literature, cultural and literary criticism, history, sociology) and various media (film, art, music, Internet). Main cultural problematics pertaining to Portugal as well as fundamental literary texts.

Port 5530. Brazilian Literary and Cultural Studies. (3 cr [max 9 cr]; SP–#) Study of origins and development of modern Brazilian nation (late 16th century to present) using literature, cultural and literary criticism, history, sociology) and various media (film, art, music, Internet). Main cultural problematics pertaining to Brazil as well as fundamental literary texts.

Port 5540. Literatures and Cultures of Lusophone Africa. (3 cr [max 9 cr]; SP–#) Study of origins and development of Lusophone Africa (Angola, Mozambique, Cape-Verde, Guinea-Bissau, and São Tomé and Príncipe) using literature, cultural and literary criticism, history, sociology, and various media (film, art, music, Internet).

Port 5910. Topics in Lusophone Cultures. (3 cr [max 9 cr]; SP–#) Cultural manifestations in Portuguese-speaking world (Portugal, Brazil, Lusophone Africa): literature, history, film, intellectual trends, critical theory, popular culture. Topics may include Portuguese colonialism; postcolonial nation in Lusophone world; Lusophone women writers; Luso-Brazilian (post)modernity.

Port 5920. Figures in Lusophone Literatures. (3 cr [max 9 cr]; SP–#) One Portuguese, Brazilian, or other major Portuguese-speaking writer or group of writers whose work has had impact on thought, literature, or social issues (e.g., Machado de Assis, Fernando Pessoa, Clarice Lispector, José Saramago). Figures specified in Class Schedule.

Port 5930. Topics in Brazilian Literature. (3 cr [max 9 cr]; SP–#) Major issues of Brazilian literature; focuses on important authors, movements, currents, genres. Problems, socioeconomic issues, literary techniques related to Brazilian themes. Topics specified in Class Schedule.

Port 5970. Directed Readings. (3 cr [max 9 cr]; SP–MA or PhD can register) Lusophone studies (Lusophone Africa, Brazil, Portugal). Areas not covered in other courses. Students submit reading plans for particular topics, figures, periods, or issues.

Port 3005. Introduction to Research Methods and Statistics. (4 cr; OP–1001; SP–1001; A-F only) Introduction to basic concepts and procedures in the conduct and evaluation of psychological research. Emphasis on research methods, the use of statistics to inform the description and interpretation of psychological inquiry, and the scientific evaluation of evidence and claims in psychology.

Port 3011. Introduction to Learning and Behavior. (3 cr; SP–1001) Basic methods and findings of research on learning and behavior change. Survey of 20th-century theoretical perspectives, including contemporary models. Emphasis on animal learning and behavioral psychology.

Port 3031. Introduction to Sensation and Perception. (3 cr; OP–1004; SP–1001) Psychological, biological, and physical bases of sensory experience in humans and animals. Emphasis on the senses of vision and hearing.

Port 3051. Introduction to Cognitive Psychology. (3 cr; OP–1001; SP–1001) Scientific study of the mind in terms of representation and processing of information. Research and theory on cognitive abilities such as perception, attention, memory, language, and reasoning. Aspects of computational modeling and neural systems.

Port 3061. Introduction to Biological Psychology. (3 cr; SP–15061; 3005 or Biol 1009 or #) Basic neurophysiology and neuroanatomy, neural mechanisms of motivation, emotion, sleep, wakefulness cycle, and learning and memory in animals and humans. Neural basis of abnormal behavior and drug abuse.
Psy 3101. Introduction to Personality. (3 cr; QP—1001; SP—1001) Major theories, issues, and facts about personality and personality assessment. Review of important historical and contemporary perspectives on human nature and human individuality such as psychoanalysis, humanistic psychology, trait psychology, behaviorism, and evolutionary psychology.

Psy 3135. Introduction to Individual Differences. (3 cr; QP—3801 or equiv; SP—3005 or equiv) Differential methods in the study of human behavior. Overview of the nature of psychological traits and the influence of age, sex, heredity, and environment in causation of individual and group differences in ability, personality, interests, and social attitudes.

Psy 3137. Readings in Behavioral Genetics. (1 cr; SP—5137; S only) This course may be taken as an optional supplement to lecture course in behavioral genetics (5137). Each week students will read one or two articles relevant to topics covered in the lecture and discuss the articles with the instructor during a one hour contact session. Readings will not overlap those assigned in the lecture class.

Psy 3201. Introduction to Social Psychology. (4 cr; QP—1001; SP—1001) Overview of theories and research in social psychology with an emphasis on attitudes and persuasion, social judgment, the self, social influence, aggression, prejudice, help, and applications.

Psy 3301. Introduction to Cultural Psychology. (3 cr; QP—1001 and 3005 or #; AF only) Theories and research about how culture influences basic psychological processes in domains (e.g., emotion, cognition, psychopathology) that span different areas of psychology (e.g., social, clinical, developmental, industrial-organizational).

Psy 3604. Introduction to Abnormal Psychology. (3 cr; SP—3004; S only) Abnormal psychology. Etologies of behavioral disorders. Available treatments.

Psy 3617. Introduction to Clinical Psychology. (3 cr; QP—3604 or 5604H, 3801 or equiv; SP—3604 or 5604) Historical developments and contemporary issues; relevant research and clinical trends in psychological assessment methods, intervention strategies, and clinical psychology research. Theories behind, and empirical evidence for usefulness of, psychological intervention strategies.

Psy 3666. Human Sexuality. (3 cr; QP—1001; SP—1001) Overview of theories, research, and contemporary issues in human sexual behavior from an interdisciplinary perspective. Topics include sexual anatomy and physiology, hormones and sexual differentiation, cross-cultural perspectives on sexual development, social health issues, and sexual dysfunction and therapy.

Psy 3711. Introduction to Industrial and Organizational Psychology. (3 cr; SP—3005 or 4801 or equiv, 1001 or #) Application of psychological theory and research to recruitment, personnel selection, training and development, job design, work group design, work motivation, leadership, performance assessment, and job satisfaction measurement.

Psy 3902. Major Project in Psychology. (4 cr; QP—1005, 3801, Jr or Sr psychology major; SP—3005, Jr or Sr in psychology; AF only) Seminar for completion of the undergraduate major project paper.

Psy 3960. Undergraduate Seminar. (1.5 cr; QP—1001, SP—1001, #) Current topics in psychology. Topics listed in psychology office.

Psy 3993. Directed Studies. (1.8 cr [max 15 cr]; SP—#, #) Independent reading leading to written paper or oral written examination.

Psy 3994. Directed Research. (1.8 cr [max 15 cr]; SP—#, #) Individual empirical projects leading to written report.

Psy 3996. Undergraduate Field Study/Internship in Psychology. (1-6 cr [max 10 cr]; AF only) Supervised field work/internship experiences in the community or industry pertinent to formal academic training in psychology.

Psy 4011. Applied Behavioral Psychology. (3 cr; SP—3011 or #) Fundamental concepts of behavioral psychology and practical techniques of behavior modification with humans and animals. Emphasis on functional analyses of behavior deficits or excesses and development and implementation of programs to bring about meaningful behavior change.

Psy 4036. Perceptual Issues in Visual Impairment. (2 cr; SP—1001 or #) Contemporary knowledge on visual, tactile, and auditory perception informs us about the challenges and capabilities of people who are blind or have low vision. Topics include reading, spatial perception, mobility, and the strengths and weaknesses of pertinent adaptive technology.

Psy 4501. Psychology of Women. (3 cr; QP—1001 or #; SP—1001 or #) Survey of current theory and research regarding psychology of women and psychological sex differences including topics related uniquely to women (e.g., prejudice, help, and applications) as well as sex differences in personality, abilities, and behavior.

Psy 4801. Introduction to Statistics. (3 cr; QP—1001, GC 0631 or equiv; SP—3005; honors student or #) Descriptive and inferential statistics, hypothesis testing, correlation and regression.

Psy 4802. Honors Project. (3-6 cr [max 6 cr]; SP—Sr; #) Psychological theory and research. Theories behind, and empirical evidence for usefulness of, psychological intervention strategies.

Psy 4994. Honors Research Practicum. (4 cr [max 4 cr]; SP—3005; honors psychology major) Practical experience conducting psychological research and preparation for completion of honors thesis. Instruction in research ethics, practical aspects of conducting psychological research, writing research reports. Assist faculty and advanced graduate students in ongoing research projects.

Psy 4996. Honors Internship/Externship. (1-6 cr; SP—Honors and #; AF only) Supervised internship/externship experience in a community-service or industrial setting relevant to formal academic training and objectives.

Psy 5012. Psychology of Conditioning and Learning. (4 cr; SP—3031 or # except for grad students) Review and evaluation of key questions, methods, theories, and data about classical conditioning, instrumental learning, and elementary cognitive processes. Emphasis on animal models.

Psy 5013. Laboratory in Conditioning and Learning. (4 cr; SP—3031 except grad students 5012 or #) Laboratory exercises exploring forms of animal conditioning and learning. A combination of both prepared exercises and independent exercises.

Psy 5014. Psychology of Human Learning and Memory. (3 cr; SP—3011 or 3051, except honors; grad students) Survey of basic methods and findings of research on human learning, memory, and cognition. Emphasis on major factors influencing human encoding or acquisition of information and skill, retention, and retrieval. Theoretical perspectives on underlying processes of encoding, retention, and retrieval.

Psy 5015. Cognition, Computation, and Brain. (3 cr; SP—3051 or 5014, except for honors or grad; SP—3051 except for honors or grad) Human cognition and behavior, such as perception, memory, and attention, from different perspectives, e.g., the cognitive psychological approach, emphasizing behavioral/functional research, and the cognitive neuroscience approach, emphasizing theoretical integration of cognitive, neuroscientific, and computational evidence.
Psy 5135. Psychology of Individual Differences. (3 cr; QP–3135; 3801 or equiv, 5862 or # for SP–4801 or equiv, 5862; SP only) Overview of methodological issues in the study of human behavior. Overview of the nature of psychological traits and the influence of age, sex, heredity, and environment on changes in personality, individual differences in ability, personality traits, and social attitudes.

Psy 5136. Human Abilities. (3 cr; QP–3135 or 5135, 5862 or # for SP–3135 or 5135, 5862 or equiv or #) Theory, methods, and applications of research in human abilities. Topics include intelligence, aptitude, achievement, specific abilities, information processing, learning and intelligence, aptitude, treatment interactions, and quantitative measurement issues.

Psy 5137. Introduction to Behavioral Genetics. (3 cr; QP–3135 or 5135 or # for SP–4801 or equiv or #) Overview of genetic methods for studying human and animal behavior. Emphasis on the nature and origin of individual differences in behavior. Twin and adoption methods and more modern methods like cytogenetics, molecular genetics, and linkage and association studies.

Psy 5138. Psychology of Aging. (3 cr; QP–3135 or 5135, 5862 or # SP–3005 or equiv) Theories and findings concerning age-related changes in memory, health, personality, cognitive functioning, and productivity. Reviewed and interpreted within the context of the multiple biological, social, and psychological changes that accompany age.

Psy 5202. Attitudes and Social Behavior. (3 cr; QP–3135 or 5135, 5862 or # SP–3005 or equiv) Traditional and current theory and research in social psychology on the psychology of attitudes.

Psy 5204. Psychology of Interpersonal Relationships. (3 cr; QP–3201 or # except for students in honors sequence and grad; SP–3201 or # A-F only) Introduction to interpersonal relationship theory and research findings, with emphasis on conceptual and methodological issues in relationship research.

Psy 5205. Applied Social Psychology. (3 cr; SP–3201 or grad student, #) Applications of social psychology research and theory to such domains as physical and mental health education, the media, desegregation, the legal system and other institutions, energy conservation, and public policy.

Psy 5206. Social Psychology and Health Behavior. (3 cr; QP–3201 or grad student, A-F only) Survey of social psychological theory and research pertaining to the processes by which people develop beliefs about health and illness; the relationship between those beliefs and the adoption of health-related behavior; and the impact of psychological factors on physical health.

Psy 5207. Personality and Social Behavior. (3 cr; SP–3101 or 3201 or # except for honors and grad students A-F only) Conceptual and methodological strategies for scientific study of individuals and their social worlds; applications of theory and research to issues of self, identity, and social interaction.

Psy 5501. Vocational Psychology. (3 cr; SP–3801 or #) Survey of the concepts, theories, methods, and findings of vocational psychology. Topics include history, individual differences; vocational development, device, adjustment; vocational assessment; vocational counseling.

Psy 5604. Abnormal Psychology. (3 cr; SP–3604; honors major or 4th year grad) Comprehensive review of psychopathological disorders. Etiology, diagnostic criteria, and clinical research findings emphasized.

Psy 5606. Clinical Psychophysiology. (3 cr; SP–3005 or equiv, 3061 or 5061, 3604 or 5604 or #) How psychophysiological methods such as autonomic and cerebral nervous system recording are used in the study of major psychopathological disorders.

Psy 5701. Organizational Staffing and Decision Making. (3 cr; SP–3005 or 4801 or equiv, 3711 or #) The application of psychological research and theory to issues in personnel recruitment and selection, and measurement of job performance. Applies principles of individual differences and psychological measurement to decision making in organizations (recruitment, selection, and group decisions).

Psy 5702. Psychological Foundations of Individual Behavior in Organizations. (3 cr; QP–3801 or equiv, 8 cr psychology or # SP–3711, 4801 or equiv or #) Theory and research on human behavior and performance in organizations. Organizational socialization processes across the career span, leadership styles and processes, work teams and structures, characteristics, problem-solving and decision-making processes, group dynamics, and inter-group relations.

Psy 5703. Psychology of Organizational Training and Development. (3 cr; SP–3711, 4801 or equiv or #) Theories, methods, and research pertaining to improving performance of individuals at work through learning and instruction: training-needs analysis, models of instructional design, aptitude-treatment interactions, measurement of training outcomes, training evaluation, knowledge structures, specific training programs designed for critical training problems.

Psy 5705. Psychology of Work Motivation. (3 cr; QP–3801 or equiv; 3711 or SP–4801 or equiv, 3711 or #) Motivation issues related to the behavior and performance of individuals in organizational settings. Contemporary work motivation theories and practices that relate person factors and environmental factors to skill acquisition, job performance, organizational citizenship behavior, and job satisfaction.

Psy 5862. Psychological Measurement: Theory and Methods. (3 cr; QP–3801 or equiv, honors or grad student or SP–4801 or equiv, honors or grad student or #) Types of measurements (tests, scales, inventories) and their construction; theory and measurement of reliability and validity.


Psy 5960. Topics in Psychology. (1-4 cr; SP–1001, #) Special classes or seminars offered infrequently for juniors, seniors, and graduate students. Topics listed in the psychology office.

Public Affairs (PA)

Hubert H. Humphrey Institute of Public Affairs

PA 1961. Leadership, You, and Your University. (3 cr) For freshmen and sophomores interested in studying/practicing leadership. Introduction to leadership theory, personal development, interpersonal relations, leadership at University of Minnesota. Competencies taught included personal assessment, written/verbal presentation, resume writing, electronic communication, goal setting, coping with group dynamics.

PA 3311. Introduction to Public Policy Analysis. (3 cr; QP–ApEc 1101 or Econ 1101; SP–ApEc 1101 or Econ 1101, A-F only) Elements of public policy analysis, policy analysts' roles, market failure, public choice, bureaucratic decision making, and public services.

PA 3961. Leadership, You, and Your Community. (3 cr; JR–SP or JR–JR) Leadership and leadership capacities: multicultural and multidimensional perspectives. Students examine their views on leadership. Leadership theory/practice: group dynamics/behavior; applying knowledge to practice.

PA 5001. Intellectual Foundations of Public Action. (3 cr; QP–Major in publ aff or publ policy or sci, tech, and environ policy or urban and regional planning or publ hth or # A-F only) Evolution of intellectual approaches that underlie public planning, management, and policy analysis as strategies for public action. Major decision making is shaped by knowledge and values; role of rationality. Conceptual approaches to public action along descriptive/normative lines and structure/process lines.

PA 5002. Introduction to Policy Analysis. (1.5 cr; QP–Major in publ aff or publ policy or sci, tech, and environ pol or urban and regional planning or publ hth or # A-F only) Process of public policy analysis from problem structuring to communication of findings. Commonly used analytical methods. Alternative models of analytical problem resolution.

PA 5003. Introduction to Financial Analysis and Management. (1.5 cr; SP–Major in publ aff or publ policy or sci, tech, and environ pol or urban and regional planning or publ hth or # A-F only) Basic finance and accounting concepts and tools used in public and nonprofit organizations. Fund accounting, balance sheets, statement analysis, cash flow analysis, and public sector and nonprofit sector budgeting processes. Lectures and discussions, as well as cases and examples from nonprofit and public sector organizations.

PA 5004. Introduction to Planning. (1.5 cr; SP–Major in publ aff or publ policy or sci, tech, and environ pol or urban and regional planning or publ hth or # A-F only) History and institutional development of urban planning as a profession. Roles of urban planners in United States and international settings. Scope, legitimacy, and limitations of planning and planning process. Issues in planning ethics and in planning in settings of diverse populations and stakeholders.

PA 5011. Organizational Analysis, Management, and Design. (3 cr; SP–Major in publ aff or publ policy or sci, tech, and environ pol or urban and regional planning or publ hth or # A-F only) Survey course examines challenges facing higher-level managers in public and nonprofit organizations in a mixed economy and democratic republic. Uses lectures and case discussions to explore distinctive features of public and nonprofit management, skills necessary for effective management, and manager's role as a creator of public value.

PA 5012. The Politics of Public Affairs. (3 cr; SP–Major in publ aff or publ policy or sci, tech, and environ pol or urban and regional planning or publ hth or # A-F only) Stages of policy making from agenda setting to implementation. Role and behavior of public and policy institutions (courts, legislatures, executives, and bureaucracies) and citizens, social movements, and interest groups. Concepts of political philosophy. Theories of the state. Team taught interdisciplinary course with small discussion sections.

PA 5013. Law and Urban Land Use. (3 cr; SP–Major in publ aff or publ policy or sci, tech, and environ pol or urban and regional planning or publ hth or # A-F only) Role of law in regulating and shaping urban development, land use, and planning. Application of federal, state, and local and regional governmental services. Interface between public and private sector.

PA 5021. Economics for Policy Analysis and Planning I. (3 cr; SP–Major in publ aff or publ policy or sci, tech, and environ pol or urban and regional planning or publ hth or # A-F only) An introduction to a set of useful tools for public policy: intermediate microeconomics, rudiments of macroeconomics, and central concepts of international trade.

PA 5022. Economics for Policy Analysis and Planning II. (3 cr; QP–3011 or equiv, major in publ aff or planning or sci, tech, and environ pol and urban and regional planning or publ hth or # A-F only)
Application of economic reasoning to a variety of public policy issues that may vary by section. Includes cost-benefit analysis, nonmarket valuation, and tax analysis.

PA 5031. Empirical Analysis (3 cr; SP—Major in publ aff or publ policy or sci, tech, and environ policy or urban and regional planning or publ hth or A–F only)
Basic statistical tools for empirical analysis of public policy questions. Descriptive statistics, probability distributions, correlation, simple and multiple regression analysis.

PA 5032. Intermediate Regression Analysis (1.5 cr; QP—5021 or equiv, major in publ aff or planning or sci and tech policy or publ hth or SP—5031 or equiv, major in publ aff or publ policy or sci, tech, and environ policy or urban and regional planning or publ hth or A–F only)
Bivariate and multivariate models of regression analysis and assumptions behind them. Problems using these models when such assumptions are not met.

PA 5033. Multivariate Techniques (1.5 cr; QP—5021 or equiv, major in publ aff or planning or sci and tech policy or publ hth or SP—5031 or equiv, major in publ aff or publ policy or sci, tech, and environ policy or urban and regional planning or publ hth or A–F only)
Examines publishing maximum likelihood estimation approaches.

PA 5034. Community Analysis and Planning Techniques (1.5 cr; QP—5021 or equiv, major in publ aff or planning or sci and tech policy or publ hth or SP—5031 or equiv, major in publ aff or publ policy or sci, tech, and environ policy or urban and regional planning or publ hth or A–F only)
Introduction to survey research methods emphasizing applications to policy and applied research. Research design choices (e.g., descriptive, experimental, case studies), sampling, data collection and measurement, conducting interviews, mailed questionnaires, qualitative techniques.

PA 5101. Management and Governance of Nonprofit Organizations (1.5 cr; SP—Grad or publ hth or adult special student or #)
Draws on theories, concepts, and real world examples to explore critical managerial challenges. Governance systems, strategic management practices, impact of different funding environments, management of multiple constituencies. Examines different types of nonprofits using economic and behavioral approaches.

PA 5102. Organization Design and Change (1.5 cr; SP—Grad or publ hth or adult special student or #)
Introduction to basic concepts related to organizational design decisions and the material challenges associated with organizational change in the context of public sector agencies and nonprofit organizations. Major forces for change, different kinds of change, and management of change. Uses case-based analysis and discussion.

PA 5111. Financial Management in Public and Nonprofit Organizations (3 cr; SP—5003, grad or publ hth or adult special student or #)
Design, installation, and use of accounting and control systems in public and nonprofit organizations. Public accounting standards and practices, financial administration and financial reporting, debt management, budgeting, and contract and procurement management systems. Lecture and discussion with case analysis.

PA 5112. Public Budgeting (4 cr; SP—Grad or publ hth or adult special student or #)
Budget process, revenue, and executive branches of federal, state, and local government; program evaluation and administration; techniques of budget and program analysis; use of budget as policy and management tool; analysis of fund flows within and among governing units.

PA 5113. State and Local Public Finance (3 cr; SP—Publ hth or adult special student or #)
Examines theory and practice of financing and providing public services at the state and local levels of government. Emphasis on integrating theory and practice, applying the materials to specific policy areas, and documenting the wide range of institutional arrangements across and within the fifty states.

PA 5115. State and Local Public Services and Finance (3 cr; QP—ApEc 3001 or equiv; SP—ApEc 3001 or equiv; A–F only)
Organization, delivery, economic analysis, and finance of state and local public services and functions.

PA 5121. Intergovernmental Relations (3 cr; SP—Grad or publ hth or adult special student or #)
Theory and practice of intergovernmental relations in the United States. Historical, political, and economic roots of contemporary institutions. Intergovernmental dimensions of specific policy areas. Policy areas include education, housing, transportation, metropolitan affairs, social welfare, and other areas of student interest.

PA 5122. Law and Public Affairs (3 cr; SP—Grad or publ hth or adult special student or #)
Public policy making is shaped and constrained by the national, state, and local legal framework in which it occurs. Broad overview of the evolution of the American legal system. Role of courts, legislatures, and political actors in changing law. How law is used to change public policy.

PA 5123. Financial and Development Strategies for Nonprofit and Public Organizations (1.5 cr; SP—Grad or publ hth or adult special student or #)
Nonprofit agencies are becoming the service delivery arm of the government. This course examines nonprofit and public sector financial and development strategies, the political strategies they use to obtain funding, and philanthropy’s historical role in public affairs. Includes guest speakers.

PA 5121. Conflict Management: Readings in Theory and Practice (3 cr; SP—Grad or publ hth or adult special student or #)
Current theory; review of conflict resolution strategies. Various aspects of interpersonal, group, organizational, and systemic conflict.

PA 5190. Topics in Public and Nonprofit Leadership and Management (3 cr; SP—Grad or publ hth or adult special student, #)
Analysis of selected topics.

PA 5201. American Cities I: Population and Housing (4 cr; SP—Grad or publ hth or adult special student or #)
Emergence of North American cities; residential building cycles, density patterns; metropolitan housing stocks, supply of housing services; population and household types; neighborhood-level patterns of housing use; urban and rural housing; urban-rural migration; housing submarkets inside metro areas; emphasis on linking theory, method, case studies.

PA 5202. American Cities II: Economy, Land Use, and Transportation (4 cr; SP—Grad or publ hth or adult special student or #)
Urban economy and its locational requirements; central place theory; transportation and urban land use; patterns and conflicts; industrial and commercial land use; competition and urban decline; metropolitan growth; preservation; emphasis on links between land use, transportation policy, economic development, and local fiscal issues; U.S.—Canadian contrasts.

PA 5203. Geographical Perspectives on Planning (4 cr; SP—Grad or publ hth or adult special student or #)
Open to undergraduate and graduate students wishing honors credit. Includes one additional weekly seminar-style meeting and a bibliography project on a topic selected in consultation with the instructor.

PA 5211. Introduction to Land Use Planning (3 cr; SP—Grad or publ hth or adult special student or #)
Course in spatial analysis or urban planning. Demonstration of knowledge of field. For undergrad sr and adult special in UC.

PA 5212. Managing Urban Growth and Change (3 cr; SP—Grad or publ hth or adult special student or #)
Theory and practice of planning, promoting, and controlling economic growth and change in urban areas. Economic development tools available to state and local policymakers; historic context of their use in metropolitan contexts; building and land-use regulations; public and private development processes; issues in design of neighborhoods; applied case studies examining public regulatory frameworks.

PA 5221. Private Sector Development (3 cr; SP—Grad or publ hth or adult special student or #)
Roles of various participants in the land development process; analysis of investment objectives and effects of regulation. Overview of the development process from both private and public perspective.

