

Course Numbers, Symbols, and Abbreviations

Check the University Catalogs website at www.catalogs.umn.edu for the most current course information. The courses in this catalog are not offered every semester. To find out whether a course is offered during a particular semester, consult the online *Class Schedule* at onestop.umn.edu/registrar/registration/courses.html.

Course Designators

In conjunction with course numbers, departments and programs are identified by a 2-, 3-, or 4-letter designator prefix (e.g., CE for Civil Engineering, POL for Political Science, ECON for Economics). When no designator precedes the number of a course listed as a prerequisite, that prerequisite course is in the same department as the course being described.

Course Numbers

- 0xxx** Courses that do not carry credit toward any University degree.
- 1xxx** Courses primarily for undergraduate students in their first year of study.
- 2xxx** Courses primarily for undergraduate students in their second year of study.
- 3xxx** Courses primarily for undergraduate students in their third year of study.
- 4xxx** Courses primarily for undergraduate students in their fourth year of study; graduate students may enroll in such courses for degree credit. 4xxx courses can be counted for a Graduate School degree if the course is taught by a member of the graduate faculty or an individual appointed to Limited Teaching Status (LTS).
- 5xxx** Courses primarily for graduate students; undergraduate students in their third or fourth year may enroll in such courses.

Course Symbols

The following symbols are used throughout the course prerequisites of most University catalogs to denote common and recurring items of information.

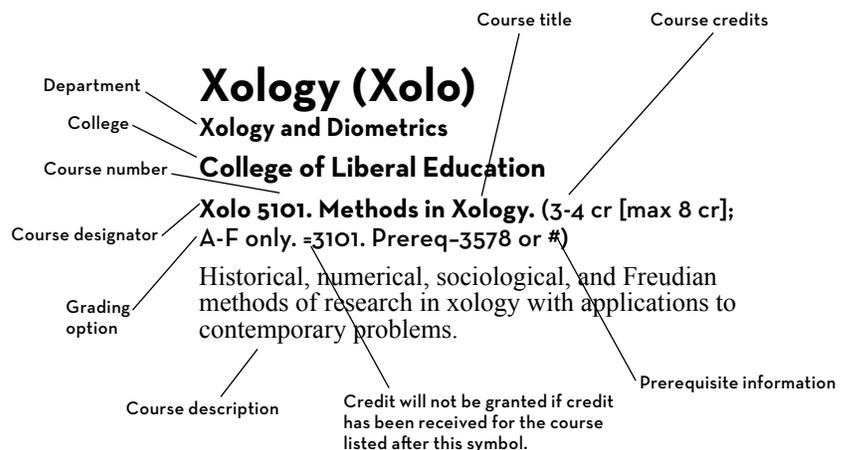
- =** Credit will not be granted if credit has been received for the course listed after this symbol.
- &** Concurrent registration is required (or allowed) in the course listed after this symbol.
- #** Approval of the instructor is required for registration.
- %** Approval of the department offering the course is required for registration.
- @** Approval of the college offering the course is required for registration.
- ,** In prerequisite listings, comma means "and."
- 1-4 cr [max 6]** ... The course can be taken for 1 to 4 credits and may be repeated for up to 6 credits.

Abbreviations

The following abbreviations are used throughout the course prerequisites of most University catalogs to denote common and recurring items of information.

- Prereq** Course prerequisites.
- cr** Credit.
- div** Division.
- DUS** Director of undergraduate studies.
- equiv** Equivalent.
- fr, soph, jr, sr** Freshman, sophomore, junior, senior.
- H** Honors. Courses with an H following the course number satisfy honors requirements.
- V** Honors and Writing Intensive. Courses with a V following the course number satisfy both honors and liberal education writing intensive requirements.
- W** Writing Intensive. Courses with a W following the course number satisfy the writing intensive requirement for liberal education.
- A-F only** A-F grade basis only; course may not be audited or take pass/fail
- A-F or Aud** A-F grade basis, or course may be audited for no grade
- S-N only** S-N grade basis only (pass/fail), course may not be audited or taken A-F
- S-N or Aud** S-N grade basis (pass/fail), or course may be audited for no grade
- No Grade** No grade will be given for the course; typically used for laboratory components of courses
- OPT No Aud** Student selects the grading option; course may not be audited
- Stdnt Opt** Student selects the grading option; course may be audited

Course Listing Sample



American Sign Language (ASL)

ASL 1001. Beginning American Sign Language I. (4 cr. ; Student Option; Every Fall)

Students develop a working vocabulary of conceptually based signs. Emphasis is on receptive abilities. Students develop an awareness of the history of sign language and explore various signing systems, their most common uses, and the cultural rules and values of American Deaf culture. [Note: no credit for students who have received cr for Ed 1011]

ASL 1002. Beginning American Sign Language II. (FL; 4 cr. ; Student Option; Periodic Spring)

Continuation of the sequence beginning with 1001. Students develop a working vocabulary of conceptually based signs, receptive ability, and an awareness of the history of sign language. They also explore various signing systems, their most common uses, and the cultural rules and values of American Deaf culture. [Note: no credit for students who have received cr for Ed 1012] prereq: 1001 or placement or instr consent

Anthropology (ANTH)

ANTH 1103. People of the Past: Introduction to Archaeology. (SS; 4 cr. ; Student Option; Every Spring)

Survey of prehistoric and early historic cultures from around the world. Covers the development of hunting and gathering societies, origins of agriculture, and growth of urbanization and state-level societies.

ANTH 1111. Introductory Cultural Anthropology. (SS; 4 cr. ; Student Option; Every Fall)

Varieties and range of human behavior as revealed through the comparative study of cultures throughout the world. Concepts developed by anthropologists to explain both the unity and diversity of humankind.

ANTH 1201. Becoming Human: Introduction to Biological Anthropology. (SCI-L; 5 cr. ; A-F only; Every Spring)

What is human nature, and how did we get this way? The class covers evolutionary theory, modern human biodiversity, our primate relatives, and human evolution. Includes a 90-minute lab session.

ANTH 1812. Human Societies: Past and Present, Fact and Fiction. (IC; 4 cr. ; Student Option; Periodic Fall)

Consider fictional representations of human societies in the fantasy, science fiction, and alternate history genres. Compare these to ethnographic and archaeological readings, exploring the diversity of human societies, all around the world, from our earliest human ancestors through the modern era, with particular focus on social/political structures, gender roles, religion, and ethnicity. Consider what factors most strongly affect the structure of human societies, how these are or are not

reflected in fiction, and how fiction reflects the authors' beliefs of what constitute the fundamental aspects of humankind, human personalities, and human societies. prereq: new college student in their first semester of enrollment at UMM

ANTH 1813. Culture on TV: An Introduction to Anthropology