PA 5231. Transportation Policy and Planning (3 cr; SP—Grad or publ hth or adult special student or #)
Urban transportation planning and policy-making process, including relationship of transportation to demographics, economic development, land use, and the environment. Transportation system management, demand management, public mass transit systems. Includes field projects in transportation planning.

PA 5241. Environmental Planning (3 cr; SP—Grad or publ hth or adult special student or #)
Provides basic knowledge and skills for environmental planning practice. Relationship between natural resources, ecology, and urban development, and the planning design principles in balancing these; legal and regulatory context of environmental planning; and methods of environmental impact analysis.

PA 5251. Strategic Planning and Management (1.5 cr; SP—Grad or publ hth or adult special student or #)
Theory and practice of strategic planning and management for governments, public agencies, and nonprofit organizations. How to promote strategic thinking and acting by policy-makers and management teams in order to determine what an organization should do, how it should do it, and why. Lectures and case discussions.

PA 5252. Strategy and Tactics in Project Planning and Management (1.5 cr; SP—Grad or publ hth or adult special student or #)
Planning, analysis, evaluation, and implementation of short-term plans and projects. Technical analyses and interactional elements of completing projects within budget and time constraints. Appropriate strategic and tactical choices involved in the planning process. Analysis of case examples.

PA 5253. Participatory Management and Public Involvement Strategies (3 cr; SP—Grad or publ hth or adult special student or #)
Survey of strategies, techniques, and tools for involving members of groups, teams, organizations, and various stakeholders, including the public at large, in problem definition, policy or plan formulation, decision making, and implementation. Emphasis on public and nonprofit organizations and citizen involvement.

PA 5261. Housing Policy (3 cr; SP—Grad or publ hth or adult special student or #)
Explores institutional and environmental setting for the making of housing policy in the United States. Competing ideas about solving the nation’s housing problems through public intervention in the marketplace. Federal and local public sector responses to housing problems.
PA 5290. Topics in Planning. (3 cr; SP-Grad or publ hlth or adult special student, #) Analysis of selected topics.

PA 5301. Population Methods and Issues for the United States and the World. (3 cr; SP-Grad or publ hlth or adult special student or #) Basic demographic measures and methodology. Discussion of readings on population growth and environment, migration, poverty, fertility; diverse perspectives on nonmarket fertility, marriage, divorce, and cohabitation; cultural differences in family structure; aging; migration; refugee movement; and population policies.

PA 5311. Program Evaluation. (3 cr; SP-Grad or publ hlth or adult special student or #) Principal methods and primary applications of evaluation research as applied to policies and programs in health and human services, education, or the environment. Enables students to conduct evaluations and to be more critical consumers of studies done by others.

PA 5390. Topics in Advanced Policy Analysis Methods. (3 cr; SP-Grad or publ hlth or adult special student, #) Analysis of selected topics.

PA 5401. Poverty, Inequality, and Public Policy. (2 cr; SP-Grad or publ hlth or adult special student or #) The nature and extent of poverty and inequality in the United States, its causes and consequences, and the impact of government programs and policies. Extent and causes of poverty and inequality in other developed and developing countries.

PA 5411. Child Development and Social Policy. (3 cr; SP-Grad or publ hlth or adult special student or #) Intersection of conceptual orientations of developmental psychology with policies that affect children and families. Demographic, historical, and social trends that underline assumptions driving policies directed at women and children; projections of future policies.

PA 5412. Aging and Disability Policy. (3 cr; SP-Grad or publ hlth or adult special student or #) Policy debates concerning populations that are aging or disabled. Students learn and practice analyses in context of important health, social, and economic policy debates. Readings on current theory and evidence.

PA 5421. Racial Inequality and Public Policy. (3 cr; SP-Grad or publ hlth or adult special student or #) Seminar explores historical roots of racial inequality in the United States and contemporary economic consequences. Provokes open debate and discourse on public policy responses to racial inequality. Emphasis on stimulating participants to think about and analyze critically the range of strategies offered for reducing racism and racial economic inequality.

PA 5431. Labor Policy. (3 cr; SP-5031 or equiv, grad or publ hlth or adult special student or #) Public policies regarding employment, unions, and other institutions in the labor markets. Public programs affecting wages, unemployment, training, worker mobility, security, and quality of work life. Policy implications of changing nature of work.

PA 5441. Education Policy and the State Legislature. (3 cr; SP-Grad or publ hlth or adult special student or #) How the Missouri legislature makes decisions about education issues. (Discussions focus on K–12 issues, but there are many implications for higher education.) How to increase one’s influence in this process. Discussions with people influencing statewide educational policy, presentations, and a field trip to the state legislature.

PA 5442. Policy Design for Education and Human Development. (3 cr; SP-Grad or publ hlth or adult special student or #) Develops skills useful in designing effective educational policies. Practice using interdisciplinary approaches to identify and understand core variables (economic, psychological, etc.) that make the difference between policy success or failure. Opportunity to work on policy design tasks using multiple perspectives.

PA 5490. Topics in Social Policy. (3 cr; SP-Grad or publ hlth or adult special student, #) Analysis of selected topics.

PA 5501. Economic Development I. (2 cr; SP-Grad or publ hlth or adult special student or #) Economic development theories and strategies at national and regional levels in developing countries and the United States. Redistributive and basic needs strategies, institutional critiques, and Neo-Markovian approaches, gender and development, sustainable development, effects of globalization on workers and communities, public policy responses.

PA 5502. Economic Development II. (2 cr; SP-QP-5502 or equiv, grad or publ hlth or adult special student or #) SP-5501 or equiv, grad or publ hlth or adult special student or #; A-F only) Economic development from a macroeconomic and open-economy perspective. Sources of economic growth, agricultural development; import-substitution industrialization; endogenous growth models; population, migration, and human development; policy reform and adjustment.

PA 5511. Community Economic Development. (3 cr; SP-Grad or publ hlth or adult special student or #) Contexts and motivations behind community economic development activities; alternative strategies available to communities for organizing and initiating economic development projects; tools and techniques for conducting economic development analyses and planning—market analysis, feasibility studies, development plans; implementation at the local level.

PA 5521. Development Planning and Policy Analysis. (3 cr; SP-QP-5021 or equiv, 5502 or equiv, grad or publ hlth or adult special student or #) Techniques and assumptions of development planning and policy analysis at national, regional, and project levels. Direct and indirect effects of external shocks and government interventions on national and regional economies. Macroeconomic modeling, input-output analysis, social accounting matrices and multipliers, project appraisal, and evaluation techniques.

PA 5522. Economic Development of Latin America. (3 cr; SP-QP-5011 or equiv, 5502 or equiv, grad or publ hlth or adult special student or #) History of post-World War II period of Latin America beginning with Prebisch Thesis up through policy reforms of 1980s–1990s. Topics relating to privatization, policy reform, and deregulation in Latin America.

PA 5531. Strategies for Sustainable Development: Theory and Practice. (1.5 cr; SP-Microecon course, grad or publ hlth or adult special student or #) Economic, environmental, and social aspects of sustainable development. Strategies, methods of implementation, and applications of sustainable development in different economic systems of industrialized and developing countries, with emphasis on countries in transition.

PA 5590. Topics in Economic and Community Development. (3 cr; SP-Grad or publ hlth or adult special student, #) Analysis of selected topics.

PA 5601. Survey of Women, Law, and Public Policy in the United States. (3 cr; SP-Grad or publ hlth or adult special student or #) Gendered nature of public policy through historical analysis of welfare, single motherhood, and protective legislation. How laws structure public policy and how courts are arenas for policy making. Emphasis on employment, education, reproductive rights, and privacy. Differences among women. Intersection of oppression based on class/race/sexual orientation.

PA 5611. Feminist Economics. (3 cr; QP-5010, grad or publ hlth or adult special student or #) Feminist philosophy, methodology, and economic practice; feminist perspectives on development and the global economy; feminist perspectives on work and family; heterodox traditions in economics.

PA 5690. Topics in Women and Public Policy. (2-3 cr; SP-Grad or publ hlth or adult special student, #) Analysis of selected topics.

PA 5701. Science and State. (3 cr; SP-Grad or publ hlth or adult special student or #) Relationship between science and contemporary society. The nature of science—its ways of knowing, its values, its processes; how science has influenced U.S. political institutions and judicial processes; issues in current debate over U.S. science policy.

PA 5711. Science and Technology Policy. (3 cr; SP-Grad or publ hlth or adult special student or #) Effect of science and technology on economic policy, politics, environment, society. Role of national science and technology policies in development, diffusion, and adoption of technologies nationally and internationally. Other issues related to technology, technology policy, technological development, impact of technology, international cooperation.

PA 5721. Energy and Environmental Policy. (3 cr; Grad or publ hlth or adult special student or #) Impact of energy production and consumption choices on environmental quality, sustainable development, and other economic and social goals. Emphasis on public policy choices for both energy and the environment and the links between them.

PA 5722. Environmental and Resource Economics Policy. (3 cr; SP-Grad or publ hlth or adult special student or #) Knowledge of intermediate microeconomics and policy analysis. Public policy associated with natural resource use and environmental protection. Develops/appplies economic concepts/methodologies/policy mechanisms. Principles of environmental and resource economics; issues related to renewable/nonrenewable resources and environmental pollution. Focus on scientific and political aspects of policy.

PA 5790. Topics in Science, Technology, and Environmental Policy. (3 cr; SP-Grad or publ hlth or adult special student, #) Analysis of selected topics.

PA 5801. U.S. Foreign Policy: Process and Analysis. (3 cr; SP-Grad or publ hlth or adult special student or #) Examines both U.S. general diplomacy and foreign economic policy with emphasis on analysis. Broad security strategy; policy towards specific geographic regions; trade, investment, and monetary policy; immigration policy; and international cooperation.

PA 5811. Public Policy Problems of Globalization. (3 cr; SP-Grad or publ hlth or adult special student or #) Policy problems facing national and subnational decision makers caused by increasing international mobility of goods, services, capital, persons, and ideas.

PA 5812. Open Economy Models: An Assessment. (3 cr; SP-Grad or publ hlth or adult special student or #) Intermediate macroeconomics and trade theory. Understanding open economies and implications for where policy making and implementation take place. Issues at the international level and from the level of domestic economies.

PA 5890. Topics in Foreign Policy and International Affairs. (3 cr; SP-Grad or publ hlth or adult special student, #) Analysis of selected topics.

PA 5901. Computer Applications in Public Affairs. (0.5-3 cr [max 6 cr]; SP-Grad or publ hlth or adult special student or #; S-N only) Introduction to computer systems and applications as used in public affairs practice.

PA 5921. Application of Mediation Methods. (3 cr; SP-Grad or publ hlth or adult special student or #) Experience in skills needed to create an arena for mediation and specific skills/expectations needed to mediate a dispute between individuals and among groups, both balanced (peer or colleague) and imbalanced (power differentials exist). Role playing, emphasizing group debriefing and critique. Cases employed.
PA 5922. Conflict Management Proseminar. (1 cr; SP–Grad or publ hlhs or adult special student or #) Current topics in conflict management research and practice. Theoretical implications and practical applications of conflict management from the perspectives of each participant. National and international issues.

PA 5923. Conflict Management Proseminar. (1 cr; SP–Grad or publ hlhs or adult special student or #) Current topics in conflict management. Theoretical implications and practical applications of conflict management from the perspectives of each participant. National and international issues.

PA 5931. The Role of the Media in Public Affairs. (3 cr; SP–Grad or publ hlhs or adult special student or #) Historical and contemporary role of news media in defining and shaping public opinion and public policy, primarily in the United States. Emphasis on critical research and professional skills in three forms of professionalism: hard news coverage, investigative reporting, and documentaries. Field experience and practice in governmental public relations.

PA 5941. Leadership for the Common Good. (4 cr; SP–Complete enrollment request form, which is approved by instructors) Advances participants’ understanding of practice of leadership in pursuit of the common good. Attention given to leadership: personal, team, organizational, visionary, political, and ethical. Emphasis on building and experiencing a learning community.

PA 5951. Global Commons Seminar. (3 cr [max 6 cr]; SP–International Hubert H. Humphrey Fellow; SP–International Hubert H. Humphrey Fellows, S-N only) Meets specific needs of International Humphrey Fellows. Topics vary depending on the interests and needs of the fellows.

PA 5961. Seminar: Leadership, You, and the World. (4 cr; SP–SR or A–F only) Leadership theory, community building and social change, and systems thinking. Students conduct/ present research on leadership models through literature review, internships, and study groups. Study groups produce major paper describing research project. Participants assemble portfolio demonstrating their leadership learning as University student.

Public Health (PubH)

School of Public Health


PubH 3003. Fundamentals of Alcohol and Drug Abuse. (2 cr; SP–3004, 3500, 3502; SP–3004, 3503) Scientific, sociocultural, and attitudinal aspects of alcohol and other drug abuse problems; emphasizes incidence, high-risk populations, prevention, and intervention.


PubH 3091. Practicum in Peer Education I. (2 cr; SP–Upper div student with demonstrated hlhs or hith ed interests; 3001 or 3001 or 3004 or #3004, # A–F only) Upper div student with demonstrated hlhs or hith ed interests; 3001 or 3001 or 3004 or #3004, # A–F only) Multiple factors that influence health. Through various health promotion strategies, students build upon or gain skills such as public speaking, needs assessments, program planning, interpersonal communication, and program evaluation.

PubH 3092. Practicum in Peer Education II. (2 cr; SP–Upper div student with demonstrated hlhs or hith ed interests; 3001 or 3004 or #3004, # A–F only) Upper div student with demonstrated hlhs or hith ed interests; 3001 or 3001 or 3004 or #3004, # A–F only) Multiple factors that influence health. Through various health promotion strategies, students build upon or gain skills such as public speaking, needs assessments, program planning, interpersonal communication, and program evaluation.

PubH 3099. Topics in Public Health. (1-15 cr [max 15 cr]; SP–#) Directed instruction, including selected readings.

PubH 5003. Fundamentals of Alcohol and Drug Abuse. (1.5 cr; SP–$302; ed student or #) Lecture, discussion, and special readings on scientific, sociocultural, and attitudinal aspects of alcohol and other drug abuse problems; emphasizes incidence, high risk populations, prevention, and intervention.

PubH 5010. Public Health Interventions to AIDS. (3 cr; SP–Upper div or grad or professional school student or #) Survey of HIV infection from a public health perspective emphasizing intervention.

PubH 5040. Dying and Death in Contemporary Society: Implications for Intervention. (2 cr; SP–Pub hlhs or ed hlhs sci major or mort sci sr or #) Concepts, attitudes, and leadership intervention related to dying, death, grief, and bereavement. Emphasis on preparing community health and helping professionals and educators for educational activities in this area.

PubH 5110. Environmental and Worker Protection Law. (4 cr; SP–) Law protecting public health and conserving the environment: 1) common law that evolved as courts settled private disputes; 2) public law made by legislatures and administrative agencies. Students research legal issues underlying public health and environmental policies, analyze court opinions, review statutes, and participate in negotiation exercise.

PubH 5111. Preventing Pollution: Innovative Approaches to Environmental Management. (3 cr; SP–Pub hlhs or ed hlhs sci major or honors undergrad student or #) Interdisciplinary approach to pollution problems, including sustainability, pollution prevention, risk assessment, regulatory reform, and strategic environmental management.

PubH 5120. Injury Prevention in the Workplace, Community, and Home. (2 cr) Injury epidemiology; analyses of major injury problems affecting the public in the workplace, community, and home using epidemiologic model and conceptual framework; emphasis on strategies/program development for prevention and control.

PubH 5121. Topics: Injury Prevention in the Workplace, Community, and Home. (1-2 cr [max 2 cr]; SP–5194 or 5210, 5320, #) Selected projects.


PubH 5160. Physiological Disposition of Xenobiotics. (2 cr; SP–One course each in biochem, mol biol, org chem or #) Pharmacokinetics/toxicokinetics and xenobiotic metabolism. Mechanisms by which phase I and phase II enzymes detoxify and activate xenobiotics. Implications of these biochemical reactions for human health.

PubH 5180. Environmental Microbiology. (4 cr; SP–MIB 3103 or equiv or #) Survival, dissemination, significance, and monitoring of microorganisms in the human environment. Principles of biological safety, including risk assessment, lab design and operation, lab animals, shipping and transport, sterilization, disinfection, and decontamination.

PubH 5190. Environmental Chemistry. (3 cr; SP–One course each in gen chem, org chem or #) Overview air, water, and soil chemistry; pertinent environmental problems; human and ecological multimedia exposure to chemicals in the environment.

PubH 5200. Environmental Health. (2 cr) Principles of environmental health relating to macro- and micro-environments and to products consumed or used by people.

PubH 5201. Issues in Environmental and Occupational Health. (2 cr; SP–Pub hlhs student or #) The field, current issues, and principles and methods of environmental and occupational health practice.


PubH 5390. Smoking Intervention. (2 cr; SP–Che or epi MPH or epi grad major or #) Impact of smoking on U.S. public health; review of research on onset and prevention, factors maintaining dependence, cessation and intervention strategies, public health campaigns, public policies and second-hand smoking controversies, and international issues.

PubH 5394. Mass Communication and Public Health. (2 cr; SP–Social or behavioral sci credits, pub hlhs or mass comm grad student or #) Role, functions, and effects of mass media on public health; planned and unplanned effects; review of literature to understand how theories, models, and assumptions of mass communication research relate to public health.

PubH 5414. Biostatistical Methods I. (2 cr; SP–$5450, pub hlhs sci grad student or #) Basic quantitative methods: descriptive statistics, concepts of probability, random sampling and sampling distribution, fundamental inferential procedures (confidence estimation, t-tests and chi-square tests, simple linear regression). Applications to public health studies: design, analysis, and interpretation of results.

PubH 5415. Biostatistical Methods II. (2 cr; SP–$5420, $5450, 5414, pub hlhs sci grad student or #) Continuation of 5414: basic statistical methods and approaches, introduction to computer packages for data analysis, including SAS.

PubH 5420. Statistical Computing I: Using Statistical Packages. (1 cr; SP–$5450 or $5450, hlhs sci grad student or #) Use of the statistical computer package SAS for analysis of biomedical data. Data manipulation, description, and basic statistical analyses (t-tests, chi-square, simple regression).

PubH 5450. Biostatistics I. (3 cr; SP–Math 1111 or Math 1201, hlhs sci grad student or #) Descriptive statistics; Gaussian probability models, point and interval estimation for means and proportions; hypothesis testing, including t, chi-square, and nonparametric tests; regression and correlation techniques; one-way analysis of variance; health science applications using output from statistical packages.

PubH 5452. Biostatistics II. (4 cr; SP–$5450, competition in SAS through $420 or equiv or grade of B or better in 5414-5415, SP–$5450, competition in SAS through $420 or equiv or grade of B or better in 5414-5415) Analysis of counted data, including contingency table analysis and logistic regression; survival analysis, including Cox proportional hazards regression model.

For definitions of course numbers, symbols, and abbreviations, see inside back cover.
PubH 5600. Topics in Maternal and Child Health. (1-4 cr; QP–SP–#) New course offerings.

PubH 5601. Principles of Maternal and Child Health. (2 cr) QP–Pub hhh or grad student or #; SP–Pub hhh or grad student or #

For MCH students and others interested in learning about the needs of children and families. Examines MCH needs in the context of “Healthy People 2000,” including the history and organization of programs, policies, and advocacy activities.

PubH 5601. Families and Health: An Ecosystems Approach. (2 cr) QP–Pub hhh or grad student or #; SP–Pub hhh or grad student or #

Interrelationships between individual, family, and community health. Family theories and research and the impact of the sociocultural context, public policies, and community structures on health. Primary and secondary prevention strategies for promoting family health.

PubH 5613. Chronic Illness and Disability in Childhood: Principles, Programs, and Policies. (2 cr; QP–Pub hhh or grad student or #; SP–Pub hhh or grad student or #)

Principles, policies, programs, and practices for identifying and meeting the needs of children and adolescents with chronic health conditions and of their families. Skills emphasized: needs assessment, program development/evaluation, family empowerment, interdisciplinary team building, integrated/coordinated service delivery, advocacy.

PubH 5621. Women’s Health: Issues and Controversies. (3 cr; QP–Sr or grad or professional school student preferred; SP–Sr or grad or professional school student preferred) Women’s health concerns, health status, and health care today. Historical, socioeconomic, and gender perspectives; public health access; parameters; and multidisciplinary aspects. Roles of women as consumers and providers.

PubH 5623. Adolescent Sexual Identity: Teen Risk and Professional Responsibility. (1 cr) QP–Professional in pub hhh or medicine or ed or soc work or counseling or youth service; SP–Professional in pub hhh or medicine or ed or soc work or counseling or youth service) Adolescent sexuality and sexual orientation from perspective of individual identity; impact of the community and response of the community toward gay, lesbian, bisexual, and transgender youth; and interventions/roles of professionals in the school and community.

PubH 5625. Sexual Orientation Issues for Adolescents. (2 cr; QP–Baccalaureate degree or employment in ed or hhh or soc service field; SP–Baccalaureate degree or employment in ed or hhh or soc service field) Adolescent sexual orientation from perspective of individual identity; impact of the community and response of the community toward gay, lesbian, bisexual, and transgender youth; and interventions/roles of professionals in the school and community.

PubH 5637. Program Evaluation in Maternal and Child Health. (2 cr; QP–$5852; 5623 or 5806 or # or mch major or # or SP–Research course, mch or pha major or #; SP–Research course, mch or pha major or #) Introduction to models and applications of program evaluation in public health; design strategies and methods for collecting and analyzing evaluative information; and consideration of social context and ethical and political forces that shape evaluation design, implementation, and utilization.

PubH 5651. Advocating for Change for Children. (2 cr; QP–Pub hhh or grad student or professional in pub hhh or ed; SP–Pub hhh or grad student or professional in pub hhh or ed) Systems change strategies and building skills in public policy research, information and perception management, coalition building, personal persuasion, and advocacy.

PubH 5653. Community Organizing for Public Health. (2 cr; QP–Pub hhh or grad student or #; SP–Pub hhh or grad student or #)

Introduces students to principles of community organizing and identifies challenges and strategies for public health professionals engaged in community organizing. Decreasing barriers to community participation; developing leadership; building coalitions and alliances; sustaining community organizing efforts.

PubH 5661. Prevention: Theory, Practice, and Application in Public Health Service. (3 cr; QP–Grad or professional school student or professional in hhh-related discipline preferred; SP–Grad or professional school student or professional in hhh-related discipline preferred)

Current issues and controversies around prevention and how it relates to public health services. History, prevention as an idea, terminology, lifestyle intervention, programs and legislative issues, education, roles and implications for societal action.

PubH 5663. Cross-Cultural Health Issues. (2 cr; QP–Pub hhh or grad student or #; SP–Pub hhh or grad student or #)

Health issues and “health culture” of ethnic communities in Minnesota, including Hmong, Hispanic, African American, and Native American. Cultural factors that influence health and health services.

PubH 5677. Maternal and Child Health Master’s Project. (2 cr or 3 cr; QP–Mch major, #; SP–Mch major, #; S-N only) Students work with their adviser to complete one of three types of master’s projects: research, critical literature review, technical report.

PubH 5691. Independent Study in Maternal and Child Health. (1-5 cr; QP–Pub hhh or grad student, #; SP–Pub hhh or grad student, #)

Independent study with direction from a maternal and child health faculty member.

PubH 5696. Field Experience in Maternal and Child Health. (2-4 cr; QP–Mch major, #; SP–Mch major, #; S-N only)

Field experience for students majoring in maternal and child health.

PubH 5700. Public Health Administration. (2 cr; QP–Pha major or #; SP–Pha major or #)

Issues, administrative problems, activities, structure, organization, supervision, and direction of state, local, federal, and nonprofit public health agencies.

PubH 5727. Health Leadership and Effecting Change. (2 cr; QP–Pub hhh or grad student or #; SP–Pub hhh or grad student or #)

Applications of a broad theoretical base in planned change to solve managerial and organizational problems in students’ future roles as leaders in the health professions.

PubH 5731. Public Health Program Planning and Grant Writing. (2 cr; QP–Pha or mch major or #; SP–Pha or mch major or #)

Provides knowledge and skills necessary for planning health promotion and disease prevention programs and writing grants to fund these programs. Uses PRECEDE-PROCEED Model as a framework for program planning.

PubH 5733. Interventions for Health of Populations. (3 cr; QP–Nurs 8401; 5330 or #; SP–Nurs 8601; 5330 or #)

Synthesis of process developmental approach and public health perspective with nursing and behavior change conceptual models to develop intervention models that are effective in addressing priority public health problems across the life span.

PubH 5737. Biostatistics: Multidisciplinary Perspectives on Aging. (3 cr; QP–Ad Ed 5440; CPsy 5306; @Ed 5105; @Hsu 5009; @Nurs 5780; @Phar 5009; @Soc 5960; @Soc 5024; upper div or grad or extension student; SP–Ad Ed 5440; CPsy 5306; @Ed 5105; @Hsu 5009; @Nurs 5780; @Phar 5009; @Soc 5960; @Soc 5024; upper div or grad or extension student)

Sociological, biological, and psychological aspects of aging; theories of aging; death and bereavement; issues and problems of older adults in American human services and their delivery systems (health, nutrition, long-term care, education); public policy and legislation; environment and housing; retirement.

PubH 5740. Organizational Behavior. (2 cr; QP–Pha major or #; SP–Pha major or #)

Human behavior in organizations; motivation, leadership, influence of organizational structure, informal group behavior, interpersonal relations, supervision. Preventing and solving problems among individuals and groups in organizations.

PubH 5759. Health Care Financial Management (Private Sector Emphasis). (3 cr; QP–5756, 5757, pha major or MHA student or #; knowledge of computerized spreadsheets; SP–5756, 5757, pha major or MHA student or #; knowledge of computerized spreadsheets)

Basic principles of corporate finance and selected insurance concepts integrated and applied to health care with private sector emphasis. NPV; CAPM; capital and operating budgets; Medicare PPS and RBRVS; risk-adjusted capitation; health care reform.

PubH 5771. Health Care Financial Management (Public Sector Emphasis). (3 cr; QP–3 cr college-level accounting course or #; knowledge of computerized spreadsheets recommended; SP–2 cr college-level accounting course or #; knowledge of computerized spreadsheets recommended)

Basic principles of finance and selected insurance concepts integrated and applied to health care with public sector emphasis. NPV; public financing; capital and operating budgets; Medicare PPS and RBRVS; risk-adjusted capitation; health care reform.

PubH 5791. Independent Study: Public Health Administration. (1-8 cr; QP–Pha major, #; SP–Pha major, #)

Independent study, under tutorial guidance, of selected problems and current issues.

PubH 5905. Human Nutrition and Health. (2 cr; QP–jr or sr or grad or professional school student; SP–jr or sr or grad or professional school student)

Broad range of nutrition topics of contemporary interest. Concepts and facts about science of human nutrition in relation to personal and community nutrition problems and concerns. Applied, introductory graduate-level course with labs.

PubH 5906. Field Experience: Public Health Nutrition. (1-8 cr; #) Placement in an approved agency with opportunity for experience in nutrition-related activities of public health programs.

PubH 5909. Topics: Public Health Nutrition. (1-12 cr; #) Placement in an approved agency with opportunity for experience in nutrition-related activities of public health programs.

PubH 5914. Community Nutrition Intervention. (3 cr; QP–Grad or professional school student or #; SP–Grad or professional school student or #)

Nutrition intervention strategies used in health programs. Selecting appropriate strategies, applying them to specific target audiences, and evaluating their usefulness in relation to program objectives.

PubH 5920. Public Health Aspects of Nutrition Policy. (2 cr; QP–Pub hhh nutr or che or epi MPH or epi or nutr grad major or #; SP–Pub hhh nutr or che or epi MPH or epi or nutr grad major or #)

Nutrition policy formulation and effects on public health. Role of policy approaches in context of nutrition; how these approaches differ from other prevention strategies.

PubH 5932. Nutrition: Adults and the Elderly. (2 cr; QP–Grad or professional school student or #; SP–Grad or professional school student or #; A-F only)

Current literature and research on nutrition needs and factors affecting nutritional status of adults and the elderly.

PubH 5933. Nutrition: Health/Disease Relationships. (2 cr; QP–Pha major or #; SP–Pha major or #)

Current literature and research on nutrition needs and factors affecting nutritional status of adults and the elderly.

Recreation, Park, and Leisure Studies (Rec)

School of Kinesiology and Leisure Studies
College of Education and Human Development

Rec 1501. Orientation to Leisure and Recreation. (3 cr)
Introduction to the history and development of the parks and recreation movement; sociological, economical, psychological, and political considerations of leisure and recreation in contemporary society; interrelationship between professional and service organizations; orientation to the professional field.

Rec 2151. Outdoor and Camp Leadership. (3 cr; A-F only)
Practical and theoretical study of leading groups in outdoor and camp settings. Outdoor leadership skills, expedition planning, emergency procedures and risk management, minimum impact approaches, and working with youth in a camp environment.

Rec 3281. Research and Evaluation in Recreation, Park, and Leisure Studies. (4 cr; QP-1520 or SP-MEd or SP-SP 1501 or #; A-F only)
Basic techniques; emphasis on social research and evaluation methodology; survey of present status of recreation and park research and evaluation.

Rec 3541. Recreation Programming. (3 cr; QP-1520 or #; Rec major or SP-SP 1501 or #; A-F only)
A variety of methods, skills and materials needed for planning, developing, implementing, and evaluating professional recreation programs for diverse populations in a variety of settings.

Rec 3551. Administration and Finance of Leisure Services. (4 cr; QP-3530, 3545 or #; Rec major; SP-SP 3541 or #; Rec major; A-F only)
Principles and practices of financing and managing leisure service agencies in the public and private sector.

Rec 3601. Leisure and Human Development. (3 cr)
Exploration of relevant issues concerning many roles of leisure in human development from influence on healthy fetal development to viability until death. Examination of diverse, multicultural perspectives on leisure, its centrality throughout history and influence on how civilizations define themselves.

Rec 3796. Senior Internship in Recreation, Park, and Leisure Studies. (1-3 cr; SP-MEd or grad student or #; Rec 3551 or #; A-F only)
Supervised internship experience for pre-professional students in selected agencies.

Rec 3993. Directed Study in Recreation, Park, and Leisure Studies. (1-9 cr; max 24 cr; QP-Rec major or SP-SP 1501 or #; Rec major; or #; A-F only)
Self-directed study preceded by classroom study and possession of basic competence. Intended for scholarly projects (e.g., library or field research) or demonstration projects in the field of leisure studies and services. Not intended for additional fieldwork, internship, or programming experience.

Rec 5101. Foundations of Recreation. (3 cr; QP-Rec or grad student or #; SP-MEd or grad student or #; A-F only)
Investigation of the rational, sociological, psychological, and philosophical foundations of the recreational use of leisure in contemporary society. Includes a survey of leisure services.

Rec 5161. Recreation Land Policy. (3 cr; QP-1500 or 5100 or #; SP-1501 or 5101 or #; A-F only)
Historical development of recreational land policy in the United States and related contemporary issues in policy, management, interpretation, and research.

Rec 5191. Commercial Recreation and Tourism. (3 cr; QP-3550 or #; SP-SP 3551 or #; A-F only)
Scope and development of profit-oriented recreation agencies, including an emphasis on the tourism industry.

Rec 5211. Introduction to Therapeutic Recreation. (3 cr; QP-1520 or #; SP-SP 1501 or #; A-F only)
Purposeful intervention; roles of specialist/recreation therapists in meeting cognitive, physical, emotional, social needs of people with disabling conditions through recreation services; roles of specialist/recreation therapists changing societal attitudes toward illness and disability and the self-concepts of individuals with impairments.

Rec 5221. Comprehensive Therapeutic Recreation Services Development and Management. (4 cr; QP-5210 or #; Rec major; SP-SP 5211 or #; A-F only)
Guided development of written plans including development of protocols and critical pathways, intervention programs/activities, individual treatment plans and standards for appropriate placement of individuals in group intervention, and management of patient/client service delivery, record keeping, and administrative responsibilities.

Rec 5231. Recreation and Persons with Developmental Disabilities. (3 cr; QP-5210 or #; SP-SP 5211 or #; A-F only)
Issues relating to leisure services for persons with developmental disabilities; approaches to programming, including behavioral methods, in home, school, and community settings.

Rec 5241. Leisure and Aging. (3 cr; QP-3540 or 5100 or #; SP-SP 3541 or 5111 or #; A-F only)
Role of leisure in the maintenance of mental, physical, and social-emotional health and functioning. Pertinent issues relative to prevention of impairments and disability, rehabilitation, support of vital life involvement, and the impact on the design and delivery of recreation services.

Rec 5271. Community Leisure Services for Persons with Disabilities. (3 cr; QP-SP 1501, rec major, or #; SP-SP 1501, rec major, or #; A-F only)
Exploration and application of concepts and techniques of normalization and least restrictive environment strategies to leisure service delivery in inclusive community settings for a range of individuals with disabilities.

Rec 5288. Grant Writing in Human Services. (3 cr; A-F only)
Identify, develop, and procure financial assistance for programs in human services, including education, recreation, and social programs. Skills and strategies for preparing and evaluating competitive proposals for grant support through federal agencies and private foundations or charitable foundations.

Rec 5301. Wilderness and Adventure Education. (3 cr; QP-SP 3530, 2511 or #; A-F only)
Rationale for and methods used in the application of wilderness and adventure education programs in education, recreation, corporate, and human service settings. Emphasis on adventure and wilderness program management.

Rec 5311. Programming Outdoor and Environmental Education. (3 cr; A-F only)
Methods, materials, and settings for developing and conducting environmental and outdoor education programs.

Rec 5461. Foundations of Sport Management. (3 cr; QP-#; Kin 5460; kin or rec major or #; SP-SP 5461; kin or rec major or #; A-F only)
Principles of sport management, including theories and techniques in administration and management of sport enterprises. Organizational theory and policy with practical examples of sport management skills and strategies.

Rec 5511. Women in Sport and Leisure. (3 cr; QP-SP 5511 or #; #; A-F only)
Critically examine women’s involvement in and contributions to sport, physical activity, and leisure.

Rec 5801. Legal Aspects of Sport and Recreation. (4 cr; QP-3550 or #; SP-SP 5801; 3551 or 5461 or #; A-F only)
Legal issues related to recreation, park, and sport programs and facilities with public and private sectors.

Rec 5900. Special Topics: Contemporary Issues in Leisure Services. (1-12 cr; max 12 cr)
Contemporary issues emphasizing administrative and supervisory functions for recreation and allied professionals; individual offerings, to be determined by faculty, focus on special issues and professional groups.

Rec 5981. Research Methodology in Kinesiology and Leisure Studies. (3 cr; QP-#; MEd or grad student or #; SP-MEd or grad student or #; A-F only)
Defines and reviews various types of research in exercise and sport science, physical education, and recreation studies. Covers qualitative research, field studies, and methods of introspection as alternate research strategies instead of relying on traditional scientific paradigm.

Rec 5992. Readings: Recreation. (1-3 cr; max 9 cr)
QP-MEd or grad student or #; A-F only
Independent study under tutorial guidance by a faculty member in leisure studies. Intended as an opportunity to conduct in-depth study and reading on particular topic(s) not covered in regular coursework.

Rec 5995. Problems in Recreation, Park, and Leisure Studies. (1-12 cr; max 30 cr; QP-#; MEd or grad student or #; A-F only)
Independent study of leisure service programs, systems, facilities, or policies; focus on conduct of recreation programs. Intended for scholarly projects (e.g., library or field research) or demonstration projects in the field of leisure studies and services. Not intended for additional fieldwork, practicum, or programming experience.

Religions in Antiquity (RelA)

Department of Classical and Near Eastern Studies
College of Liberal Arts

RelA 1001. Introduction to the Religions of the World. (3 cr)
An introduction to the major religions of the world and the academic study of religion. Hinduism, Buddhism, Judaism, Christianity, Islam, and some pre-Christian religions of Antiquity.

RelA 1031. Introduction to the Religions of South Asia. (3 cr)
Historical study of the three traditional religions of India: Hinduism, Buddhism, and Jainism through literature, art, and film. General topics include myth, yoga, mysticism, and the religious order of society.

RelA 1034. Introduction to Judaism. (3 cr; SP-SP 3034, § w/1034, § w/3034; no knowledge of Hebrew required)
Survey of intellectual history, literature, beliefs, practices, values, laws, national, and cultural developments from the rabbinic period through today. Ancient and modern sources used to study Judaism. Combines Western critical methodologies with the Jewish traditions of learning.

RelA 1082. Jesus in History. (3 cr; SP-SP 1182)
Jesus of Nazareth in his original setting. Modern approaches to the historical Jesus, Perspectives and needs of early gospel writers and effects of portrayals of Jesus. Shifting representations of Jesus in new historical and cultural situations. Meets with RelA 1182.

RelA 1182. Honors Course: Jesus in History. (3 cr; SP-SP 1082)
Jesus of Nazareth in his original setting. Modern approaches to the historical Jesus. Perspectives and needs of early gospel writers and effects of portrayals of Jesus. Shifting representations of Jesus in new historical and cultural situations. Meets with RelA 1082.
RelA 3034. Introduction to Judaism. (3 cr; SP–3034, 4 cr w/ 3034; no knowledge of Hebrew required) Survey of intellectual history, literature, beliefs, practices, values, laws, national, and cultural developments from the biblical period through today. American Judaism; sources used to study Judaism. Combines Western critical methodologies with the Jewish traditions of learning.

RelA 3036. Islam: Religion and Culture. (3 cr) Religion of Islam, faith, practices, sectarian splintering, expansion outside original home to status of world religion, institutions, status in world societies—Asia, Europe, Americas.

RelA 3070. Topics in Ancient Religion. (3 cr) Study of a specific aspect of religion in antiquity, such as healing cults, magic and divination, Gnosticism, or prophecy and authority. Topics vary by instructor and from year to year. Topics specified in Class Schedule.

RelA 3071. Greek and Hellenistic Religions. (3 cr; SP–3171) Greek religion from the Bronze Age to Hellenistic times. Sources include literature, art, archaeology, Homer and Olympian deities; ritual performance; prayer and sacrifice; temple architecture; death and the afterlife; mystery cults; philosophical religion; Near Eastern salvation religions. Meets with 3071.

RelA 3072. The New Testament. (3 cr) Early Jesus movement in its cultural and historical settings; origins in Judaism; traditions about Jesus; Paul, his controversies and interpreters; questions of authority, religious practice, and structure; emergence of the canon of scripture. Contemporary methods of New Testament study. Meets with 3072. Honors students meet weekly for an additional recitation section.


RelA 3251. Modern Study of the Old Testament. (3 cr; SP–No knowledge of Hebrew required) Methods used in studying the Old Testament, including textual criticism, the anthropological approach, the sociological approach, the history of religion, and the use of archaeology in interpreting the text.


RelA 3502. Ancient Israel: The History of Israel from Conquest to Exile. (3 cr; SP–Knowledge of Hebrew not required; 3501 recommended) Israelite history in the context of what is known from Egyptian, Canaanite, and Mesopotamian sources. Focus on issues raised by archaeological data related to the Israelite conquest of Canaan.

RelA 5070. Topics in Ancient Religion. (3 cr; SP–RelA 3071 or 3072 or 3073 or 3074 or 3075 or 3073 or any rel course or #) Study of a specific aspect of religion in Classical and Near Eastern antiquity such as healing cults, magic and divination, Gnosticism, or prophecy and authority. Topics specified in Class Schedule.

RelA 5071. Greek and Hellenistic Religions. (3 cr; SP–3071 or 3171) Greek religion from the Bronze Age to Hellenistic times. Sources include literature, art, and archaeology. Homer and the Olympian deities; ritual performance; prayer and sacrifice; temple architecture; oracles; death and the afterlife; mystery cults; philosophical religion; Near Eastern salvation religions. Meets with 3071.


RelA 5080. New Testament Proseminar. (3 cr; SP–RelA 1082 or 3072 or equiv) Study of some specific aspect of the New Testament and related literature. The class is organized as a discussion seminar. Topics specified in Class Schedule.


RelA 5501. Ancient Israel: The Origins of Israel in Biblical Traditions. (3 cr; SP–3501) The foundation of the Hebrew people; traditions of the patriarchal period; development of Israelite religious and the legal institutions; ancient Near Eastern context of Israel’s origins.

RelA 5502. Ancient Israel: The History of Israel from Conquest to Exile. (3 cr; SP–Knowledge of Hebrew not required) Israelite history in the context of what is known from Egyptian, Canaanite, and Mesopotamian sources. Focus on issues raised by archaeological data related to the Israelite conquest of Canaan.

RelA 5503. History and Development of Israelite Religion I. (3 cr; SP–3503; knowledge of Hebrew not required) Survey of the evolution of Israelite religion. Cultic practices, law and religion, prophecy, religion and historiography. Relationship to surrounding religious systems.

RelA 5504. Development of Israelite Religion II. (3 cr; SP–3504/RelA 3501) Ancient Judaism from the Persian restoration (520 B.C.E.) to Roman times (2nd century C.E.). Religious, cultural, and historical developments are examined to understand Jewish life, work, and worship under a succession of foreign empires: Persian, Greek, and Roman.

RelA 5993. Directed Studies. (2-4 cr; max 10 cr) Student works with faculty on a subject decided upon by both.

RelA 5972. Directed Studies. (2-4 cr; max 10 cr) Guided individual reading or study.
Rhet 4573. Writing and Managing Projects and Proposals. (3 cr; QP – SP; 3562; A–F only) Research function, interpret an RFP or program announcement, letters of intent, and grant preparation following the guidelines of an RFP or program announcement. Proposals for nonprofits and/or research or business proposals. Will use Microsoft Project.

Rhet 4671. Principles and Application of Project Management and Design I. (3 cr; QP – STC major or grad student or #; SP–STC major or grad student or #; A–F only) Two-semester sequence introduces design principles, visual display of data, and management of a variety of publications including newsletters, brochures, and scientific posters, as well as computer software programs to assist in these tasks.

Rhet 4672. Principles and Application of Project Management and Design II. (3 cr; QP–4671 or #; SP–4671) Two-semester sequence introduces design principles, visual display of data, and management of a variety of publications including newsletters, brochures, and scientific posters, as well as computer software programs to assist in these tasks.

Rhet 5108. Gender and the Rhetoric of Science and Technology. (3 cr) How cultural gender roles are affected by science and technology and their influence on scientific and technological development, particularly through communication strategies, language, and image. Values and goals of past and present scientific and technological communities.

Rhet 5111. Message Design: Theory and Practice I. (3 cr; A–F only) Audience analysis, media selection, and message design through a variety of theoretical perspectives including cognitive and schema, social construction, feminist, and intercultural theories. Usability testing and contextual inquiry as means to study the effectiveness of messages.

Rhet 5112. Message Design: Theory and Practice II. (3 cr; SP–5111; A–F only) Political, economic, social, and technical dimensions of media selection and message design. Apply theories of message design and media selection to an on-line design project. Media analyses, scripts, budgets, treatments, project design plans, and various interactive screens.

Rhet 5196. Internship in Scientific and Technical Communication. (3–6 cr; A–F only) Internship sites may include the University, industry, or government agencies. An internship proposal, progress report, internship journal (optional), and final report with a letter from the internship supervisor are required.

Rhet 5258. Information-Gathering Techniques in Scientific and Technical Communication. (3 cr; A–F only) Questionnaire development, informational interviewing, and focus group interviewing. Emphasis on guides, schedules, questioning techniques, and interviewing, and focus group interviewing. Emphasis on evaluating work in the classroom and designing classroom research.

Rhet 5531. Scientific and Technical Communication Course Development and Pedagogy I. (3 cr; QP–Grad student or Sr; A–F only) Focus on pedagogical philosophy and methodology in the beginning writing, speaking, and technical communication class. Introduction to theories underlying teaching with technology.

Rhet 5532. Scientific and Technical Communication Course Development and Pedagogy II. (3 cr; QP–5531 or #; SP–5531; A–F only) Mentor with Rhetoric faculty. Issues facing new teachers and development of a philosophy of teaching. Focus on evaluating work in the classroom and designing classroom research.

Rhet 5534. Designing Technical Training for Intercultural Audiences. (3 cr; A–F only) Select and research a training topic, write learning objectives and outcomes, set the conditions for learning, construct an intensive course outline, and one training module.

Rhet 5562. Theory and Practice in International Business Communication. (3 cr; QP–5562; SP–5562 or equiv; A–F only) Theories and practice in international and intercultural scientific, technical, and business communication. Examine cultural differences by studying cultural metaphors and research studies, by interviewing people from other cultures, including international business managers, and through case studies.

Rhet 5662. Advanced Technical Communication. (3 cr; QP–5662; SP–5662 or equiv; A–F only) Focus on creating multimedia, hyperertext, on-line help, and Internet documents. Learn linear and nonlinear design; linking; reading and editing on-line. Principles of technical communication taught through projects: scripts, on-line support, and using a mark-up language.

Rhet 5664. Scientific Writing for Popular Audiences. (3 cr; SP–5664; A–F only) Criticism and practice to examine how science is “translated” for popular audiences. Use rhetorical theory to critique popularized articles. Develop a heuristic for writing articles and consider controversial issues surrounding the movement from science as “science” to science as “popular.”

Rhet 5775. Major Figures in the Aristotelian Rhetorical Tradition: Classical Period. (3 cr; A–F only) Theories of rhetoric in the Classical world; epistemological status of rhetoric; the ethical implications of persuasion. Emphasis on Aristotle’s Rhetoric as the founding document. Other figures, including Plato, Isocrates, Cicero, Quintilian.

Rhet 5776. Major Figures in the Aristotelian Rhetorical Tradition: Modern Era. (3 cr; A–F only) Aristotelian rhetoric in the modern era; Francis Bacon and scientific revolution; George Campbell and the rise of the human sciences; Kenneth Burke and the study of semiotics in the 20th century; Perelman/ Olbrechts-Tyteca and the reconciliation with the Rhetorical Tradition: Modern Era.

Russ 3001. Intermediate Russian. (4 cr; SP–1102 or equiv) Conversation, composition, grammar review, translation, and readings in appropriate literature.

Russ 3002. Intermediate Russian. (4 cr; SP–3001 or equiv) Expansion of experience in speaking, reading, and understanding Russian; reading contemporary texts.

Russ 3101. Third-Year Russian. (3 cr; SP–3002 or equiv) Advanced grammar, conversation, composition, and reading.

Russ 3102. Third-Year Russian. (3 cr; SP–3101 or equiv) Advanced grammar, conversation, composition, and reading.

Russ 3104. Introduction to Literary Analysis. (3 cr; SP–3002 or equiv) Reading and analysis of poetry and prose selections to understand rudiments of studying Russian literature. Readings are in Russian.

Russ 3105. Russian Poetry and Prose. (3 cr; SP–3002) Appreciation of literary values through stylistic analysis and literary interpretation; analysis of humanistic elements. Readings in Russian.

Russ 3211. Modern Russian Literature in Translation. (3 cr; SP–5211) Literary, cultural, and political significance of modern Russian literary works.

Russ 3311. Russian Major Project. (3 cr; SP–Advanced Russian major; A–F only) Directed research and writing in student’s chosen field.

Russ 3312. Honors Major Project in Russian. (3–4 cr; SP–Major; A–F only) Directed research and writing in student’s chosen field.

Russ 3404. Tolstoy in Translation. (3 cr; SP–5404) Novels, stories, and philosophical writings of Leo Tolstoy.

Russ 3407. Stories and Plays of Anton Chekhov in Translation. (3 cr; SP–5407) Study of literary devices and themes in selected stories and major plays using the intrinsic approach.

Russ 3409. 19th-Century Russian Novel. (3 cr; SP–5409) The Russian realistic novel from origin to decline. Social, political, and intellectual circumstances that led to its emergence as the dominant genre of the “age of realism” in Russia.

Russ 3411. Dostoevsky in Translation. (3 cr; SP–5411) Novels, stories, and miscellaneous writings of Fyodor Dostoevsky.

Russ 3421. Literature: Middle Ages to Dostoevsky in Translation. (3 cr; SP–5421) Russian literature from A.D. 1000 to mid-19th century; emphasizing writers of the first half of the 19th century.

Russ 3422. Literature: Tolstoy to the Present in Translation. (3 cr; SP–5422) Survey of Russian literature from mid-19th century to the present: realism, modernism, feminism and other trends.

Russ 3512. Russian Art and Culture from Peter I to the Present. (3 cr) Major trends in Russian visual arts discussed in the context of pertinent social, political, and ideological questions.

Russ 3601. Methods of Translating Fiction From Russian to English. (3 cr; SP–5601; 3102 or equiv) Learning to appreciate a variety of literary styles through the experience of translation.

Russ 3900. Topics in Russian Language, Literature, and Culture. (3 cr; SP–5900) Variable topics in Russian language, literature and culture. Consult department for details.


Russ 5021. Russia Study Tour. (6–18 cr; SP–3002 or equiv) Study of Russian language and culture in an accredited institution in Russia.
**Sanskrit (Skt)**

Department of Classical and Near Eastern Studies
College of Liberal Arts

**Skt 5001. Beginning Sanskrit.** (3 cr)
Introduction to the classical language of ancient India.

**Skt 5002. Beginning Sanskrit.** (3 cr; SP–5001 or equiv)
Introduction to the classical language of ancient India.

**Skt 5201. Intermediate Sanskrit.** (3 cr; SP–5002 or equiv)
Readings in Sanskrit literature.

**Skt 5202. Intermediate Sanskrit.** (3 cr)
Readings in Sanskrit literature.

**Skt 5710. Topics: Language and Literature.** (3 cr; SP–4)
Selected reading and/or study of linguistic problems in Sanskrit.

**Skt 5992. Directed Readings.** (3 cr; SP–5002 or equiv)
Guided individual reading or study.

---

**Scandinavian (Scan)**

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

**Scan 3501. Scandinavian Culture Past and Present.** (3 cr)
Cultural, social, and political developments; principal views and core values; major cultural figures; Scandinavian mentality. Readings in translation for nonmajors. Invited lectures on central topics within selected areas of study.

**Scan 3502. Scandinavian Myths.** (3 cr)
Readings in translation for nonmajors. May meet with 5670.

**Scan 3504. The Immigrant Experience.** (3 cr)
Issues of origin and language, immigration and settlement, traditions and values, culture and politics, and transgressions of boundaries from the old to the new studied through photos, diaries, letters, stories, and novels by Moberg, Ratvaag, Ager, and other pioneers. All readings in translation.

**Scan 3505. Scandinavian Fiction from 1890 to Present.** (3 cr)
Examines the search for new forms to represent changing historical situations in the tradition of modernity in texts by Ibsen, Strindberg, Hamsun, Selma Lagerlöf, Hjalmar Bergman, Pär Lagerkvist, Karen Blixen, Moa Martinson, Tarjei Vesaas, Edith Södergran, Ingmar Bergman, and Lars Gustafsson. All readings in translation.

**Scan 3601. Great Literary Works of Scandinavia.** (3 cr)
Major literary works from the Middle Ages to the present.

**Scan 3602. The Literary Fairy Tale in Scandinavia.** (3 cr)
Examples of literary fairy tales from Scandinavia, especially Hans Christian Andersen. Readings in translation for nonmajors.

**Scan 3605. The Scandinavian Short Story.** (3 cr)
Short stories by important 19th- and 20th-century authors from all five Scandinavian countries. Genre theory and practical criticism. Readings in English for nonmajors.

**Scan 3606. The Expressionist Film in Scandinavia.** (3 cr)
Study of the expressionist film in Scandinavia with emphasis on the work of Carl Dreyer and Ingmar Bergman. Expressionist film is placed in relation to other manifestations of Expressionism in Scandinavia, i.e., theater and painting. Readings in translation.

**Scan 3611. Expressionism in Scandinavia.** (3 cr)
Expressionism in literature and art, theater and film with emphasis on August Strindberg, Knut Hamsun, Hjalmar Bergman, Edvard Munch, Pär Lagerkvist, Edith Södergran, and Ingmar Bergman. All readings in translation.

**Scan 3612. Images of Scandinavian Art, Film, and Literature.** (3 cr)
Images of Scandinavia(n)s in art, film, and literature by both Scandinavians and foreigners. Images of self-knowledge, self-revelation, and otherness. Representative photos and videos of people, locations, and styles. Readings in English.

**Scan 3613. Children’s Literature in Scandinavia.** (3 cr)
Analysis and discussion of representative works in Scandinavian children’s literature from picture books to young adult books using a variety of critical methods of interpretation. Taught in English.

---

**Russ 5104. Introduction to Literary Analysis.** (3 cr; SP–5002 or equiv)
Reading and analysis of poetry and prose selections to understand rudiments of studying Russian literature. Readings are in Russian.

**Russ 5105. Russian Poetry and Prose.** (3 cr; SP–5002 or equiv)
Appreciation of literary values through stylistic analysis and literary interpretation; analysis of humanistic elements. Readings in Russian.

**Russ 5211. Modern Russian Literature in Translation.** (3 cr)
Literary, cultural, and political significance of modern Russian literary works.

**Russ 5404. Tolstoy in Translation.** (3 cr; SP– §4004)
Readings in translation for nonmajors. Invited lectures on central topics within selected areas of study.

**Russ 5407. Stories and Plays of Anton Chekhov in Translation.** (3 cr; SP– §3407)
Study of literary devices and themes in selected stories and major plays using the intrinsic approach.

**Russ 5409. 19th-Century Russian Novel.** (3 cr; SP– §3400)
The Russian realistic novel from origin to decline: social, political, and intellectual circumstances that led to its emergence as the dominant genre of the “age of realism” in Russia.

**Russ 5411. Dostoevsky in Translation.** (3 cr; SP– §3411)
Novels, stories, and other writings of Fyodor Dostoevsky.

**Russ 5421. Literature: Middle Ages to Dostoevsky in Translation.** (3 cr; SP– §3421)
Russian literature from about 1000 A.D. to mid-19th century; emphasizing writers of the first half of the 19th century.

**Russ 5422. Literature: Tolstoy to the Present in Translation.** (3 cr; SP– §3422)
Survey of Russian literature from mid-19th century to the present: realism, modernism, feminism and other trends.

**Russ 5501. Methods of Translating Fiction from Russian to English.** (3 cr; SP– §34601; 3102 or equiv)
Learning to appreciate a variety of literary styles through the experience of translation.

**Russ 5900. Topics in Russian Language, Literature, and Culture.** (3 cr; SP–1102 for language topics)
Variable topics in Russian language, literature, and culture.

**Russ 5993. Directed Studies.** (1-4 cr; max 12 cr; SP–#, ∆, ‡)
Guided individual study.

---

**Scan 3614. Crime in Scandinavian Fiction and Culture.** (3 cr)
Scandinavian ideas of what constitutes crime, and its causative factors and treatment, based on reading popular Scandinavian fiction (detective stories and crime novels), viewing popular crime films, and analysis of Scandinavian views on crime found in the popular media. Readings in translation for nonmajors.

**Scan 3618. Scandinavian Drama.** (3 cr)
Study of representative plays by Henrik Ibsen, August Strindberg, Hjalmar Bergman, Pär Lagerkvist, Nordahl Grieg, Kjeld Abell, and Ingrid Bergman in the context of modern theater with emphasis on politics and society. All readings in translation.

**Scan 3619. Travel in Literature: Scandinavians Abroad and Abroad in Scandinavia.** (3 cr)
The experiences in literature of Scandinavians going abroad and foreigners coming to Scandinavia. Culture and travel as self-knowledge, self-revelation, and otherwise. Slides and videos of travel destinations from the literature. Readings in English.

**Scan 3634. Scandinavian Women Writers.** (3 cr)
Investigation of issues important to women as articulated by Scandinavian women writers. Historical overview of women’s writing in Scandinavia and in-depth investigation of texts by contemporary women writers. All readings in translation.

**Scan 3670. Topics in Scandinavian Studies.** (3 cr)
Topic may focus on a specific author, group of authors, genre, period, or subject matter. Topics specified in Class Schedule. Readings in English for nonmajors. May meet with 5670.

**Scan 3993. Directed Studies.** (1-4 cr; max 12 cr; SP–#)
Guided individual reading and study.

---

**Scan 4001. Scandinavian Languages for Reading.** (4 cr; SP–Passing score on GPT in a Scandinavian language or equiv)
Designed to help undergraduate and graduate students with knowledge of one Scandinavian language to develop reading competence in the other. Students will get an introduction to the fundamental differences between Danish, Norwegian and Swedish through reading short texts in all three languages.

**Scan 4602. Fiction and Film.** (3 cr)
Examines film adaptations of classical Scandinavian literary texts and explores similarities and differences between the viewer’s and reader’s experiences in the media of film, drama and epic narrative. Includes works by Blixen, Hansen, Ibsen, Strindberg, Axel, Bergman, Dreyer and Losey.

**Scan 4614. Introduction to Kierkegaard.** (3 cr)
The literary, philosophical, theological, and psychological dimensions of Kierkegaard’s work. Kierkegaard’s influence on 20th-century culture in general and existentialism in particular. Analytical and discussion of selections from Kierkegaard’s entire oeuvre. Readings in English.

**Scan 4615. The Family in Scandinavian Literature.** (3 cr)
The family as theme in important works of Scandinavian literature from Middle Ages to the present. What does a family mean to its members and to society, and what is the cultural and critical significance of literature about the family? Analytical and historical approaches. Readings in English.

**Scan 5202. Scandinavian Romanticism.** (3 cr)
Study of Scandinavian literature (poetry, drama, and prose), 1800-1870. Texts in the original languages.

**Scan 5501. Scandinavian Mythology.** (3 cr)
Study of Scandinavian mythology based on primary source texts, i.e., the Poetic Edda and Ynglinga Saga, and the Poetic Edda. Myths are analyzed using contemporary critical approaches. All readings in translation.

**Scan 5502. The Icelandic Saga.** (3 cr)
Study of the sagas written in 13th-century Iceland. Discussion includes cultural and historical information about medieval Iceland and analysis of a selection of saga texts using contemporary critical approaches. All readings in translation.
Scan 5613. Contemporary Scandinavian Literature. (3 cr)
An investigation of issues which emerged as extremely important after 1945 in Scandinavia, as articulated by writers and analyzed by researchers in social sciences. All readings in translation.

Scan 5615. Ibsen and the Beginnings of Modern Drama. (3 cr)
Close reading of Ibsen’s “modern tragedies” from A Doll’s House (1879) to When We Dead Awaken (1899). Focus is on the dialectics between Ibsen and his society, and dramatic structure and staging conventions in the context of modern theater. Readings in English for non-majors.

Scan 5616. Strindberg and the Drama in Revolt and Change. (3 cr)
Strindberg as the master of naturalistic drama and the precursor of modernity in European and American theater. Close reading of plays with emphasis on dramatic structure and staging conventions in the context of modern theater. All readings in English for non-majors.

Scan 5670. Topics in Scandinavian Studies. (3 cr)
Topic may focus on a specific author, group of authors, genre, period, or subject matter. Topics specified in Class Schedule. Readings in English for non-majors. May meet with 3670.

Scan 5701. Old Norse Language and Literature. (3 cr)
Acquisition of a reading knowledge of Old Norse; linguistic, philological and literary study of Old Norse language and literature.

Scan 5702. Old Norse Saga Reading and Analysis. (3 cr; SP-5701 or equiv, reading knowledge of Old Norse) Reading and analysis of Old Norse prose narratives, including close reading and discussion of the critical literature about the prose narratives and medieval Icelandic culture. All primary texts read in Old Norse.

Scan 5703. Old Norse Poetry. (3 cr; SP-5701 or equiv, reading knowledge of Old Norse) Reading and analysis of either eddic poetry from the Poetic Edda or skaldic poetry. Texts read in Old Norse.

Scan 5704. History of the Scandinavian Languages. (3 cr)
Investigation of the development of the Scandinavian languages from the earliest periods to the present.

Scan 5711. Structure of the Scandinavian Languages. (3 cr; intro course in linguistics or #) Investigation of the philological, grammatical and lexical systems of the Scandinavian languages.

Scan 5993. Directed Studies. (1-4 cr [max 12 cr], SP-#; Δ, ∞) Guided individual reading and study.

Science in Agriculture (ScAg)

College of Agricultural, Food, and Environmental Sciences

ScAg 1001. Orientation to Science in Agriculture. (1 cr; 1-5H only) Discussion of the Science in Agriculture major, current issues, career planning, and professional development. Interviews with faculty and other resource persons.

ScAg 1501. Biotechnology, People, and the Environment. (3 cr; F-A only) Basic concepts in genetic engineering as a foundation for studying the impact of biotechnology on agriculture, medicine, industry, and the environment. Controversial aspects of biotechnology related to public policy issues are discussed.

ScAg 4009. Undergraduate Senior Thesis: Science in Agriculture. (1-8 cr [max 12 cr]; QP-# or major in ScAg, # or F-A only) Research and thesis experience conducted under supervision of a COAFES faculty member. Recommended course length is one full year. A written bound thesis and oral presentation of research results is required.

Slavic (Slav)

Institute of Linguistics and Asian and Slavic Languages and Literatures

College of Liberal Arts

Slav 5900. Topics in Slavic Languages and Literatures. (3 cr) Topics specified in Class Schedule.

Social Work (SW)

School of Social Work

College of Human Ecology

SW 2001. Introduction to Social Welfare and Community Services. (4 cr) History of American social services; rise of professional social work in response to human need. Social, political, and economic factors influencing public policy and services. Role of social workers with individuals, families, groups, and communities; values and ethics of professional helping role.

SW 3051. Ethnocultural Concepts and Human Services. (3 cr) Ethnocultural concepts relevant to service delivery. Critically examine cross-ethnic issues and practice considerations in the field of human services, and explore issues which produce barriers to services for diverse racial and cultural client groups.

SW 3101. Interventions in Community and Social Policy. (3 cr) Applying social work skills and values to community organization, social action, and social problems using an ecological framework.

SW 3203. Interventions with Individuals and Groups. (3 cr) Using an ecological framework, apply social work skills and values to work with individuals and small groups.

SW 3705. Domestic Violence in Global Perspective. (3 cr) Theories and research on violence in intimate domestic relationships examined through multiple lenses, followed by overview of interventions in Minnesota, United States, and other societies.

SW 4693. Directed Studies. (1-10 cr [max 10 cr]; QP-#; #) Guided individual reading or study related to social issues, social work methods, or social work history.

SW 4694. Directed Research. (1-10 cr [max 10 cr]; QP-#; #) Guided research related to social issues, social work methods, or social work history.

SW 5051. Human Behavior and the Social Environment. (2-3 cr; QP-Grad student or 12 cr in social sciences or #; SP-Grad student or 8 cr in social sciences or #) Social, psychological, biological, and cultural factors of individual and group development as applied to social work practice. Behavior and life-cycle development focusing on diversity and each stage of life. Discuss development in terms of the individual, and in terms of overlapping social systems such as the multigenerational family, culture, community, and society.

SW 5052. Ecologies of Child Development Within Communities of Color. (3 cr; QP-Grad student or #; SP-Grad student or #) Examine social, affective, and cognitive development of children of color via a life course, ecological systems framework. Family, school, peers, and community are studied in ecological contexts which influence developmental trajectories for these children and youth. Attention is given to poverty, racism, and oppression.

SW 5101. Historical Origins and Contemporary Policies and Programs in Social Welfare. (3-4 cr; QP-Grad student or 12 cr in social sciences; SP-Grad student or 8 sem cr of social sciences) Contemporary policies and programs in social welfare are examined in light of their historical origins and evolution. A framework is then developed for analysis of concepts and principles in contemporary social policy for social welfare programs and services. The emergence of the profession of social work also examined.

SW 5105. Women and Public Policy. (3 cr) Study of feminist organizations; issues and conflicts within organizations and movements; methods and sources for studying feminism.

SW 5107. Child Development and Social Policy. (3 cr; QP-Grad student or #; SP-Grad student or #) Examine the interaction of conceptual orientations of developmental psychology with policies that affect children and families. Demographic, historic, and social trends underlying the assumptions that drive policies directed at women and children; projections of future policies.

SW 5309. Case Management with Special Populations. (3 cr; QP-Grad student or adult special or #; SP-Grad student or adult special or #) Examine concepts and principles of case management practice with special populations such as older adults, persons with developmental disabilities, and persons with serious and persistent mental illness. The core functions of case management practice in a range of settings are addressed in relationship to issues of diversity, vulnerability, and empowerment.

SW 5313. Social Work with Older Adults. (2 cr; QP-Grad student or adult special or #; SP-Grad student or adult special or #) The practice components of social work with older adults including assessment, intervention, and case management. Taught from the perspective of biopsychosocial strengths and challenges and within the context of current social policy and delivery systems.

SW 5314. Social Work in the Schools. (2 cr; QP-Grad student or adult special or #; SP-Grad student or adult special or #) Application of social work methods in a school setting. Emphasizes assessment, diagnosis, consultation, advocacy, interdisciplinary team building, and crisis intervention.

SW 5315. Social Work Practice in Hospitals and Health Care Settings. (2 cr; QP-Grad student or adult special or #; SP-Grad student or adult special or #) Prepares students for social work practice in a hospital or health care setting. Focus on integration of conceptual and practice subject matter that covers differential assessment, clinical intervention models, impact of acute and chronic illness, special populations, managed care, legal and ethical issues, interdisciplinary team work, and transition planning in health care.

SW 5316. Brief Treatment and the Task-Centered Approach. (2 cr; QP-Grad student or adult special or #; SP-1300 cr; grad student or 8 cr social sciences) The advent and current prominence of brief treatment models in work with individuals, families, and groups including their theoretical and empirical bases. Practice with diverse populations in a context of managed care. Emphasis on the task-centered approach including skill training and supervised practice.
SW 5317. Social Work With Involuntary Clients. (2 cr; QP–Grad student or adult special or #) Societal issues, effectiveness, and intervention methods for work with clients systems that experience involuntary contact with a social worker. Interventions at micro, mezzo, and macro levels are included. Practice in micro settings such as child welfare, mental health, corrections, and public schools as a practice related to organizational responses to change.

SW 5318. Family-Centered, Home-Based Services. (2 cr; QP–Grad student or adult special or #; SP–58314; grad student or adult special or #) Ecological, multysystem approach focusing on the family system. Triadic theory, meta-neutrality, strengths-focus, case management and team treatment. Family-based services evaluated for high-risk, multiproblem families and as an alternative to foster placement.

SW 5319. Adolescents: Norms, Culture, and Health. (2 cr) Relationships among familial, social, societal, political, economic, environmental, psychosocial, and cultural determinants of adolescent behavior that affect health; major public health issues and problems of adolescents.

SW 5481. Child Abuse Prevention I: Research and Theory. (3 cr; QP–Admission to child abuse prevention specialization; SP–Admission to child abuse prevention specialization) Foundation of research and theory for the Level I Child Abuse Prevention Studies certificate.

SW 5482. Child Abuse Prevention II: Program Development, Evaluation, and Advocacy. (3 cr; QP–Admission to child abuse prevention specialization, #; SP–5481) Design and evaluation of policies and programs of interventions to prevent child abuse. This is the second course in the Level I Child Abuse Certificate program.

SW 5483. Child Abuse Prevention III: Skill Building I: Cultural and Legal Issues. (3 cr) Understanding risk factors, protective factors, and resilience in cultural settings; identifying and designing inventive strategies appropriate to cultural characteristics. First course for Level II Child Abuse Prevention certification.


SW 5519. Mediation and Conflict Resolution. (3 cr; SP–5519) Mediator skills for making informed decisions regarding the appropriateness of mediation for conflicts that frequently confront social worker practitioners such as divorce, neighborhood disputes, conflicts between parents and adolescents, conflicts between spouses, and conflicts between crime victims and offenders.

SW 5525. Global Perspectives on Social Welfare, Peace, and Justice. (3 cr; QP–1001 or #; SP–2001 or #) Role of international social welfare in meeting basic human needs and promoting human rights, social justice, and peace. Theories, models, and social policies in different economic and political systems with emphasis on Third World nations.

SW 5705. Violence in Families. (3 cr; SP–5706, 5707; grad student or adult special or #) Prevention and interventions with perpetrators, survivors and social institutions; research on perpetration, effects on victims, and social responses to family violence. Focus on child abuse and neglect, and abuse of women and vulnerable adults. Roles of gender, race, culture, age, physical ability, and sexual orientation.

SW 5706. Issues and Interventions in Child Sexual Abuse. (2 cr; QP–Grad student or adult special or #; SP–5705; grad student or adult special or #) Major issues and interventions involved in child sexual abuse. Develop knowledge and skills in working with sexually abused children and their families. Perpetrators, the non-offending parents, perpetrators, and other family members; interviewing; justice system; child protection.

SW 5707. Interventions with Battered Women and Their Families. (2 cr; QP–Grad student or adult special or #; SP–5705; grad student or adult special or #) Current theories, research, and evaluation of interventions with battered women and their families. Focus on practice, e.g., direct work with social institutions, victim-survivors, and assailants and their families.

SW 5708. Substance Abuse and Social Work. (3 cr; QP–Grad student or adult special or #; SP–Grad student or adult special or #) Assessment and intervention in situations involving substance abuse with special emphasis on cross cultural practice. Relationships of substance abuse to areas such as child welfare, mental illness, and violence within families are examined.

SW 5810. Seminar: Special Topics. (1-4 cr) Topics specified in Class Schedule.

SW 5811. Social Work Ethics. (2 cr; QP–Grad student or adult special or #; SP–58001; grad student or adult special or #) Acquire knowledge base and develop skills required to identify ethical issues, resolve ethical dilemmas, and make ethical decisions within the context of the professional practice of social work. Values base and ethical standards of the profession and ethical decision-making models are examined in-depth.

SW 5812. Legal Aspects of Social Work. (2 cr; QP–Grad student or adult special or #; SP–5813; 58001; grad student or adult special or #) Legal regulation of social work; licensing standards; professional liability; ethical issues and sanctions. Social worker involvement in legal processes of preparing for court; testimony and cross examination. Substantive law affecting social work practice in selected areas such as child protection, mental health, family law, and domestic violence.

SW 5813. Child Welfare and the Law. (2 cr; QP–Grad student or adult special or #; SP–5812; 58001; second-year MSW or advanced standing #) Social work practice in juvenile court; child abuse and neglect reporting laws, risk assessment, reasonable efforts, case plan, custody proceedings, permanency planning, and termination of parental rights. Child testimony, social worker testimony, adoption laws.

SW 5991. Independent Study in Social Work. (1-4 cr) Independent study in areas of special interest to students and faculty.

Sociology (Soc)

Departments of Sociology

College of Liberal Arts

Soc 1001. Introduction to Sociology. (3 cr) Scientific study of human societies and behavior. Major theories, methods, concepts, and research findings. Characteristics of the basic social units, their patterns of interrelation, and processes of change.

Soc 1011. Honors: Introduction to Sociology. (3 cr; QP–Honors student; SP–Honors student) Scientific study of human societies and behavior. Major theories, methods, concepts, and research findings. Characteristics of the basic social units, their patterns of interrelation, and processes of change.

Soc 1090. Topics in Sociology. (1-3 cr; QP–#) For freshmen. Topics specified in Class Schedule.

Soc 1091. Independent Study. (1-4 cr; QP–#) Independent study of an established 1xxx course. Available only by request.

Soc 3003. Social Problems. (3 cr; SP–1001 or #; A-F only) Analysis of major social problems including, inequality, crime, drug abuse, pollution, racism, and others. Examination of proposed solutions and evaluation of policy consequences.

Soc 3090. Topics in Sociology. (1-3 cr; QP–#; SP–#) For sophomores. Topics specified in Class Schedule.

Soc 3091. Independent Study. (1-4 cr; QP–#; SP–#) Independent study of an established 3xxx course. Available only by request.

Soc 3093. Directed Study. (1-4 cr; QP–#; SP–1001, #; A-F only) Guided individual reading or study at the sophomore level. By special arrangement only.

Soc 3094. Directed Research. (1-4 cr; QP–#; SP–1001, #) Guided research experience at the sophomore level. By special arrangement only.

Soc 3111. Introduction to Crime and Criminal Justice. (3 cr; A-F only) Patterns of crime and victimization by social groups, regions, and over time; classical and contemporary theories explaining crime. Principles of criminal justice and agencies (police, corrections, and criminal justice agencies).


Soc 3211. American Race Relations. (3 cr; A-F only) Surveys conceptual and theoretical tools sociologists use to study race relations in the United States. Empirical focus on the historical experiences among different racial/ethnic groups in the United States, including American Indians, African-Americans, Latinos, Asian-Americans, and white ethnics.

Soc 3221. Sociology of Gender. (3 cr; SP–S&W Soc 3201; 1001 or #; A-F only) Organization, culture, and dynamics of gender relations as major features of social life. Gender and racial inequalities in the workplace, relationships between gender and race, gender and culture, sexuality, gendered politics, and the women’s movement.

Soc 3251. Sociological Perspectives on Race, Class, and Gender. (3 cr; A-F only) Race, class, and gender as aspects of social identity and features of social organization. Experiences of people of color in the United States; exploration of family life, social policy and processes of social reproduction, and possibilities for social change.

Soc 3301. The Uses of Citizenship: An Introduction to Political Sociology. (3 cr; QP–1001 or #; SP–1001 or #; A-F only) The ideas of citizenship and the relationship between politics and society; public sphere and civil society. Research practicum volunteering at a policy-relevant site using participant observation methods.

Soc 3351. Politics and Society in the New Europe. (3 cr; QP–#; SP–5461; 1001 or Pol 3051 or #; SP–5451; 1001 or Pol 3051 or #) Generational change and values, political parties, welfare state, future of European integration, and political stability and democratization.

Soc 3411. Understanding Formal Organizations. (3 cr; QP–#; SP–1001 or #; A-F only) Formal organizations as major social influences in our work lives, personality development, social change, and conflict. Life-course analyses of enterprises, bureaucracies, and voluntary organizations. Organizational control, conflict, coordination, and interorganizational sets and relationships.
Soc 3451. Urban Community. (3 cr; QP–1001 or 1002; SP–1001 or #) Sociology, economic, and political organization of the urban community focusing on racial inequality/segregation, urban enclaves/sprawl, reproduction, and civic participation of elites and residents. Cross-national comparisons, including United States, Europe, and Asia.

Soc 3501. Sociology of the Family. (3 cr; QP–1001 or # SP–1001 or #) Families in contemporary American society: historical and cross-cultural comparisons; interrelationships of families with other social institutions; race, class, and gender in shaping family experiences. Topics may include marriage, divorce, childbearing, parenthood, family violence, and gay and lesbian families.

Soc 3511. World Population Problems. (3 cr; SP–1001 or #) Population growth and natural resources, fertility and mortality in less developed nations, population dynamics and forecasts, policies to reduce fertility.

Soc 3661. Japanese Society Today. (3 cr; QP–1001 or # SP–EAS 3661; 1001 or courses on or exper in East Asia or A–F only) Focuses on post-1949 mainland China, Taiwan, and Hong Kong. Chinese family, dating and marriage, rural and urban societies, population, work and occupation, socioeconomic development and inequalities, and impacts of post-1978 reforms.

Soc 3701. Social Theory. (4 cr; QP–B cr; SP–3001–3102 or A–F only) Traditions of social theory that have been basic to sociological knowledge, how they have expanded in contemporary theory, and their applications in selected areas of empirical research.

Soc 3711. Principles of Social Organization. (3 cr; QP–1001, 3001 or equival; SP–1001 or equival; A–F only) How and why social organization is possible. Concepts and theories of social structure, primary forms of social organization (groups, communities, networks, formal organizations), basic social processes (integration, differentiation, regulation, changes), and how social organization evolves from individual decision making.

Soc 3721. Principles of Social Psychology. (3 cr; QP–1001; SP–1001 or #) Impact of social location on individual attitudes and behaviors, dynamics of interpersonal relationships and small groups, and processes of social interaction.

Soc 3801. Sociological Research Methods. (4 cr; QP–3801, 3102 or equival; SP–3811 or equival) Principles and practice of research design, sampling, data collection, including field observation and surveys; data management, analysis, and reporting of quantitative and nonquantitative data; ethics and administration in sociological research. For sociology majors. Labs required.

Soc 3811. Basic Social Statistics. (4 cr; QP–Intermediate algebra or GC 0631; SP–Intermediate algebra or GC 0731) Descriptive statistics including measures of central tendency, deviation, and association; inferential statistics focusing on probability and hypothesis testing. T-tests, Chi-square tests, analysis of variance, and bivariate regression. Statistical software used to analyze sociological data.

Soc 3821. Computer Use for Social Statistics. (1 cr; QP–$3801 recommended; SP–$3811 recommended; A–F only) Elementary computer use in social statistics applications. Use of Statistical Package for Social Sciences (SPSS) for preparing and analyzing sociological data.

Soc 3991. Junior Honors Seminar. (3 cr; QP–jr soc honors student, # SP–jr soc honors student; A–F only) Read and discuss sociological literature; explore research funding opportunities; design individual research projects.

Soc 4090. Topics in Sociology. (1-3 cr; QP–1001 or # SP–#) Topics specified in Course Schedule.

Soc 4091. Independent Study. (1-4 cr; QP–SP–# SP–# SP–#) Independent study of an established 4xxx course. Available only by request.

Soc 4093. Directed Study. (1-4 cr; QP–SP–# A–F only) Guided individual reading or study at the junior/senior level. By special arrangement only.

Soc 4101. Sociology of Law. (3 cr; QP–3101-3102 or # SP–3001 or 3111 or # SP–# 3701 recommended; A–F only) Sociological analysis of law and society. Why people obey the law, social forces involved in the creation of law (both civil and criminal), procedures of enforcement, and the impact of law on social change.

Soc 4102. Criminology. (3 cr; QP–3101-3102 or # SP–3111 or # A–F only) Nature and types of crime, problems in measuring incidence and trends, and review of sociological theories of crime causation. Implications for crime prevention and control.

Soc 4105. Sociology of Punishment and Corrections. (3 cr; QP–3101-3102 or # SP–3111 or # A–F only) Advanced study of correctional strategies such as prison, probation, and parole. Theories and structures of diversion, probation, parole, and other community corrections programs. U.S. penal policies and practices compared with those in other countries.

Soc 4107. Comparative Law and Social Control. (3 cr; QP–3101-3102 or # SP–3111 or # A–F only) Sociological analysis of legal systems in different countries; relationship between legal systems and society. Cross-national variation in crime rates, criminal justice systems, legal doctrine, litigation, and lawyers.

Soc 4108. Current Issues in Crime Control. (3 cr; QP–3102 or #) Selected current criminal justice policies examined from the perspectives of courts, legislature, community, and citizens; impact of court decisions on society and social control agencies.

Soc 4109. Domestic Criminal Violence. (3 cr; QP–3101-3102 or # SP–3111 or #) Survey of research on family violence within criminological framework. Definition of domestic violence; empirical and theoretical approaches; response of social control agencies.

Soc 4111. Deviant Behavior. (3 cr; QP–3101-3102 or # SP–3111 or # A–F only) Definition and nature of deviant behavior. Social processes associated with deviant careers and social reintegration. Relationship of deviant behavior to social control.

Soc 4114. The Social Control of Women Offenders. (3 cr; QP–3102 or # SP–3111 or # A–F only) Historical and current explanations for female criminality; current trends in women’s participation in crime and their treatment in the legal system.

Soc 4125. Policing American Society. (3 cr; QP–3101-3102 or # SP–5161, 5162 recommended; SP–3111 or # 4161, 4362 recommended; A–F only) Police organizations and operations from a social science perspective. Formal and informal policing: role and functions; legal bases; accountability and restraints; community relations; use of force; illegal practices.

Soc 4133. Sociology of White-Collar Crime. (3 cr; QP–3101-3102 or # SP–5161, 5162 recommended; SP–3111 or # A–F only) Causes and consequences of white-collar crime. Control issues including public perception, legislation, criminal law responses (enforcement, sentencing, punishment), and alternative control mechanisms.

Soc 4141. Juvenile Delinquency. (3 cr; QP–3101-3102 or # SP–5161, 5162 recommended; SP–3111 or # A–F only) Childhood and delinquency. Measuring extent and distribution of delinquent behavior. Applying theories to relationships within the family, school, and peer group. Institutional responses to delinquency and evaluating programs for treatment, prevention, and control.

Soc 4142. Juvenile Justice and Law. (3 cr; QP–3101-3102 or # SP–5161, 5162 recommended; SP–3111 or # A–F only) Evaluation of juvenile court: organizational relationships among court, police, and other agencies; policies regarding serious and status offenders; intake, diversion, pretrial detention, waiver to adult court, sentencing; conflicts over due process and treatment objectives; current movements to abolish juvenile justice system.

Soc 4147. Sociology of Mental Illness. (3 cr; QP–1001 or # SP–1001 or #) Sociological theory and research related to definitions and origins; epidemiology; reaction patterns; use of mental health services.

Soc 4148. Criminal Psychopathology. (3 cr; QP–# SP–or grad student; SP–# or grad student; only grad may take 5–N) Psychiatric and psychological aspects of antisocial and criminal behavior as related to issues faced in the courts and criminal justice system.

Soc 4149. Killing. (3 cr; QP–# or grad student or law; SP–# or grad student; only grad may take 5–N) Sociological, legal, and psychological aspects of diverse types of killing. The topic of “normal” killings is contrasted with various pathological types.

Soc 4161. Criminal Law in American Society. (3 cr; SP–3111 or #) Purposes of criminal law and principles of criminal liability, justification, and excuse, and their application to the law of criminal homicide, sexual assault, drugs, and crimes against property, public order, and morals.

Soc 4162. Criminal Procedure in American Society. (3 cr; SP–3111 or #) Critical examination of how a constitutional democracy balances the need to enforce criminal law and rights of individuals to be free of unnecessary government intrusion.

Soc 4305. Society and the Environment: A Growing Conflict. (3 cr; QP–3001 or environmental course or # SP–1001 or environmental course or # A–F only) Societal causes and curses of ecological problems such as global warming, species extinction, and resource exhaustion.

Soc 4441. Work-Family Links. (3 cr; QP–# SP–or grad student; SP–# or grad student; only grad may take 5–N) Effects of spouses’ work experiences on the family, organization of household work, adolescent employment, occupational attainment; and changes in work organizations related to the increasing prevalence of female employment and dual-earner families.

Soc 4461. Sociology of Conflict. (3 cr; QP–3401 or 5401 or equival or # SP–1001 or # A–F only) Analysis of social conflicts ranging from family and friends to organizational, industrial, community, sectarian, among others. Contemporary nonviolent and lethal conflicts considered.

Soc 4601. Comparative Social Structure. (3 cr; QP–20 cr sociology or economics or political science or # SP–1001 or # A–F only) Comparative analysis of selected societies. Application of comparative methods to explain
Soil 5455. Sociology of Education. (3 cr.; QP–5001 or equiv or SP–1001 or SP–A–F only) Structural and functional role of educational institutions. Links between educational organizations and their social contexts, particularly as these relate to educational change.


Soil (Soil)

Department of Soil, Water, and Climate
College of Agricultural, Food, and Environmental Sciences

Soil 1125. The Soil Resource. (4 cr) Basic physical, chemical, and biological properties of soil. Soil genesis classification and principles of fertility. Soil survey information used to make a land-use plan. WWW used for lab.

Soil 1425. The Atmosphere. (3 cr.; QP–4425; SP–4425) Precalculus introduction to the nature of the atmosphere and its behavior. Topics include atmospheric composition, structure, stability, and motion; precipitation processes, air masses, fronts, cyclones and anticyclones; general weather patterns; meteorological instruments and observation; weather map analysis; weather forecasting.

Soil 1426. The Atmosphere Laboratory. (1 cr.; SP–4426) Lab offered with 1425. Topics include weather observation; meteorological instrumentation; statistical analysis of weather observations and climatological data; map analysis and weather forecasting.

Soil 2125. Basic Soil Science. (4 cr; max 4 cr; QP–4125; Chem 1051; SP–4125; Chem 1021 or equiv) Basic physical, chemical, and biological properties of soil. Soil genesis classification and principles of fertility. Use of soil survey information to make a land-use plan. WWW used for lab preparation information.

Soil 3221. Soil Conservation and Land-use Management. (3 cr.; QP–1020 or 3125 or SP–1125 or 2125 or #) Historical causes and consequences of accelerated soil erosion; wind and water erosion; soil conservation techniques; strategies to optimize soil conservation; consideration of economic, political, and sociological influences on soil conservation planning.


Soil 3521. Soil Judging. (1 cr; max 3 cr.; QP–5510; SP–4511) Learn about collegiate soil judging by participating in a regional or national soil judging contest.

Soil 3612. Soil and Environmental Biology. (3 cr.; SP–3125; SP–2125) Soil enzymes and microbial communities. Soil genesis classification and principles of fertility. WWW used for lab. Soil survey information used to make a land-use plan. Similar to 2125 with less emphasis on chemistry.

Soil 3912. Biometeorology. (3 cr.; QP–Biol 1009 or Math 1233; Phys 1041 or SP–Biol 1009 or equiv, Math 1271, Phys 1041 or #) Microclimates, and energy and mass transfer between organisms and their environment. Consider the basic environmental variables of temperature, humidity, wind, and radiation and apply these concepts to plants, animals, and soil-atmosphere exchange processes.

Soil 5232. Soil Physics: Transport Properties and Processes. (3 cr.; QP–Math 1251 or equiv, Phys 1041 or equiv, Math 1271, Phys 1041 or #) Basic soil physical properties and processes governing the transport of mass and energy in soils. Principles of water and solute transport in unsaturated soils, and their role in subsurface hydrology and water quality.

Soil 5511. Soil Chemistry and Mineralogy. (3 cr.; QP–Chem 1022 or equiv, Phys 1041, grad student or #; QP–Chem 1022 or equiv, Phys 1041, grad student or #) Structural chemistry, and origin and identification of crystalline soil clay minerals. Structure of soil organic matter. Chemical processes in soil: solute transport, adsorption/desorption, ion exchange, oxidation/reduction, acidity, and alkalinity. Solution of problems related to environmental degradation, plant nutrition, and soil genesis.
**Soil 5312. Soil Chemistry and Mineralogy Laboratory.** (2 cr; QP–5360; SP–5311 recommended) Companion laboratory 5311. Clay mineral preparation for x-ray diffraction, selective mineral dissolution, cation exchange properties, absorption and solubility reactions and their modeling, carbonate equilibria, and organic matter extraction and identification.

**Soil 5401. Introduction to Atmospheric Science.** (3 cr; max 3 cr; QP–Math 1251, Phys 1251, Stat 3011; SP–Math 1271, Phys 1201, Stat 3011) Calculus-based, introductory description of the atmosphere including atmospheric dynamics, radiation, thermodynamics, chemical composition, and cloud processes. Discusses applications to climate, meteorology, the hydrologic cycle, air quality, and biogeochemical cycles.

**Soil 5402. The Atmospheric Boundary Layer.** (3 cr; QP–Math 1251, Phys 1251, Stat 3011; SP–Math 1271, Phys 1201, Stat 3011) Calculus-based introduction to the atmospheric boundary layer (ABL), the interface between the earth’s surface and the atmosphere. Topics include ABL development and turbulence, surface energy balance, ABL clouds, air quality, microclimate, and observational and modeling methods.

**Soil 5515. Soil Genesis and Landscape Relations.** (3 cr; QP–3125 or SP–2125 or SP–3125 or equivalent or SP–5411 recommended; SP–1125 or 2125 or equivalent or SP–5411 recommended; A-F only) Basic soil morphology and soil profile descriptions; pedogenic processes and models of soil development; soil geomorphology, hydrology, and hill slope processes; digital spatial analysis; soil classification; soil surveys and land use; soil geography.

**Soil 5555. Wetland Soils.** (2 cr; QP–1020 or 3125 or equivalent or SP–5411 recommended; SP–1125 or 2125 or equivalent or SP–5411 recommended; A-F only) Morphology, chemistry, hydrology, and formation of mineral and 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, and mitigation. Field trips, lab, and field projects.


**Soil 5611. Soil Biology and Fertility.** (3 cr; QP–3125, Biol 1009 or equivalent, Chem 1051 or equivalent, or grad student, BioC 3xxx and MicB 3xxx recommended; SP–2125, Biol 1009 or equivalent, Chem 1021 or equivalent, or grad student, BioC 3xxx and MicB 3xxx recommended) Soil microbial populations and biodiversity. Soil microorganisms. Biogeochemical cycles. Macro and micromutrient fertilization, and element function in plants and microbes. Composts, sludge and manures in fertilization. Plant microbe associations: nitrogen fixation, mycorrhizal fungi, and biological control of root pathogens. Pollution and bioremediation.

**Soil 5711. Forest Soils.** (2 cr; QP–1020 or 3125, SP–1125 or 2125) Factors affecting tree growth; estimation, modification, and management effects on site productivity; regeneration.

---

**South Asian Languages and Cultures (SALC)**

**Institute of Linguistics and Asian and Slavic Languages and Literatures**

**College of Liberal Arts**

**SALC 1506. Introduction to Contemporary South Asia.** (3 cr) Land, people, modern historical development, contemporary problems, global setting, and future outlook of South Asia.

**SALC 1607. Introduction to Indian Civilization.** (3 cr) Indian civilization in light of its development. Social, cultural, economic, and political life. Hindu, Muslim, and Buddhist contributions.

**SALC 3201. Ancient Indian Literature in Translation.** (3 cr) Literary achievements of Indian civilization from the ancient period.

**SALC 3202. Modern Indian Literature in Translation.** (3 cr) Literary achievements of Indian civilization from the modern period.

**SALC 3204. Folklore of India.** (3 cr) A study of the main genres of Indian folklore—folk tales, folk songs, folk epics, folk dramas, proverb, and riddles—their relationship to Indian society and interrelationship with literary traditions, both great and small.

**SALC 3411. Introduction to Indian Philosophy.** (3 cr) Major concepts; principal schools of Indian philosophy; traditional and contemporary views.

**SALC 3412. Hinduism.** (3 cr) Development of Hinduism focusing on sectarian trends, modern religious practices, myths and rituals, pilgrimage patterns and religious festivals, and the interrelationship between Indian social structure and Hinduism.

**SALC 3413. Buddhism.** (3 cr) Historical account of Buddhist religion in terms of its rise, development, various schools, and common philosophical concept. Indian Buddhism compared with Hinduism; Buddhism’s demise and revival on the Indian subcontinent.

**SALC 3414. Comparative Religions of South Asia.** (3 cr) Compares and contrasts basic philosophical concepts, literatures, ideologies, and ritualistic practices of Hinduism, Buddhism, and Jainism with those of Islam and Sikhism.

**SALC 5456. The Cinema of India.** (3 cr) Survey of cinema of South Asia; aesthetic, social, economic, and political perspectives.

**SALC 5521. Gandhi and Non-Violent Revolution.** (3 cr) Character of Gandhi, his influence over contemporaries, and his hold on the world today.

**SALC 5556. Women in India: Role and Repression.** (3 cr) Representation of Indian women studied through literature of contemporary Indian women and against background of traditional Indian values and roles.

**SALC 5710. Seminar in South Asian Languages.** (4-5 cr) Selected topics on South Asian languages; no knowledge of South Asian languages required.

**SALC 5720. Seminar in South Asian Literature.** (4-5 cr) Selected topics on South Asian literature.

**SALC 5833. India's Gods and Goddesses.** (3 cr) Societies give shape to their gods and goddesses and in turn are shaped by these mythological constructs. Indian history will be examined by following the development of the deities Krishna, Shiva, and Kali.

**SALC 5993. Directed Studies.** (1-5 cr; SP–A, A, L) Guided individual reading and study of topics not covered in regular courses. Open to qualified students for one or more semesters.
works (ballads, picaresque "vidas", tragedies, mystical verse, novellas) are examined within historical and cultural contexts.

Span 3212. Literary Discourses of Modern and Contemporary Spain (1800-Present). (3 cr; SP–3312, 3104)
Representative works of fiction, drama, poetry, essay, and film of the past two centuries. Intellectual and literary movements from romanticism to postmodernism.

Span 3221. Latin American Colonial Discourses Since 1492. (3 cr; SP–3421, 3105 or 3105 or #)
Critical account of conquest, colonization, and resistance in Spanish America.

Span 3222. Discourses of Nation Building and Modernization in Latin America. (3 cr; SP–3422, 3105, 3321 or #)
Development of modernity in Spanish America and its literary expression since independence from colonial rule. Case studies (e.g., Cuba).

Span 3401. Service Learning in the Chicoano/Latino Community. (3 cr; SP–1004 or #)
Students participate in Spanish-speaking community organizations; analyze academic materials dealing with race, class, gender, current patterns of power in the United States, and roles of citizens within this system; and relate this to their community experience.

Span 3501. Spanish Civilization: Roots of Modern Spain and Latin America. (3 cr; SP–3411; 3105)
Customs, life styles, art, and culture from the coexistence of Christians, Moors, and Arabs during the Reconquest to national unification; discoveries and conquests up to the "modern state" and political crises of early 19th century.

Span 3502. Spanish Civilization: Modern Spain. (3 cr; SP–3402; 3105)
Spanish culture from the beginning of the 19th century to the present. Focus on cultural change and its conflicts as represented in Spanish art, literature, and film.

Span 3510. Issues in Hispanic Cultures. (3 cr; max 9 cr; SP–3410; 3105; A-F only)
Practices that have shaped the cultural identity of Spanish- and Portuguese-speaking areas: folklore, religion, armed conflict, drug traffic, language and citizenship, political movements, commodification of national myths and icons. Topics vary.

Span 3512. Modern Latin American Civilization. (3 cr; SP–3412; 3105; A-F only)
Impact of various forms of modernization on the symbolic production in Latin American racial, ethnic, class relations, institutional, and ideological structures.

Span 3610. A Social History of Marginals and Social Offenders. (3 cr)
Social history of deviance using a series of first-person narratives by Hispanic authors who lived "marginal" lives and wrote about them. Taught in English.

Span 3606. Human Rights Issues in the Americas. (3 cr)
Cultural and symbolic implications of selected human rights issues involving inter-American relations. Course taught in English.

Span 3609. Commodities and National Myths. (3 cr)
Influence on Latin American national identities of selected commodities produced for the world market. Taught in English.

Span 3612. The Man of La Mancha and Quixotic Discourse. (3 cr)
Narrative techniques and points of view in Don Quixote: historical, cultural, and intellectual conditions under which the novel was read and debated. Taught in English.

Span 3635. Contemporary Latino and Latin American Drama Written in English. (3 cr)
Established works and shows of the most active Latino playwrights in the United States and historical, political, and cultural developments that make them possible. Lectures, discussion, performances, and visual material. Taught in English.

Span 3701. The Structure of Spanish: Phonology. (3 cr; SP–3801; 3107)
Phonetics and phonology of modern Spanish, Regional and social variants of Spanish in Spain and Spanish America.

Span 3702. The Structure of Spanish: Morphology and Syntax. (3 cr; SP–3802; 3107 or #)
Derivational and inflectional morphology. Using linguistic concepts such as morpheme, lexiconal affix, noun phrase, subject, subordination, and coordination to identify the different morphological and syntactic components of Spanish.

Span 3703. Origins and History of Spanish and Portuguese. (3 cr; SP–3803; 3107 or #)
Relationships with Latin; intermediate stages of evolution not considered. Phonetic, morphological, syntactic, and sociolinguistic aspects of diachronic variation.

Span 3704. Sociolinguistics of the Spanish-Speaking World. (3 cr; SP–3804; 3107)
Social variants of Spanish dialects, Spanish in contact with other languages, bilingualism, language attitudes, pragmatic analysis of Spanish. Impact of recent cultural, political, and socioeconomic transformations on language.

Span 3705. The Semantics and Pragmatics of Spanish. (3 cr; SP–3805; 3107)

Span 3730. Topics in Hispanic Linguistics. (3 cr [max 9 cr]; SP–3830; 3107 or #)
Topics specified in Class Schedule.

Span 3910. Topics in Spanish Peninsular Literature. (3 cr [max 9 cr]; SP–3910; 3104 or #)
Focus on a central theme related to important groups of writers, literary movements, trends, critical approaches, and methods. Topics specified in Class Schedule.

Span 3920. Topics in Spanish-American Literature. (3 cr [max 9 cr]; SP–3920; 3104 or #)
Focus on a central theme related to important groups of writers, literary movements, trends, critical approaches, and methods. Topics specified in Class Schedule.

Span 3940. Figures in Spanish Peninsular Literature. (3 cr [max 9 cr]; SP–3940; 3104 or #)
One major writer or group of writers whose work has had an impact on Spanish thought, literature, or analysis of social patterns. Figures specified in Class Schedule.

Span 3950. Figures in Spanish American Literature. (3 cr [max 9 cr]; SP–3950; 3104 or #)
One major writer or group of writers whose work has had an impact on thought, literature, or social issues. Figures are specified in Class Schedule.

Span 3970. Directed Studies. (1-4 cr; max 9 cr; SP–A-A, A
Guided individual reading or study in Hispanic linguistics, language acquisition, cultural studies, and peninsular Latin American, and U.S. Latino theatre and literature.

Span 3972. Graduation Seminar. (3 cr; SP–3974; 31 cr
Work on major project related to Hispanic linguistics, language acquisition, cultural studies, and peninsular Latin American, and U.S. Latino theatre and literatures. Advanced planning is essential. Clearance must be arranged through the department advising office.

Span 5106. The Literature of the Reconquest and Feudal Spain. (3 cr; SP–Three 3000 or 5000 literature courses in Spanish)
The major literary genres developed in Spain from the Reconquest to 1502, with reference to the crucial transformations of the Middle Ages, including primitive lyric, epic, clerical narrative, storytelling, debates, collections, chronicles, “exempla,” and the Celestina (1499-1502).
Span 5107. The Literature of the Spanish Empire and Its Decline. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major Renaissance and Baroque works of the Spanish Golden Age (16th- and 17th-century poetry, nonfiction prose, novel, drama) examined against the historical background of internal economic decline, national crisis, and ideological apparatus developed by the modern state.

Span 5108. Don Quijote. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Analysis of Cervantes’ Don Quijote in its sociohistorical context; focus on the novel’s reception from the romantic period to postmodern times.

Span 5109. The Crisis of the Old Regime: Spanish Literature of the Enlightenment and Romanticism. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major literary works and intellectual movements and conflicts represented in written culture, of the 18th and early 19th centuries (1680-1845), examined as expressions of the long crisis of Spain’s Old Regime and the rise of bourgeois liberalism.

Span 5110. Discursive Formations at the Threshold of 20th-Century Spain. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Theory and representative examples of the realist/naturalist novel (Federal, Pardo Bazán) in the context of its antecedents (“costumbrismo”), opposed to the idealist/sentimental novel, and turn-of-the-century innovations of modernism and the “generation of 1898.”

Span 5111. Contemporary Spanish Literature Since 1915. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major literary works and movements in Spain from 1915 to 2000. Neomodernism; surrealism; social realism; literatures of dictatorship and exile; postmodernism. Poetry, novel, drama, essays, film, video/TV; problems of literary history.

Span 5221. Spanish Drama in Performance: 17th-Century Comedy. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major dramatists of the Spanish comedia (e.g., Cervantes, Lope, Tirso, Calderón). Traditional genres such as tragedy, farce, interludes or autos sacramentales and problems of honor, blood purity, free will, city vs. country, and poetic justice examined against the background of cultural and social history.

Span 5234. Feminism and Literature in Spain. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Spanish feminist thought and practice; literature, cultural discourse, literary and critical theory.

Span 5272. Hispanic Modernism. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Critique of artistic and literary production in Hispanic cultures from mid-19th century to present. Modernity and modernization in Hispanic world. “Generation of 1898.” Castilian, Catalán, and Latin American practices along interdisciplinary and comparative lines.


Span 5526. Creole Consciousness and Mercantilist Culture. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Discourse production in Spanish America between 1492 and 1700s. Conquest and colonial writing and counter writing; historical origin and evolution and the impact of cultural, political, and socioeconomic factors.

Span 5527. National Literary Consciousness and Free Trade. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Literary movements as part of the process of forming nation-states in Spanish America.

Span 5528. Popular Literary Consciousness: 1900-1950. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Spanish-American literature between the eve and aftermath of the two world wars. Impact of modernization, industrialization, and nationalistic and populist thought on emergence of distinctive writing, thematic trends, and literary genre conventions.

Span 5529. National Affirmation and Transnationalization. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Literary trends of the contemporary period (1950 to present) as a reaction to internal social demands for development of independent national cultures and in response to international cultural pressures.

Span 5531. Hispanic Literature of the United States. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Interdisciplinary approach providing a framework for deconstructing issues of national identity, marginalization, and gender. U.S. Hispanic theatre/literature and its ethnic diversity, regional variations, cultural links, and scope of its genres.

Span 5532. Literature and National Disintegration. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Literary reaction to contemporary structural changes in world economic system (1970 to present). Effects on literature as institution. Texts related to revolutionary trends and social movements (feminism, theology of liberation, defense of human rights).

Span 5536. Feminism and Literature in Latin America. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Latin American feminism in thought and practice. Literature, cultural discourse, literary theory.

Span 5701. History of Ibero-Romance. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Origins and developments of Ibero-Romance languages; evolution of Spanish, Portuguese, and Catalan.

Span 5711. The Structure of Modern Spanish: Phonology. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Formulating and evaluating a phonological description of Spanish. Approaches to problems in Spanish phonology within metrical, autosegmental, and lexical phonological theories.

Span 5712. The Structure of Modern Spanish: Morphology. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Evaluating morphological theories and descriptions of Spanish. Examining of phonological and syntactic effects on morphology.

Span 5713. The Structure of Modern Spanish: Syntax. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Study and analysis of the principal constructions found in the syntax of Spanish.

Span 5714. Theoretical Foundations of Spanish Syntax. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Linguistic types and processes that appear across languages, such as grammatical relations, word order, transitivity, subordination, information structure, grammaticalization, and how these are present in the syntax of Spanish.

Span 5715. The Structure of Modern Spanish: Semantics. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Applying semantic theory to Spanish: conceptual organization and the structuring of experience; meaning and cultural values; semantic fields; categorization and prototypes; cognitive model theory; metaphor, metonymy, and mental imagery as source and change of meaning.

Span 5716. The Structure of Modern Spanish: Pragmatics. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Concepts used in current literature in Spanish pragmatics, such as deixis, presupposition, conversational implicature, speech act theory, and conversational structure.

Span 5731. Spanish Dialectology: Regional and Social Dialects of Modern Spain. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major dialect areas of Spain, with distinguishing phonological, morphological, lexical, and syntactic variations of each. Impact of recent cultural, political, and socioeconomic transformations on language.

Span 5733. Spanish Dialectology: Regional and Social Dialects of Modern Spanish America. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major dialect areas of Spanish America, with distinguishing phonological, morphological, lexical, and syntactic variations of each. Impact of recent cultural, political, and socioeconomic transformations on language.

Span 5910. Topics in Spanish Peninsular Literature. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major topics in Spanish cultural history and their applicability to studies of artistic movements, ideological trends, formal methods, or literary genres. Topics specified in Class Schedule.

Span 5920. Topics in Spanish-American Literature. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major topics in Spanish-American literature analyzed according to important groups, movements, trends, methods, and genres. Specific approaches depend on topic and instructor. Topics specified in Class Schedule.

Span 5930. Topics in Ibero-Romance Linguistics. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Major topics in Ibero-Romance linguistics; a variety of approaches and methods.

Span 5970. Directed Readings. (1-4 cr; #) Students must submit reading plans for particular topics, figures, periods, or issues. Readings in Spanish and/or Spanish-American subjects.

Span 5985. Sociolinguistic Perspectives on Spanish in the United States. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Sociolinguistic analysis of issues such as language maintenance/shift in U.S. Latino communities, code switching, attitudes of Spanish speakers toward varieties of Spanish and English, language change in bilingual communities, and language policy issues.

Span 5990. Directed Research. (1-4 cr; #) Students must submit reading plans for particular topics, figures, periods, or issues. Readings in Spanish and/or Spanish-American subjects.

Span 5991. The Acquisition of Spanish as a First and Second Language. (3 cr; SP–Three 3xxx or 5xxx literature courses in Spanish or Portuguese) Analysis of issues such as the acquisition of Spanish and English by bilingual children. Spanish in immersion settings; developmental sequences in Spanish; classroom language learners’ attitudes, beliefs, and motivation; development of pragmatic competence.
Spanish-Portuguese (SpPt)

Department of Spanish and Portuguese
College of Liberal Arts

SpPt 3256. Latin American Cultural Discourse. (3 cr; SP–3456; Span 3105)
Cultural assumptions in current modes of interpreting Latin American reality. Representative texts are analyzed.

SpPt 3605. Symbolic Expression in Hispanic Politics. (3 cr)
Political upheavals, national liberation movements, and civil wars in Spain, Latin America, Portugal, Lusophone Africa, and the Hispanic population in the United States, either individually or in various forms of interrelations. Political activity and symbolic expression beyond literature. Taught in English.

SpPt 3608. The Political Foundations of Hispanic Theatre. (3 cr)
Study of drama as reality and metaphor using traditional, modern, and vanguard plays. Works of Cervantes, Lope de Vega, Calderón, Unamuno, Valle-Inclán, Triana, and Uslar. Films, videos, attendance of local and touring theatre groups.

SpPt 3611. Modern Latin American and Latino Writing. (3 cr)
A comparative approach to the literature of the Spanish- and Portuguese-speaking Americas, including Latino writing in the United States. Emphasis on women’s writing. All readings in English. Does not count toward Spanish or Spanish-Portuguese major.

SpPt 3930. Selected Topics in Hispanic Cultural Discourse. (4 cr; SP–Reading knowledge of Span and Port; A-F only)
Cultural discourse in Spanish- and Portuguese-speaking areas. Historical intersections and divergences. Taught in Spanish and/or Portuguese; English when cross-listed. Topics specified in the Class Schedule.

SpPt 3999. The Teaching of College-Level Spanish: Theory and Practice. (3 cr; SP–Grad student or #)
Theoretical grounding in the general principles of second language acquisition and guidance with their practical applications to the teaching of first- and second-year Spanish at the college-level.

Speech—Communication (Spch)

Department of Speech—Communication
College of Liberal Arts

Spch 3101. Introduction to Public Speaking. (3 cr)

Spch 3102. Introduction to Communication. (3 cr)
Verbal and nonverbal communication: public address, interpersonal, organizational, intercultural, and electronic. Ways in which new communication technologies influence and are influenced by existing forms of communication.

Spch 3131. Analysis of Argument. (3 cr)
Strategies for analyzing, evaluating, and generating arguments. Problems in listening and responding to argument.

Spch 3190. Honors Course: Research Seminar in Communication. (3 cr; max 6 cr; SP–Honors candidate in Spch; #; A-F only)
Conduct original research in rhetoric, communication theory, or media for honors thesis. Study of theory, methods, and research writing.

Spch 3201. Introduction to Electronic Media Production. (3 cr; SP–1101 or #; A-F only)
Production and criticism of messages for the electronic media. Theory and practice in planning, scripting, production, and criticism in various electronic media. Student productions in laboratory.

Spch 3211. Introduction to U.S. Electronic Media. (3 cr; max 3 cr)
Historical development and current issues in electronic media technologies and programming. Effects of governmental, industrial, and public organizations on message content. Problem areas of electronic media.

Spch 3401. Introduction to Communication Theory. (3 cr; SP–1102)
Social scientific theory in communication. Communication history; logic of scientific theories and communication types of theories in interpersonal, small group, organizational, intercultural, and electronically mediated communication.

Spch 3402. Introduction to Interpersonal Communication. (3 cr)
Nature and function of communication between individuals in formal and informal relationships. Communicative interactions from theoretical and practical viewpoints.

Spch 3404. Language Borderlands. (3 cr)
Effect of multilingualism on self identity and sense of community. Subjective and social dimensions of being multilingual. Experience of language loss.

Spch 3405. Language and Gender. (3 cr; SP–WoSt 3305; one women’s studies course)
Gender and communication with an emphasis on interdisciplinary theory. Role of communication in creating, maintaining, reinforcing, and sometimes changing gender relations in society.

Spch 3406. Language and Sexual Diversity. (3 cr)
Language use in lesbian, gay, bi-sexual, and transgender communities. Ways in which sexual diversity affects language use.

Spch 3411. Introduction to Small Group Communication. (3 cr)
Cooperative thinking in task-oriented groups. Planning, preparing for, and participating in small groups in private and public contexts.

Spch 3422. Interviewing and Communication. (3 cr; SP–1101 or #; A-F only)
Application of communication concepts in information interview process. Practical experience in planning, conducting, and evaluating informational, journalistic/elite, helping, persuasive, appraisal, and employment interviews. Class training and field experience.

Spch 3431. Persuasion Theories. (3 cr; SP–Soph recommended)
Sociological, psychological, and communication perspectives. Theoretical knowledge applied to persuasion problems.

Spch 3441. Introduction to Organizational Communication. (3 cr; SP–1101 or equiv)
Functions of communication in work groups, in organizational hierarchies, and between organizations.

Spch 3451. Intercultural Communication: Theory and Practice. (3 cr; SP–Planning an intercultural experience)
Theories of and factors influencing intercultural communication. Development of effective intercultural communication skills.

Spch 3522. Communication and the Intercultural Reentry. (3 cr; SP–Return from an intercultural experience)
Intercultural experience explored through stories and story telling, participant observation, and social scientific theory. Constructs include identity, learning styles, cultural adaptation, values, ethics.

Spch 3601. Introduction to Rhetorical Theory. (3 cr; SP–1101)
Theoretical systems intended to explain or direct the creation of public discourse. Traditional rhetoric to contemporary perspectives. Using theory to explain the practice of public discourse.

Spch 3605. Persuasive Speaking and Speech Writing. (3 cr; max 3 cr; SP–Soph)
Performance and composition with critical inquiry into rhetoric theories. Develops writing, thinking, and speaking skills.

Spch 3615. Argumentation. (3 cr; SP–Soph)
Argument(s) in relation to logic, dialectics, and rhetorical performance. Structured reasoning, informal conversations, familial arguments, debates in technical professions, communication ethics, and public/social argumentation.

Spch 3625. Communication Ethics. (3 cr; SP–1102 or #; A-F only)
Applying concepts and theories from philosophy and social science to ethical issues in interpersonal, group, organizational, intercultural, and media communication.

Spch 3631. Freedom of Speech. (3 cr)
Communication theories and principles that underlie the concept of freedom of speech in the United States. A variety of contexts and practices are examined in order to understand how communicative interaction should be described and, when necessary, appropriately regulated.

Spch 3970. Directed Study. (1-3 cr; max 6 cr; SP–One Spch course, #; A-F only)
Guided individual reading or study.

Spch 3980. Directed Instruction. (1-3 cr; max 6 cr; SP–#)
Supervised planning and teaching of undergraduate courses.

Spch 3990. Research Practicum. (1-3 cr; max 6 cr)
How communication research is designed, implemented, and published. Focus is on working with senior faculty on their current research projects.

Spch 4231. Comparing Electronic Media Systems. (3 cr; SP–3211 or #)
Historical, political, and sociological aspects of electronic media systems throughout the world, including United States, Canada, Great Britain, France, Germany, and Russia. Regulation and impact on political, social, and economic development.

Spch 4235. Electronic Media and Ethnic Minorities—A Worldview. (3 cr)
Representation and involvement of various ethnic groups (e.g., African Americans, Native Americans in United States and Canada, Maori, Turks in Europe) in radio, TV, cable, Internet. Roles of government, industry, public organizations, and minority groups in regulating, managing, and financing ethnic media activities.

Spch 4291. New Telecommunication Media. (3 cr; SP–3211 or #; A-F only)
Development and current status of new telecommunication media such as cable TV, satellites, DBS, MDS, and video disk/cassettes. Technology, historical development, programming, and regulation of these media and their influence on individuals, organizations, and society.

Spch 4452. Intercultural Interaction: Theory and Application. (3 cr; SP–#)
Small group interaction across cultures for both international and U.S. students. Discussion, simulations, readings.

Spch 4602. Contemporary Political Persuasion. (3 cr; SP–3451; 3431 or #)
Contemporary political speech. Ideologies in political persuasion.

Spch 4616. African American Civil Rights Rhetoric. (3 cr; SP–#)
Uses the struggle of African Americans to explore and analyze philosophical concepts, political issues, moral complexities, and discursive characteristics of civil rights rhetoric.

Spch 4621. Rhetoric of Feminism. (3 cr; SP–4615 or #)
History and criticism of the rhetoric of feminism from 19th century to the present.
Spc 5110. Special Topics in Communication Theory. (3 cr; [max 6 cr])
Advances or theoretical problems. See department office for current offering.

Spc 5210. Contemporary Problems in U.S. Electronic Media. (3 cr; [max 3 cr] SP–3211)
Problems affecting U.S. commercial and educational electronic media. Audiences; race/gender issues; regular
patterns.

Spc 5220. Television Genres. (3 cr; [max 3 cr])
Nature, historical development, and influence on society of specific genres of television programming: drama, situation comedy, mystery, soap opera. Program genre change over time and how society, government regulations, and economics of production influence that historical process.

Spc 5233. Electronic Media and National Development. (3 cr)
Use of electronic media to change social, political, and economic, and cultural life. Use by developing nations to improve agricultural practices, hygiene standards, literacy, and awareness of civic responsibility.

Spc 5261. Communicative Processes in Electronic Media. (3 cr; SP–3211 or #)
Organizational practices of media communicators; media content as a link between communicators and audiences; how viewers use and process media content.

Spc 5401. Advanced Theories of Communication. (3 cr; SP–5401 or grad student)
Survey of major theoretical approaches to communication including, positivism, constructivism, and systems.

Spc 5402. Advanced Interpersonal Communication. (3 cr; SP–5401 or SP–5402 or 3411 or 3431 or 3441 or 3451)
Social scientific approaches to interpersonal communication; theory and research findings.

Spc 5404. Language and Culture. (3 cr; SP–3401 or #)
How language and communication transmit cultural knowledge, attitudes, and beliefs. Connections among language, thought, and culture. Social and ethnic perspectives on the study of language and communication.

Spc 5406. Communication and Gender. (3 cr; SP–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. Comparisons across languages where possible.

Spc 5408. Social Cognition. (3 cr)
Role of cognitive processing in communication studies. Models include perception, attention, memory and their use in communication. Evaluation of social cognition theory and research.

Spc 5411. Small Group Communication Research. (3 cr; SP–3411 or #; A-F only)
Survey of small group communication research; theory and practice. Group decision-making and leadership.

Spc 5412. Quantitative Methods in Communication Research. (3 cr; SP–3401 or #; A-F only)
Social scientific methods used in studying human communication. Optional data processing laboratory for additional cr.

Spc 5431. The Process of Persuasion. (3 cr; SP–3431)
Communication campaigns (e.g., advertising, political) illustrating persuasive processes and theories. Research paper required.

Spc 5441. Communication in Human Organizations. (3 cr; SP–9 cr social science, 3441 or #)
Communication in organizational settings. Organizational structure and dynamism and their effect upon the communication process. Individual projects.

Spc 5451. Intercultural Communication Processes. (3 cr)
Theory and research on cultural differences in values, norms, behaviors, and perceptions that affect communication across cultures internationally and domestically.

Spc 5461. Conversation Analysis. (3 cr; SP–5461; 5451 or 5001)
Discourse processes in dyadic and multiparty conversation. Application of concepts through analysis of conversations.

Spc 5462. Field Research in Spoken Language. (3 cr; SP–5462; 5461, 5451 or 5001)
Transcribing and analyzing verbal communication and movement related to it. Applying concepts to recorded conversations.

Spc 5611. Survey of Rhetorical Theory. (3 cr; SP–1101)
Survey of rhetorical theory from ancient to contemporary period; application of theory to public discourse.

Spc 5615. Introduction to Rhetorical Criticism. (3 cr; SP–1101, 3611 recommended)
Analysis of public discourse using various theoretical perspectives.

Spc 5617. History and Criticism of U.S. Public Discourse: 1630-1865. (3 cr; SP–3610)
How discourse has been used to establish or maintain power. Speeches and public debates used to examine American public address from 17th century (e.g., Puritan sermons) to the Civil War.

How discourse has been used to establish or maintain power. Speeches and public debates examined to examine U.S. public address from the mid 19th century to 1950.

Spc 5970. Directed Study. (1-3 cr; max 6 cr; SP–Nine 300-500 level Spch cr, #, A-F only)
Guided individual reading or study.
Stat 3022. Data Analysis. (4 cr; QP - 3011 or 3091; SP - 3011 or 3021) Practical survey of statistical inference and computing covering widely used statistical tools: multiple regression, variance analysis, experiment design, nonparametric methods, model checking and selection, variable transformation, categorical data analysis, hierarchical classification.

Stat 4101. Theory of Statistics I. (4 cr; QP - Math 1252; SP - $1501,$ Math 5651; Math 1272) Random variables and distributions; generating functions; standard distribution families; data summaries; sampling distributions; likelihood and sufficiency.

Stat 4102. Theory of Statistics II. (4 cr; OP - 5121; SP - $1502; 4101) Estimation; significance tests; distribution free methods; power; application to regression, analysis of variance, and analysis of count data.

Stat 4893. Senior Paper. (1 cr; QP - Stat major; SP - Stat major) Satisfies senior project requirement for CLA majors. Directed study. Paper on specialized area, a consulting project, or original computer program.

Stat 5021. Statistical Analysis. (4 cr; QP - College algebra or OP - SP - 3011; College algebra or OP - Stat course recommended) Intensive introduction to statistical methods for graduate students needing statistics as a research technique.

Stat 5031. Statistical Methods for Quality Improvement. (4 cr; OP - 3012 or 3091 or 5021 or 5122 or 5132 or 5152; Math 1252; OP - 3021 or 4102 or 5021 or 5122 or 5102; Math 1272) Application of statistical concepts of random variability and sampling, statistical process control, Shewhart and accumulative charting, analysis of plant variability and sampling, statistical process control, and quality improvement by reduction of random variability.

Stat 5041. Bayesian Decision Making. (3 cr; OP - 5122 or 5132 or 5152 or OP - 4101 or 5021 or 5101 or OP - #) Axioms for subjective probability and utility. Optimal statistical decision making. Sequential decisions and decision trees. Backward induction. Bayesian data analysis.

Stat 5101. Theory of Statistics I. (4 cr; OP - 5121; 5122; Math 3252; SP - 4101; $ Math 5651; Math 2263) Same as Math 5651. Logical development of probability and some basic issues in statistics. Probability spaces, random variables and their distributions and expected values, law of large numbers and central limit theorem, generating functions, sampling, sufficiency, and estimation.

Stat 5102. Theory of Statistics II. (4 cr; OP - 5101; SP - 4102; 5101; Math 5651) Estimation, test of hypotheses, size, and power; categorical data; contingency tables; multivariate normal distribution; linear models; decision theory.

Stat 5201. Sampling Methodology in Finite Populations. (3 cr; OP - 3091 or 5021 or 5121 or OP - SP - 3011 or 3021 or 5021 or 5101 or SP - #) Simple random, systematic, stratified, and unequal probability sampling ratio and model based estimation; stage multistage; and adaptive cluster sampling; spatial sampling.

Stat 5302. Applied Regression Analysis. (4 cr; OP - 5161; 3012 or 5021 or 5133 or 5153; SP - 3022 or 5021 or 4102 or 5021 or 5102 or OP - #) Simple, multiple, and polynomial regression. Estimation, testing, and prediction. Use of graphics in regression. Stepwise and other numerical methods; weighted least squares; nonlinear models; response surfaces. Experimental research and applications.

Stat 5303. Designing Experiments. (4 cr; OP - 5163; 3012 or 5021 or 5133 or 5153 or OP - SP - 3022 or 4102 or 5021 or 5102 or OP - #) Analysis of variance, multiple comparisons, variance-stabilizing transformations, contrasts, construction and analysis of complete and incomplete block designs, fractional factorial designs, combining split plots, and response surface design.


Stat 5421. Analysis of Categorical Data. (3 cr; OP - 5162; 3012 or 5021 or 5133 or 5153 or OP - 5302 or 5102 or OP - #) Varieties of categorical data, cross-classifications, and contingency tables. Tests for independence. Combining 2x2 tables. Multidimensional tables and loglinear models, maximum-likelihood estimation, and tests for goodness of fit. Logistic regression, generalized linear models, and multinomial response models.

Stat 5601. Nonparametric Methods. (3 cr; OP - 5021 or 5122 or 5132 or 5152 or OP - 3022 or 4102 or 5021 or 5102 or OP - #) Order statistics, classical rank-based procedures (e.g., Wilcoxon, Kruskal-Wallis), goodness of fit. Topics may include smoothing, bootstrap, generalized linear models.

Stat 5931. Topics in Statistics. (3 cr; SP - #) Topics vary according to student needs and available staff.

Stat 5932. Topics in Statistics. (3 cr; OP - #) Topics vary according to student needs and available staff.

Stat 5993. Tutorial Course. (1-3 cr; OP - #) Directed study in areas not covered by regular offerings.

Sumerian (Sum)

Department of Classical and Near Eastern Studies

College of Liberal Arts


Swedish (Swe)

Department of German, Scandinavian, and Dutch

College of Liberal Arts

Swed 1001. Beginning Swedish. (4 cr) Emphasis on working toward novice-intermediate low proficiency in all language modalities (listening, reading, speaking, writing). Topics include everyday subjects (shopping, directions, family, food, housing, etc.).

Swed 1002. Beginning Swedish. (4 cr; SP - 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 Swedish culture.

Swed 1003. Intermediate Swedish. (4 cr; SP - 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.

Swed 1004. Intermediate Swedish. (4 cr; SP - 1003) Emphasis on developing intermediate proficiency in listening, reading, speaking, and writing. Contextualized work on grammar and vocabulary is supported by work with authentic readings and essay assignments.

Swed 3011. Advanced Swedish. (4 cr; SP - Passing score on the GPT) Designed to help students achieve advanced proficiency in Swedish. Discussion of fiction, film, journalistic, and professional prose is complemented by grammar and vocabulary building exercises and a systematic review of oral and written modes of communication.


Swed 4001. Beginning Swedish. (2 cr; SP - §1001; passing score on GPT in another language or grad student) Course meets concurrently with Swed 1001; see Swed 1001 for description. This option is designed for students who have satisfied the GPT requirements in another language or are graduate students or are otherwise exempt.

Swed 4002. Beginning Swedish. (2 cr; SP - §1002; passing score on GPT in another language or grad student) Course meets concurrently with Swed 1002; see Swed 1002 for description. This option is designed for students who have satisfied the GPT requirements in another language or are graduate students or are otherwise exempt.

Swed 4003. Intermediate Swedish. (2 cr; SP - §1003; passing score on GPT in another language or grad student) Course meets concurrently with Swed 1003; see Swed 1003 for description. This option is designed for students who have satisfied the GPT requirements in another language or are graduate students or are otherwise exempt.

Swed 4004. Intermediate Swedish. (2 cr; SP - §1004; passing score on GPT in another language or grad student) Course meets concurrently with Swed 1004; see Swed 1004 for description. This option is designed for students who have satisfied the GPT requirements in another language or are graduate students or are otherwise exempt.

Teaching English as a Second Language (TESL)

Institute of Linguistics and Asian and Slavic Languages and Literatures

College of Liberal Arts

TESL 5401. Language Analysis for Teachers of English as a Second Language. (4 cr; SP - Ling 5001) Overview of the structure of the English language geared to the needs of teachers of English to speakers of other languages. Study of the structures of English from the point of view of second-language speakers as well as native speakers. Phonetics, phonology, morphology, and some aspects of the syntax of the English language. Part of a two-course sequence.

TESL 5402. Language Analysis for Teachers of English as a Second Language. (4 cr; SP - 5401; Ling 5001) Overview of the structure of the English language geared to the needs of teachers of English to speakers of other languages. Study of 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 5721. Methods in Teaching English as a Second Language. (3 cr; SP - 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. (3 cr; SP–ESL: minor or #; 5 cr–6 cr) Observation of, and practice in, teaching English as a second language to adults at the college or university level.

TESL 5723. Materials for Teaching English as a Second Language. (3 cr; SP–5721, 5722 or #) Evaluation and preparation of teaching materials for English as a second language.

TESL 5724. Introduction to Language Assessment. (3 cr; SP–Ling 5001 or #) Prepares students interested in second language learning to engage in meaningful, appropriate, and fair second language assessment practices. Students develop the ability to interpret results of existing tests and participate in the construction of new forms of assessment.

TESL 5910. Seminar in Teaching English as a Second Language. (3 cr; SP–max 9 cr; SP–#) 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; SP–#; A) Directed study for teaching English as a second language.

**Theatre Arts (Th)**

**Department of Theatre Arts and Dance**

**College of Liberal Arts**

Th 1101. Introduction to the Theatre. (3 cr) A lively introduction to the art and craft of theatre, building skills in the appreciation and critical analysis of plays and performances, including examples of the diversity of theatre's interaction with society from a variety of cultural perspectives.

Th 1102. Drama and the Media.. (3 cr) Drama and cultural values implicit in media. Study of primary texts (biography, history, the novel, plays), video clips, and complete films. How the film medium shapes cultural identity.

Th 1321. Beginning Acting. (3 cr; QT–1101; SP–1101) Acting technique for the stage, emphasizing Stanislavskian vocabulary. Exercises and improvisations leading to scene work and monologues.

Th 1351. Vocal Production and Beginning Movement for Actors. (3 cr; QT–1101; SP–1101) Part I: Exercises to develop abdominal breathing, tonal placement, and clear articulation. Analysis of speech, poetry, and dramatic text. Part II: Body movement and relaxation combined with acting technique leading to individual and group performance.

Th 1901. Introduction to Performance... (4 cr) A hands-on exploration of the nature of live performance. What it means to be a performer. How live performance fits into our culture; its range and diversity, historical context, and current trends.

Th 1905. Honors Course: The Theatre—Introduction and Beyond. (2 cr; QT–1101; SP–1101, 1901) Enrichment course for students with outstanding records who have completed both 1101 and 1901. Topics specified in Class Schedule.

Th 3100. Theatre Practicum. (1 cr [max 4 cr; SP–1101; 5 N only] Participation in a University Theatre main stage play as actor, construction or running crew personnel, or theatre management operations participant. Only two registrations as actor may count toward the major.

Th 3115. Introduction to Playwriting. (3 cr; QT–# SP–#) Study of traditional play structure, characterization, dramatic action, and theme. Final project is a one-act play.

Th 3171. History of the Theatre: Ancient Greece Through Neo-Classicism. (3 cr; QT–Th major or # SP–Th major or #) History of Western theatre and drama; theatrical practices, staging conventions, and dramatic structure of plays. Ancient to mid-18th century.

Th 3172. History of the Theatre: Romanticism to the Present. (3 cr; QT–Th major or # SP–Th major or #) History of western theatre and drama; theatrical practices, staging conventions, and dramatic structure of plays. Romanticism to the present.


Th 3513. Design and Technical Production I. (4 cr; QT–1101, 1504, 3100/5100 or # SP–1101) Theory, process, and execution of design and technology from script to production on stage: Scenery and properties.

Th 3515. Design and Technical Production II. (4 cr; QT–1101, 1504, 3100/5100 or # SP–3513) Theory, process, and execution of design and technology from script to production on stage. Costumes and lighting.

Th 3711. Beginning Directing. (3 cr; QT–1101, 1321, jr; SP–1101, 1321) Techniques and theories of stage direction. Script analysis, composition, blocking, rehearsal methods, improvisation, actor coaching, and scene production.

Th 3950. Topics in Theatre... (1–4 cr; max 8 cr; QT–Varies by topic; SP–#) Topics specified in Class Schedule.

Th 4131. Shakespeare: Comedies, Romances, and Problem Plays. (3 cr; QT–1101 or # SP–1101 or #) Shakespeare’s plays as live theatre, both for the stage and in various media. Work of actors, directors, and designers in Shakespearean plays.

Th 4132. Shakespeare: Histories and Tragedies. (3 cr; QT–1101 or # SP–1101 or #) Shakespeare’s plays as live theatre, both for the stage and in various media. Work of actors, directors, and designers in Shakespearean plays.

Th 4177. Survey of Dramatic Literature I. (3 cr) Chronological study of theatrical structure from ancient time to mid-18th century.

Th 4178. Survey of Dramatic Literature II. (3 cr) Chronological study of theatrical structure from mid-18th century to the present.

Th 4532. Makeup for the Actor. (2 cr; QT–1101; SP–1901) Topics vary, including functions and aesthetics of stage makeup, application techniques, prosthetics, and facial hair.

Th 4901. Senior Seminar. (3 cr; QT–Sp-Th or Dnce major; SP–Sr Th or Dnce major; 5 N only) Seminar for completion of the major project. Meets with Dnce 4901.

Th 4905. Honors Course: Tutorial Seminar in Theatre Arts. (2–4 cr; max 4 cr; SP–Candidate for honors in theatre arts, Sr limited to 2 cr for cum laude, magna cum laude; up to 2 additional cr for summa cum laude)

Independent reading and research in selected fields in preparing honors thesis or creative project. Detailed requirements available from the department’s director of honors.

Th 5100. Theatre Practicum. (1–4 cr; QT–#; SP–#) (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.)


Th 5172. History of the Theatre II. (3 cr) Theatre as a mirror of society, Aesthetics, philosophy, and practices of theatre arts. Mid-18th to the present.

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

Th 5182. Contemporary Black Theatre: 1960–Present. (3 cr) Essays, plays, playwrights, and theatres that have contributed to contemporary Black theatre. From the beginning of the Black Arts Movement to present.

Th 5310. MFA Actors Studio. (1 cr [max 3 cr; QT–MFA actor or # by audition; SP–MFA actor or # by audition]; S–N only) Application of elements of performance, including research techniques, creative thinking, and rehearsal techniques.

Th 5321. Career Preparation for the Actor. (3 cr; QT–3323 or MFA actor or # SP–3323 or MFA actor) Information and techniques necessary for the professional acting career.

Th 5322. Acting for the Camera. (3 cr; QT–3323 or MFA actor or # SP–3323 or MFA actor) Differences between stage acting and acting for the camera. Learn film technique with hands-on experience of using equipment. Scenes and monologues rehearsed and performed for the camera with playback on videotape for class critique.

Th 5321. Physical Approaches to Acting: Use of Self. (2 cr; QT–3323, # by audition or MFA actor; SP–MFA or # by audition) Movement for advanced actors: awareness, flexibility, observation, release, improvisation in both verbal and nonverbal physical modes.

Th 5322. Physical Approaches to Acting: Stage Combat. (2 cr; QT–3323, # by audition or MFA actor; SP–MFA or # by audition) Movement for advanced actors: awareness, flexibility, observation, release, improvisation in both verbal and nonverbal physical modes; focus on stage combat.

Th 5333. Physical Approaches to Acting: Period Styles. (2 cr; QT–3323, # by audition or MFA actor; SP–MFA or # by audition) Movement for advanced actors: awareness, flexibility, observation, release, improvisation in both verbal and nonverbal physical modes; focus on period styles of movement.

Th 5334. Physical Approaches to Acting: Mask. (2 cr; QT–3323, # by audition or MFA actor; SP–MFA or # by audition) Movement for advanced actors: awareness, flexibility, observation, release, improvisation in both verbal and nonverbal physical modes; focus on mask work.

Th 5341. Speech for Actors. (2 cr; QT–MFA or # SP–MFA or # A–F only) Theories of professional voice production, anatomy and physiology of the vocal mechanism and respiratory system, phonetics, tonal placement, vowel standardization, and articulation are applied to dramatic texts.
**Th 5342. Classical Text for Actors.** (3 cr; QP-MA or #; SP-MA or # A-F only) Metrical and rhetorical techniques used in the dramatic texts of Shakespeare and Shaw, as well as textual performance styles from Elizabethan to contemporary. Discussion, presentation, oral reports, and performances.

**Th 5351. Musical Theatre.** (3 cr; A-F only) History of American musical theatre featuring videos/discussions, basic music theory, voice, dance, acting, and audition techniques. Solo and ensemble presentations for a public class performance.

**Th 5500. Theatre Design Practicum.** (1-3 cr; QP-MA; SP-MA) Individual projects in production of approved plays as a designer of scenery/properies, costumes, lighting, or sound. (See 500 for other creative practicums.)

**Th 5510. Drawing, Rendering, and Painting for the Theatre Designer.** (1 cr; QP-MA or SP-MA or grad student or #) Development of skills necessary for the presentation of theatre scene and costume designs. Practical study of materials, layout, and techniques used in scene painting. Focus on rendering and scene painting skills.

**Th 5515. Design Composition and Collaboration.** (3 cr; QP-Grad student or SP-Grad student or SP-MA or SP-MA, #) 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]; QP-SP-MA or SP-MA or grad student or #) Conceiving and communicating design ideas in both two-dimensional sketches and three-dimensional models for the theatre and allied venues. Drafting.

**Th 5530. Costume Design.** (3 cr [max 9 cr]; QP-SP-MA or SP-MA or grad student or SP-MA or SP-MA, #) 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]; QP-SP-MA or SP-MA or grad student 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; QP-SP-MA or SP-MA or grad student or #) The lighting technician’s skills and crafts: equipment, techniques, control operation, wiring, and maintenance.

**Th 5550. Sound Design for Performance.** (3 cr [max 9 cr]; QP-SP-MA or SP-MA or SP-MA, #) Audio technology and psychology and their impact on an audience in a performance situation. Communication, design process, psychoacoustics, and script analysis.

**Th 5555. Audio Technology.** (3 cr; QP-SP-MA or SP-Th major or #) Sound as a science and the technology used to create and manipulate sound, including, recording techniques, effects processing, signal processing and recording, microphone, and mixing techniques.

**Th 5577. Digital Audio and MIDI for Performance.** (3 cr) Hands-on computer and CPU-generated audio technology and the use of MIDI language protocol for performance in all aspects of the arts.

**Th 5560. Drawing, Rendering, and Painting for the Theatre Designer II.** (3 cr; QP-SP-MA or SP-MA) Development of skills necessary for the presentation of theatre scene and costume designs. Practical study of materials, layout, and techniques used in scene painting. Focus on rendering and scene painting skills.

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

**Th 5580. Costume Technology.** (1-3 cr [max 15 cr]; QP-SP-MA or SP-MA or grad student or #) Fabric enhancement techniques, masks, wig-making, millinery, makeup prosthetics, pattern drafting, and draping. Topics specified in Class Schedule.

**Th 5590. Theatre Technology Practicum.** (1-3 cr [max 15 cr]; QP-SP-MA, #) (1 cr max for undergrads) Individual creative projects in technology or craft areas of theatre that further develop practical skills or knowledge in costume, lighting, makeup, props, scenery, sound, or theatre management.

**Th 5711. Advanced Stage Direction.** (3 cr; QP-SP-1101 or grad student or # SP-SP-1101, For grad student) Realistic and nonrealistic dramatic forms, theory and technique of rehearsal, solving production problems, and directing three one-act plays.

**Th 5715. Actor-Director Collaboration.** (3 cr; QP-3323, 3711 or SP-Grad student 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 styles, roles, and scenes.

**Th 5716. Stage Management for the Theatre.** (4 cr; QP-1101, 1504, 1231 or SP-Grad student or 1101, 1231, 2016) Theories, practicalities, and techniques for dealing with rehearsal and performance, organization and management in various types of performance venues.

**Th 5718. Principles of Theatre Management.** (3 cr) Nonprofit theatre structure: concept, mission, organizational structure, financial, marketing, fundraising and granting-writing strategies. Facilitated by discussion and guest professionals from the Twin Cities’ arts and funding communities.

**Th 5753. Text Analysis for Drama.** (3 cr; QP-SP-5711 or grad student; SP-5711 or grad student) Tools for intensive textual analysis for advanced directors and designers. Both traditional, Aristotelian analysis and contemporary approaches are covered through theories and writings of Bertolt Brecht and Howard Barker.

**Th 5760. Advanced Stage Management.** (2-3 cr; QP-SP-5716, SP-SP-5716 or SP-5716, #) (4 cr max for undergrads) 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]; QP-SP-5718; SP-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 5956. Topics in Theatre.** (1-1 cr; QP-SP-5722, SP-5722, #) Topics specified in Class Schedule.

**Th 5993. Directed Study.** (1 cr; QP-SP-MA, # SP-MA, #) Guided individual reading or research.

**Toxicology (Txl) Graduate School**

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

---

**Translation and Interpreting (TrIn)**

**Institute of Linguistics and Asian and Slavic Languages and Literatures**

**College of Liberal Arts**

**TrIn 3001. Introduction to Translation.** (3 cr; QP-Bilingual proficiency in English and the second language of instruction; SP-Bilingual proficiency in English and the second language of instruction) Theory and supervised practice in translation; examination of the process of re-expressing meaning in a second language. Translation primarily of English language texts concerning public health and safety, legal and voting rights, regulations and procedures, etc., intended for the general public.

**TrIn 3101. Introduction to Interpreting.** (3 cr; QP-3001 recommended, high level of proficiency in spoken English and another language; SP-3001 recommended, high level of proficiency in spoken English and another language) Practical and theoretical introduction to interpreting in health, human service, and legal settings. Emphasis on understanding the unique role of the interpreter, current models and modes of interpreting, ethical issues and professional standards of practice, and developing pre-interpreting skills.

**TrIn 3102. Intermediate Interpreting.** (3 cr; QP-3101, high level of proficiency in spoken English and another language as demonstrated by application; SP-3101, high level of proficiency in spoken English and another language as demonstrated by application) A practical and theoretical course aimed at developing professional levels of proficiency in interpreting, including healthcare, human service, and legal settings with emphasis on professional/client dialogues. Topics include consecutive interpreting skills, vocabulary research and storage, intercultural issues, analysis of the interpreting process. Performance assessment through audio- and videotaping. Subject languages (e.g., Spanish, Russian, Somali) will be specified for each section.

**TrIn 5900. Topics in Translation and Interpreting.** (3 cr; QP-SP-MA, #) Topics specified in Class Schedule.

**TrIn 5993. Directed Study.** (1-3 cr; QP-SP-MA, #) Directed study in translation and interpretation.

---

**University College (UC)**

**University College**

**UC 3075. Directed Study.** (1-15 cr; SP-MA) For new Program for Individualized Learning students to develop individualized curricular plans for their baccalaureate degrees.

**UC 3211. Degree Planning.** (8 cr; S-N only) For new Program for Individualized Learning students to develop individualized curricular plans for their baccalaureate degrees.

**UC 3251. Individualized Study.** (4 cr; SP-Admitted to Program for Individualized Learning; S-N only) Students develop a project proposal, identify resources, conduct research, and complete a project (e.g., paper, performance, Web site). Narrative evaluation from the project adviser/evaluator required.

**UC 3281. Major Project.** (8 cr; SP-Admitted to Program for Individualized Learning; S-N only) Students develop a project proposal, identify resources, conduct research, and complete a capstone project for their degree. Narrative evaluation from the project adviser/evaluator required.

---

431
UC 3291. Graduation Preparation. (8 cr; SP–Admitted to Program for Individualized Learning; S–N only)
Students complete a graduation dossier for presentation to graduation review committee. The dossier consists of a criteria summary, statement of readiness, transcripts, illustrative materials, and an approved degree plan.

UC 4299. Graduation Review. (4 cr; SP–Passed preliminary review; S–N only)
Students revise graduation dossier and present to graduation review committee for B.A. or B.S. approval.

**Urban Studies (UrbS)**

**Department of Geography**

**College of Liberal Arts**

**UrbS 1001. Introduction to Urban Studies: The Complexity of Metropolitan Life.** (3 cr; SP–S 3001; A–F only)
Introduction to the field of urban studies and to the subject of cities. Course is broadly interdisciplinary, ranging across spatial, historical, economic, political, and design perspectives, among many others. For majors and interested others.

**UrbS 3001. Introduction to Urban Studies: The Complexity of Metropolitan Life.** (3 cr; SP–S 1001; A–F only)
Introduction to the field of Urban Studies and to the subject of cities. Course is broadly interdisciplinary, ranging across spatial, historical, economic, political, and design perspectives, among many others. For majors and interested others.

**UrbS 3201. Urban Studies Colloquium.** (1 cr; A–F only)
A forum for intensive discussion of multiple urban/metropolitan issues. Topics change with each offering to reflect current concerns. Encompasses in-depth reading and group discussion.

**UrbS 3202. Urban Studies Colloquium.** (1 cr; A–F only)
A forum for intensive discussion of multiple urban/metropolitan issues. Topics change with each offering to reflect current concerns. Encompasses in-depth reading and group discussion.

**UrbS 3301. American Cities as Settings for Cultural Diversity.** (3 cr)
Explores cultural diversity in American cities, considering patterns of and reasons for racial and class segregation and interaction. Its foci are the problems, conflicts, and successes of cultural diversity from a multidisciplinary perspective.

**UrbS 3500. Urban Studies Workshop.** (3 cr [max 6 cr]; SP–1001 or 3001 or equiv; A–F only)
This course will link students’ academic learning to actual urban planning issues and by focusing on a specific topical area and using the local community as a laboratory. Field work and contact with local institutions and agencies will be expected.

**UrbS 3751. Understanding the Urban Environment.** (3 cr; A–F)
Examines links between the city and the environment with emphasis on air, soil, water, pollution, parks and green space, undesirable land uses, environmental justice, and the basic question of how to sustain urban development in an increasingly fragile global surrounding.

**UrbS 3900. Urban Studies Internship Seminar.** (2 cr [max 4 cr]; SP–Sr–F only)
A weekly seminar which serves to integrate an internship experience with the academic programs of students. Must be taken in conjunction with the internship placement. Internships may be arranged for a semester or summer term.

**UrbS 3955. Senior Paper Seminar.** (1 cr; SP–UrbS Sr or #; A–F only)
This seminar is intended for urban studies seniors who are undertaking their senior papers. Methods and resources for research will be the focus and significant writing will be expected.

**UrbS 3983. Urban Studies Directed Study.** (2-3 cr [max 6 cr]; SP–UrbS major, #; A–F only)
For students with a specific educational objective that cannot be satisfied through regular curriculum (e.g., foreign study) and for honors students to complete an honors opportunity.

**UrbS 5101. The City and the Metropolis: An Exploration.** (3-4 cr; SP–Grad student or advanced UrbS undergrad with #)
Advanced interdisciplinary examination of complex metropolitan environments using a grounded experiential approach. Examine the topic from historical, social, economic, political, and design perspectives. Day-long or weekend-long field trips are expected.

**Vernacular Pathobiology (VPB)**

**Department of Veterinary Pathobiology**

**College of Veterinary Medicine**

**VPB 2022. General Microbiology.** (2 cr; SP–3 cr or biol)
Intended primarily for non-microbiology majors. Fundamental principals of microbiology; bacterial metabolism, growth and genetics; biology of viruses and fungi; control of microorganisms; host-microbe interactions; microorganisms and disease; applied microbiology.

**VPB 2032. General Microbiology with Laboratory.** (4 cr; SP–3 cr or biol)
Intended primarily for non-microbiology majors Fundamental principals of microbiology; bacterial metabolism; growth and genetics; biology of viruses and fungi; control of microorganisms; host-microbe interactions; microorganisms and disease; applied microbiology.

**VPB 5601. Veterinary Parasitology.** (4 cr)

**Water Resources Science (WRS)**

**Graduate School**

**WRS 5001. Introduction to Field Research in Water Resources.** (2 cr; SP–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; SP–Grad student or #)
Control of water resources by natural system functions, user actions, and influence of social and political institutions. How these controls vary in space and time; complexities of each control and feedbacks among them.

**Women’s Studies (WoSt)**

**Department of Women’s Studies**

**College of Liberal Arts**

**WoSt 1001. Introduction to Women’s Studies.** (3-4 cr)
Introduction to contemporary surveys of women, gay, bisexual, and transgender studies. Includes honors recitation.

**WoSt 3001. Introduction to Sexuality Studies.** (3-4 cr)
Interdisciplinary survey of lesbian, gay, bisexual, and transgender studies. Includes honors recitation.

**WoSt 3002. Introduction to U.S. Ethnic Studies of Women, Race, and Class.** (3-4 cr)
Comparative study of women and gender, race, class, sexuality in two or more U.S. ethnic cultures. Includes honors recitation.

**WoSt 3003. Introduction to Women and World Cultures.** (3-4 cr)
Focuses on the similarities and differences in women’s experiences throughout the world from a cross-cultural and historical perspective. Uses a range of reading materials and media (feminist scholarship, fiction, film, news media, oral history, autobiography). Includes honors recitation.

**WoSt 3004. Point/Counterpoint: An Introduction to Contemporary Feminist Debates.** (3-4 cr)
Contemporary debates of concern to many women such as abortion, affirmative action, marriage rights, welfare rights, sex education, children’s rights, and date rape. In-depth study of several of these issues, the debate, and relevant perspectives. Includes honors recitation.

**WoSt 3102. Feminist Thought and Theory.** (3-4 cr)
Feminist theoretical perspectives, asking how theory develops both in response to earlier theoretical traditions and in the context of diverse forms of practice, starting from the assumptions that theories emerge from (rather than just being applied to) practice.

**WoSt 3103. Feminist Expository Writing.** (3 cr; QP–EngC 1011 or equiv; SP–EngC 1011, Jr WoSt major or minor or A)
Intended for women’s studies majors only. Stages of composition process; similarities and differences between feminist and traditional expository language and structure; improves skills for analytical and critical thinkers.

**WoSt 3190. Topics: Methods of Inquiry.** (3 cr [max 12 cr])
Topics specified in Class Schedule.

**WoSt 3201. Sociology of Gender.** (3 cr; SP–S Soc 3221; 1001 or 1002 or 3001 or 3002 or #)
Exploration of social and psychological factors that influence gender relations as major features of social life. Gender and racial inequalities in the workplace, relationships between gender and race, gender and culture, sexuality, gendered politics, and the women’s movement.

**WoSt 3202. Biology of Women.** (4 cr)
Biological aspects of the female life course from early development to old age. The biology of sex differences and sexuality, menarche, gestation and parturition, female-specific diseases and conditions, menopause, ways of knowing the biology of the female body. Includes lab.

**WoSt 3203. Biology, Race, and Gender.** (3 cr; QP–WoSt 3202; SP–3202 or intro biol course or #)
Ways in which modern biology has been a site of conflict about race and gender. Short survey of the race and gender demographics of scientific professions.

**WoSt 3204. Women’s Psychologies: Feminist and Multicultural Perspectives.** (3-4 cr)
Examines culture, gender, ethnicity, class, sexual identity, and age as factors that influence women’s diverse psychologies.

**WoSt 3205. A Sense of Identity.** (3 cr)
Exploration of social and psychological factors that affect a woman’s continuously developing sense of identity. Emphasis is on assertion and communication skills development.

**WoSt 3206. Women and Madness in History and Literature.** (3 cr; SP–S WoSt 3203; Jr)
The representation of madness and how it intersects with gender as well as class, race, sexual orientation, and nationality.
WoSt 3290. Topics: Biology, Psychology, and Social Perspectives, (3 cr)
Topics specified in Class Schedule.

WoSt 3301. Women and Literature, (3 cr; SP- Intro literature course or comparable literature course or #)
Literature in various genres (e.g., novels, short stories, poems, essays, plays, autobiography) written by women of various racial and ethnic backgrounds.

WoSt 3302. Women and the Arts, (3 cr; SP- 5 Chic 3212; intro course in music or drama or dance or film or other arts or 1001, 1002 or #)
Study of women in the arts, as represented and as participants (creators and audiences). Discussion of at least two different art forms and works from at least two different U.S. ethnic or cultural communities.

WoSt 3303. U.S. Minority Women Writers, (3 cr)
Interpret and analyze poetry, fiction, and drama of U.S. women minority writers. The relationship of a writer’s history, ethnicity, race, class, and gender to her writings.

WoSt 3305. Language and Gender, (3 cr; SP- 5 Spch 3405)
Gender and communication with an emphasis on interdisciplinary theory. Role of communication in creating, maintaining, reinforcing, and sometimes changing gender inequalities in society.

WoSt 3306. Women in U.S. Popular Culture, (3 cr)
Contemporary U.S. feminism as a political and intellectual movement and the ways in which that movement has been represented in popular culture.

WoSt 3307. Gender and Film Studies, (3 cr; SP- 1001, 1002, 3001, 3002, 3102 or intro film course or #)
The portrayal of men and women, masculinity and femininity in film from a feminist perspective. The construction of different notions of gender in film and the social uses of these portrayals. Lectures on film criticism, film viewings, and class discussions.

WoSt 3308. Women’s Contemporary Fiction, (3 cr)
Themes and features of style and content related to changes in women’s roles in novels and short stories by English-language women writers of the late 20th century. Significance of race, sexual orientation, class, and age in the conditions of women’s lives and their portrayal in literature.

WoSt 3390. Topics: Literature, Film, and the Arts, (3 cr)
Topics specified in Class Schedule.

WoSt 3401. Gender and Geopolitics, (3 cr; SP- 1001 or 1002 or 3003 or #)
Gendered theory and practice of geopolitics. Critique of the gendered nature of conventional international relations theory.

WoSt 3402. History of Western Feminism, (3-4 cr; SP- 5402)
Survey of the main currents in the history of Western feminist thought, politics, and social movements from the 1770s to the present.

WoSt 3403. Jewish Women in the United States, (3 cr; SP- jwst 3632)
Twentieth century American Jewish women—historically, sociologically, religiously, and culturally; key developments over the century.

WoSt 3404. International Lesbian Studies, (3 cr; SP- 1001, 1002, 3001 or #)
Lesbian and gay lives throughout the world. Culturally-specific and transnational aspects of lesbian and gay identity formation, political struggles, community involvement, and global networking. Focus on lesbian and gay life in some areas other than Europe and the United States.

WoSt 3405. Latin American Women’s Lives, (3 cr; SP- 1001, 1002 or 1003 or LAS 3131 or #)
An interdisciplinary approach to understanding women’s lives in Latin America. Use of ethnography, history, poetry, fiction, and “testimonio” to understand the conditions of women’s lives in Latin America.

WoSt 3406. Women and Work, (3 cr; SP- 1001 or 1002 or 3002 or 3003 or #)
Historical changes in women’s labor force participation in the United States from 1890 to present. Systematic and institutional processes that maintain and reproduce sex segregation. Women’s efforts to change their work situations.

WoSt 3407. Women in Early and Victorian America, 1600-1890, (3 cr; SP- Hist 3347)
Varied experiences of women in American history from European settlement in North America to the end of the 19th century.

WoSt 3408. Women in Modern America, (3 cr; SP- Hist 3348, 3407)
History of women in the United States from 1890 to the present. Women’s changing roles in politics, in the labor force, in the family, and in the popular culture. Themes include work, family, sexuality, gender ideologies, women’s right struggles, and the different ideologies of women based on race, class, religion, and region.

WoSt 3409. Asian American Women’s Cultural Studies, (3 cr)
Diversity of cultures designated Asian American through understanding women’s lives in historical, cultural, economic, and racial contexts.

WoSt 3410. La Chicana, (3 cr)
Focus on Chicanas or politically defined women of the Mexican-American community. Method is interdisciplinary, emphasizing the importance of historical context and cultural process to any discussion of the Chicana experience.

WoSt 3411. Las Mujeres, (3 cr; SP- 5 Chic 3402)
Focus on Chicanas, women of the Mexican-American community. Exploration of racial, economic, political, and gender issues of concern to all Mexican Americans and diverse Latino cultures.

WoSt 3490. Topics: Comparative and Global Studies, (3 cr)
Topics specified in Class Schedule.

WoSt 3501. Community, Service, and Self: Dynamics of Gender, Race, and Class, (3 cr; SP- WoSt major or minor or 8 cr WoSt or #)
Year-long, six-credit offering (with WoSt 3501) that combines a theoretical exploration of models of community service with hands-on involvement in local communities.

WoSt 3502. Community, Service, and Self: Dynamics of Gender, Race, and Class, (3 cr; SP- 3501)
Year-long, six-credit offering (with WoSt 3501) that combines a theoretical exploration of models of community service with hands-on involvement in local communities.

WoSt 3590. Topics: Civic and Community Studies, (3 cr)
Topics specified in Class Schedule.

WoSt 3593. Directed Study, (1-12 cr)
Topics specified in Class Schedule.

WoSt 3993. Directed Study, (1-12 cr)
Topics specified in Class Schedule.

For definitions of course numbers, symbols, and abbreviations, see inside back cover.
WoSt 5101. Feminist Approaches to Ethnography. (3 cr; SP–6–8 cr WoSt or feminist studies or soc sci grad student or #) Preparation for feminist ethnographic research in the social sciences. Using recent works by feminist ethnographers, focus is on the methods, politics, and ethics of feminist ethnography, as well as relevant race, class, and cross-cultural issues pertaining to fieldwork.

WoSt 5102. Feminist Approaches to History. (3 cr; SP–6–8 cr WoSt or grad student or #) Analysis and practice of feminist history. Theories, methods, and sources that address the intersectionality of gender, race, class, and sexuality.

WoSt 5103. Feminist Pedagogies. (3 cr; SP–9–12 cr WoSt or feminist studies grad student 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; SP–3102, 6–8 cr WoSt or feminist studies grad student or #) Western and non-western feminist theories in conversation. Attention to historical, cultural, and political context; the relation of theory to activism.

WoSt 5105. Gender and the Rhetoric of Science and Technology. (3 cr; SP–6–8 cr WoSt or grad student or #) How cultural gender roles are affected by science and technology as well as influence scientific and technological thinking and communication strategies.

WoSt 5106. The Cultural Construction of Sex, Gender, and Sexuality. (3 cr; SP–Feminist studies grad student or 9–12 cr WoSt or #) Investigation of Euro-American concepts of sex, gender, sexuality in representative texts and images from the 17th century to the present. Critical and source materials from literary and cultural studies, history, biology, anthropology, psychology, and sociology.

WoSt 5107. Gender, Culture, and Science. (3 cr; SP–9–12 cr WoSt or feminist studies or phil grad student or #) Critical study of some of the major papers concerning the relations of gender and scientific inquiry produced in the past 20 years.

WoSt 5190. Topics: Methods of Inquiry. (3 cr) Topics specified in Class Schedule.

WoSt 5201. Global Politics and Processes of Sexuality. (3 cr; SP–Feminist studies grad student or #) Comparative examination of the social construction of sexuality, including formal and informal norms and regulations, categories of deviance, representation of sex in the media and arts, and the role of sexuality in relation to agency and subjectivity.

WoSt 5202. Feminist Theories. (3 cr; SP–WoSt or psych major or grad student or #) Feminist and multicultural perspectives regarding theory and other helping forms for women, including philosophy of feminist theory; feminist ethics in therapy; gender, sexual identity, race and class in therapy, and related topics.

WoSt 5203. Women and Madness in History and Literature. (3 cr; SP–§3206, jr–3 cr WoSt or #) The lecture and madness and how it intersects with gender as well as class, race, sexual orientation, and nationality.

WoSt 5290. Topics: Biology, Psychology, and Social Perspectives. (3 cr; SP–9–12 cr WoSt or feminist studies grad student or #) Topics specified in Class Schedule.

WoSt 5390. Topics: Literature, Film, and Other Arts. (3 cr; SP–9–12 cr WoSt or feminist studies grad student or #) Topics specified in Class Schedule.

WoSt 5401. Lesbian Cultural Production. (3 cr; SP–3001, or feminist studies grad student or #) Lesbianism and lesbian identities as a product of cultural practices, relations, and meanings that are historically specific and historically changing.

WoSt 5402. History of Western Feminism. (4 cr; SP–§3402, 6–8 cr WoSt or grad student or #) Survey of the main currents in the history of Western feminist thought, politics, and social movements from the 17thons to the present.

WoSt 5403. Chicana/Latina Feminisms. (3 cr; SP–5 Chic 5403; 8 cr feminist studies and/or Chic grad student 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; SP–12 cr WoSt or #) Myths and realities surrounding working class women and their cultures. Use sociological and literary material in an effort to link, about working class women and to hear their own voices.

WoSt 5405. Chicanas: Women and Work. (3 cr; SP–6–8 cr WoSt or feminist studies or Chicano studies grad student or #) Chicanas and their various relationships to family and community; local, national, and global work forces. Exploration of larger questions and issues related to the growing integration of the world’s systems of production.

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

WoSt 5501. Women and the Law. (3 cr; SP–6–8 cr WoSt or pre-law or feminist studies grad student or #) The legal system as it relates to women: an historical and legal approach to issues related to the constitutional rights of women.

WoSt 5502. Women and Public Policy. (3 cr; SP–Jr or sr major or 9–12 cr WoSt or pol sci or pre-law or grad student or #) Study of public policy issues, processes, and histories as they affect women and children and gender related issues.

WoSt 5504. Honors: Legislative Internship. (3 cr; SP–4504 or equiv or grad student, Jr) Discussion group and learning community for students working as interns for a Minnesota legislator during the year’s legislative session.

WoSt 5505. Indigenous Women and Land Struggles. (3 cr; SP–6–8 cr WoSt and/or Chic and/or Amin or #) Representative land struggles by indigenous women from a critical race and gender perspective.

WoSt 5590. Topics: Civic and Community Studies. (3 cr [max 12 cr]) Topics specified in Class Schedule.

WoSt 5593. Directed Study. (1–12 cr [max 12 cr]; SP–) WoSt 5594. Directed Instruction. (1–12 cr [max 36 cr]; SP–)

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

**Wood and Paper Science (WPS)**

**Department of Wood and Paper Science College of Natural Resources**

**WPS 1001. Wood and Paper Science Profession Orientation.** (1 cr; S–N only) Intended for students who have an interest in entering the profession or interacting with forest products and paper manufacturing professionals in the future. Study how the industry converts forest resources into products while protecting the source of the raw material.

**WPS 1301. Wood as a Raw Material.** (4 cr; A-F only) Physical and chemical nature of wood and wood fiber. Raw material requirements, manufacturing processes, and product characteristics for principal forest materials. Examine world wood supply and consumption trends.

**WPS 1303. Wood Structure and Identification.** (1 cr; SP–1301 or #) Features of wood structure vital to identifying wood of various tree species and understanding physical properties of wood.

**WPS 3301. Wood Industry Tours.** (1 cr; SP–1301, Jr or Sr or SP–1301, Jr or Sr or #) A five-day bus tour consisting of visits to a dozen or more manufacturers representing a broad cross section of the wood-using industry.

**WPS 3305. Fundamentals of Lumber Grading.** (1 cr; SP–1301, 1303 or #) History, development, and practical application of hardwood and softwood lumber grading methods.

**WPS 3312. Building Materials Estimating.** (1 cr; SP–#) Modern methods of estimating quantity, grade, and specifications of building materials for light frame construction.

**WPS 3332. Introduction to Residential Construction.** (2 cr) Introduction to housing and construction terminology, building materials and components, and the design, construction, and sales process including basic building science concepts, blueprint reading, computer-aided design, and construction site logistics.

**WPS 3393. Directed Study Experience.** (1 cr [max 3 cr]; QP–SP–#) Opportunity to pursue experiences not available through independent study or extra credit. In consultation with an adviser, students develop a prospectus and complete progress reports and a final report on the project.

**WPS 3396. Industrial Internship (Industrial Assignment).** (1 cr; QP–WPS cooperative ed student; SP–WPS cooperative ed student; A-F only) Industrial work assignment in forest products cooperative education program. Evaluation based on formal report written by student at end of each semester of work assignment.

**WPS 4200. Honors Seminar.** (1 cr; QP–Admission to WPS honors program; SP–Admission to WPS honors program; A-F only) Lectures and discussions on current topics presented by faculty and students.

**WPS 4301. Statics and Engineering Mechanics.** (3 cr; SP–1301 or #) 1301 Sri, 3–5 cr WoSt or #) Statics; mechanics and strength of materials as applied to wood products.

**WPS 4302. Wood Chemistry.** (3 cr; SP–One 3xxx organic chem course; SP–Two 3xxx organic chem course; A-F only) Occurrence, biosynthesis, structure, and chemistry of the chief biopolymers and related lower molecular weight components in woody tissues; chemical and biochemical principles of pulping wood and bleaching pulp.

**WPS 4303. Wood Deterioration and Preservation.** (3 cr; SP–1301 or #) Deterioration of wood and wood products by bacteria, fungi, insects, marine organisms, fire, and weathering; methods of preservation and preservatives used. Lecture and lab.

**WPS 4304. Wood Drying.** (2 cr; QP–5300, 5303; SP–4303, 4309) Materials, equipment, processes, and technical considerations inherent in the industrial drying of wood products. Lectures, lab exercises, plant visits.

**WPS 4305. Pulp and Paper Technology.** (3 cr; QP–5300 or #) Pulp processes, fiber refining and processing, paper manufacturing, fiber and paper properties, paper recycling, water requirements and efficient treatment. Chemical and mechanical pulping, pulp preparation, secondary fiber, de-inking, wet end additives. Lab problems and exercises supplemented by lectures.
WPS 4306. Analysis of Production Systems. (2 cr; QP - 1301 or #; SP - 3300 recommended; SP - 1301 or # recommended) Engineering and economic analysis of manufacturing and distribution systems for wood-based products. Material balances, equipment selection, economic analysis, and presentation techniques.

WPS 4307. Wood-Base Panel Technology. (3 cr; QP - 5305, 5310, 5312, 4305; SP - 3301 or #) Design, manufacture, properties, and applications of structural and nonstructural wood-base panels. Adhesives and their application in the panel industry. Lecture and lab.

WPS 4308. Wood Machining. (2 cr; QP - 1301, 1303; SP - 1301, 1302, A-F only) History and fundamentals of wood machining processes. Analysis of tool and workpiece interaction and the effects on recovery efficiencies, tool wear, and surface condition. A basis of wood processing systems and technologies. Lectures, demonstrations, field trips.

WPS 4309. Wood-Fluid Relationships. (2 cr; QP - 1301; SP - 1301 or #) Moisture in wood and its relationship to density and specific gravity, shrinking and swelling, electrical properties, strength properties, thermocconductivity, absorption isotherms, dimensional stabilization, permeability, and insulation.

WPS 4313. Pulp and Paper Unit Operations. (2 cr; QP - 5305, 5312, 5333, CE 3400, ME 3301, ME 3324 or Chem 3102 or #; SP - 4305, Chem 4001, ME 3321, ME 3322, Math 2262 or #) Application of the principles of momentum, heat, and mass transfer to unit operations in the pulp and paper industry; fluid transport, filtration, shear flow, sedimentation, drainage, pressing, heat exchange, evaporation, washing, bleaching, humidification and drying, chemical and energy recovery. Computer simulation of multiple-stage systems.

WPS 4314. Papermaking Processes and Process Engineering Laboratory. (3 cr; QP - SP - 3305, 3310, 3311, 5312, 5313, 5359, CE 3400, ME 3301, ME 3342, SP - 4305, 4313, Chem 4001, MW 3421 or #) Theory and practice of the design and operation of paper machines and associated finishing and converting equipment. Experiments that illustrate and apply the principles of momentum, heat, and mass transfer. Operation and performance optimization of pilot-plant paper machine. Process engineering studies of industrial production systems.


WPS 4321. Material Science of Paper. (3 cr; QP - 5305, 5310, 5311, 5312, 5313, 5359, CE 3400, ME 3301, ME 3342, Chem 5520 or #; SP - 4301, 4305, Chem 4001, Chem 3501, ME 3321) In-depth study of the physical, chemical, and biological processes involved in the production of pulp and paper. Emphasis on the physical, chemical, and biological properties of wood and fibers. A basis for pulp and paper industry professionals. Lab experiments performed in the Department of Chemistry. A-F only.

WPS 4333. Systems Approach to Residential Construction. (2 cr) For builders, architects, and building materials suppliers. Energy, moisture control, and indoor air quality in residential buildings. Emphasis on design, construction, and operational aspects of the house to provide energy efficiency, durability, and a healthy environment. Interaction between moisture and wood products within the building system.

WPS 4334. Advanced Residential Building Science. (3 cr; QP - #; SP - 4301, 4303, 4333) This course is the foundation of building science theory and advanced applications for residential buildings. Build on previous coursework in building materials and systems with a focus on heat and mass transfer.

WPS 4335. Building Testing and Diagnostics. (2 cr; SP - 4323) Learn the theoretical basis for performance testing and demonstrate practical diagnostics applications for residential structures. Focus on existing structures and retrofit/maintenance applications. Specific equipment used includes digital differential pressure gages, blowers, door airflow hoods and grids, duct pressure testing, and infrared thermography. Several hands-on sessions for equipment use and problem solving experience.

WPS 4355. Mechanics and Structural Design with Wood Products. (3 cr; QP - 5301, SP - 4301 or CE student) Introduction to the design of wood structures through the study of loads and forces (gravity, seismic, and wind) on structural elements such as wood beams, columns, beam-columns, horizontal diaphragms, and shear walls. Yield limit equations are used to design dowelled joints.

WPS 4359. Surface, Colloids, and Coating Processes. (4 cr; QP - 3501 or #; Chem 3302, ME 3301, Chem 5520; SP - 4305, Chem 3501) Principles of surface and colloid chemistry applied to basic problems in pulp and paper manufacturing operations and product uses. Coating process and products (primarily paper); theory, techniques, and procedures for formulating and applying coatings; properties and uses of coated products.

WPS 4362. Pulping and Bleaching. (3 cr; QP - #; SP - 4302, 4305) Designed for paper science and engineering majors to become familiar with chemistry and technologies involved in production of paper-making raw material. Main focus on wood pulping/bleaching including non-wood fibers and recycled fiber materials.


WPS 4401. Forest Products Marketing. (4 cr; QP - 1301; SP - 1301; A-F only) Examine the marketing of forest products including the selling function. Focus on companies that distribute wood-based construction materials. Lecture, discussion, in-class role playing, and extensive use of case studies and guest presenters and field trips to local companies.

WPS 4405. Paper in Today’s World. (2 cr; QP - SP - 5305 (UC only); SP - 4305 (UC only)) Primarily for elementary and secondary school teachers although other interested students may enroll. Enables teachers to prepare a teaching unit on pulp and paper for use in an elementary, junior high, or senior high school science class. Not open to WPS majors.

WPS 4406. Understanding Wood. (1 cr; QP - UC only; SP - UC only) For woodworking professionals and serious woodworkers. Fundamental structure of wood, identification of hardwoods and softwoods, interaction of water and wood. No prior technical training in wood properties is needed, although general experience with woodworking is helpful.

WPS 4411. Application and Performance of Wood-Based Composites in Service. (2 cr; QP - 1301 or #410 or #; SP - 1301 or 4426 or #) Directed toward forest products marketing and manufacturing professionals, architects, and commercial/residential design engineers. Physical and mechanical properties of wood-based composites and proper composite applications and installations.

WPS 4491. Senior Topics (Independent Study). (1-4 cr; SP - 59, SP - 59, SP - 59) Independent study in an area of interest to an undergraduate majoring in one of the fields within the College of Natural Resources.

WPS 4801. Honors Research. (2 cr; QP - Admission to WPS honors program; SP - Admission to WPS upper div honors program; A-F only) First semester of an independent research project supervised by a faculty member.

WPS 4802. Honors Research. (2 cr; QP - Admission to WPS honors program; SP - Admission to WPS upper div honors program; A-F only) Students complete honors thesis and present an oral report.

---

**Work, Community, and Family Education (WCFE)**

**Department of Work, Community, and Family Education**

**College of Education and Human Development**

WCFE 3011. Introduction to Technology and Public Ethics. (3 cr) Nature of technology. Values and ethical issues related to technology. Technology and the transformation of the workplace, family, and community life.

WCFE 5002. Thinking, Learning, and Teaching in WCFE. (3 cr; A-F only) Nature of thinking and learning in everyday life contexts of family, work, and community. Theory and practice relevant to stimulating and supporting thinking and learning in and for these contexts.


WCFE 5021. Learning Through Service. (3 cr) Service as both a philosophy and method of learning. Content covers both the theory and the practice of service in school-based and community-based organizations.

WCFE 5031. Information Resources in Education. (3 cr; S-N only) Sources of knowledge and search strategies for accessing library, electronic, institutional, and informal resources of interest to educators.

WCFE 5101. Introduction to Leadership and Administration of WCFE. (3 cr) Basic concepts of finance, public relations, communications, legal aspects, leadership, personnel policies and management, program planning and development, evaluation, and interinstitutional collaboration of work, community, and family education programs in school-based settings.

WCFE 5102. Leadership in WCFE. (2 cr) An introduction to the concepts of leadership, leadership roles and responsibilities, and application to work, community, and family education settings.

WCFE 5121. Principles of Supervisory Management. (3 cr) Introduction to the principles of supervision in education, business, industry, government, and service organizations.
WCFE 5125. Critical Pedagogy. (3 cr; S-N only) Examination of critical pedagogy; critique of power relations regarding race, class, culture, gender, and age in various educational settings; consideration of improved practice in education for children, youth, and adults.

WCFE 5131. Planning WCFE. (3 cr) An examination of educational planning and evaluation of work, community, and family education contexts and settings.

WCFE 5201. Family and Work Relationships. (3 cr; A-F only) Examination of the interactions of work and family to prepare professionals to improve work and family relationships.

WCFE 5301. Philosophy and Practice of Vocational Education. (2 cr; A-F only) Purposes, recipients, practices, legislation and funding, socioeconomic contexts of work, community, and family education.

WCFE 5331. Coordination Techniques for Work and Community Education. (3 cr) Purposes of cooperative work and community education; responsibilities of instructor coordinator; guidance, selection, placement, supervision and evaluation of students; articulation of related instruction; training, sponsor identification, orientation, development, and evaluation; management of the program.

WCFE 5341. Global Program Delivery Techniques and Technology. (2 cr; SP-3AgEE 5341; A-F only) 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; SP-3AgEE 5351; A-F only) Sociological and cultural parameters as they pertain to promoting the adoption of improved practices in rural, community, 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 5400. Special Topics in Youth Development Leadership. (1-4 cr [max 4 cr]) An examination of important social and political topics of current interest to youth development practitioners with an emphasis on leadership implications for practice in youth agencies, congregations, schools, and other community settings. Content varies by offering.

WCFE 5411. The Everyday Lives of Youth. (3 cr; A-F only) Lived realities of body, time, space, other, and self from an existential and phenomenological perspective.

WCFE 5412. Experiential Learning: Theory and Practice. (3 cr; A-F only) Examine the theory and practices of learning by doing. Emphasis on the educator’s personal engagement in the actual process to understand the technical, motivational, and evaluative aspects of experiential learning.

WCFE 5413. Nonformal Education in Youth-Serving Organizations. (3 cr; A-F only) Examination of the language, historical influences and educational philosophies fundamental to youth development work in organizations serving youth.

WCFE 5414. Issues in Youth Development Leadership. (3 cr; A-F only) An examination of issues that drive the professional practice of community-based youth work. Participants engage experts from the family, community, schools, and workplace to develop a deeper understanding of how public issues and policy affect the everyday lives of youth.

WCFE 5451. Seminar in Youth Development Leadership. (1 cr [max 4 cr] S-N only) Applies the principles of healthy youth development, nonformal learning venues, and experiential education to the practice and policies of community-based youth work. Individual and group projects focus on applied research, community-based teaching and learning, and foundations of ethical practice. Four-course sequence.

WCFE 5496. Leadership Field Experience: Youth Development. (3 cr; S-N only) Field experience to demonstrate leadership in support of healthy youth development. Work in agency dedicated to community-based youth programming, education, public policy, and advocacy for children, youth, and families.

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

WCFE 5521. School-to-Work Policies. (3 cr) Examination of the aims and purposes, federal and state policies, educational reform, and issues and concepts relating to school-to-work education.

WCFE 5522. School-to-Work Practices. (3 cr) Examination of learning in context; curricular integration; educational system articulation; educational partnerships; best practices in school-based, work-based, service-based learning, and connecting activities; building community support; and leadership relating to school-to-work education.

WCFE 5696. Teaching Internship: Introduction. (1 cr; SP-Admission to an initial program; S-N only) Initial experiences in the teaching profession provided through observations of school organization and administration, seminars, relationship building with cooperating teachers, and a reflection on personal involvement as a beginning student teacher.

WCFE 5697. Teaching Internship: School and Classroom Settings. (2 cr; SP-5696 for initial program) Part-time supervised teaching experience in a school. Seminars on managing student’s learning in the 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]; SP-Admission to an initial program) Teaching experience in a school system that provides programs for grades 5-12.

WCFE 5699. Teaching Internship: Extended Practice. (1 cr; SP-5698) An extended student teaching experience in a school system that provides programs for grades 5-12.

WCFE 5771. 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 educational traits of students with disabilities and disadvantaged conditions in work, community, and family settings.

WCFE 5802. Interagency Collaboration for Special Populations in Work, Community, and Family Settings. (2 cr) Interagency planning issues and practices relating to special populations for educational, business, human resource organization personnel, as well as family members and advocates.


WCFE 5822. Diversity and Organizational Transformation in Education, Work, and Community. (2 cr; SP-$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 WCFE. (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 WCFE. (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 5990. Special Topics in WCFE. (1-4 cr [max 4 cr]; SP-∆) Content varies by offering.

WCFE 5993. Directed Study in WCFE. (1.4 cr [max 4 cr]; SP-∆) Self-directed study, with faculty advice, in areas not covered by regular courses.

Youth Development and Research (YoSt)

School of Social Work

College of Human Ecology

YoSt 2001. Introduction to Youth Studies. (2 cr) Introduction to the issues of youth and adolescents in their everyday lives. Policies, programs, and services for youth and adolescents.

YoSt 3101. Introduction to Youth Work. (2 cr; QP-1 gen psy course, 1 gen soc course; SP-1 gen psy course, 1 gen soc course) Explore settings in which youth work is done: schools, informal education, juvenile justice, mental and physical health organizations, religious organizations. Key issues, policy and programmatic responses; philosophy, values, roles, tasks of youth workers, and career patterns.

YoSt 5031. Youth in the World. (3 cr; QP-Upper div AdPty course; SP-Upper div AdPty 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.

YoSt 5032. Child and Adolescent Psychology for Practitioners. (3 cr; QP-At least one course in ed psych or child or adolescent psych; SP-At least one course 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; QP-$3100, 5330, $SP-$3101, 5032 or eqv, $YS111, #) 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; QP–5201, 5330, # SP–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; QP–5201, 5202, # SP–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; QP–5201, 5202, # SP–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; QP–Two soc/anth courses, youth agency or org work exper; SP–Two soc/anth courses, youth agency or org work exper) 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; QP–Two soc sciences courses, exper working with youth or # SP–Two soc sciences 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] QP–Two soc sciences courses, exper with youth or # SP–Two soc sciences courses, exper 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; QP–Two soc sciences courses, exper working with youth or # SP–Two soc sciences 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]; QP–# SP–#) Independent reading and/or research under faculty supervision.

YoSt 5301. Communicating with Adolescents About Sexuality. (2 cr; QP–Upper div AdPy course, exper working with youth or # SP–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; QP–Two soc sciences courses, exper working with youth or # SP–Two soc sciences 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 “life space” in everyday life, rather than in one-to-one office-based interactions.

YoSt 5321. Work with Youth—Individual. (2 cr; QP–5330 or equiv or # SP–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—Groups. (2 cr; QP–5230 or equiv or # SP–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; QP–5230 or 5330 or # SP–5321 or upper div AdPy course or #) Increase knowledge and understanding of adolescent group needs and associations; increase knowledge of group process; and enhance skill in working with groups of adolescents in the community, in group living situations, and in group therapy.

YoSt 5402. Youth Policy: Enhancing Healthy Development in Everyday Life. (3 cr; QP–Two soc sciences courses, exper working with youth or # SP–Two soc sciences 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.

For definitions of course numbers, symbols, and abbreviations, see inside back cover.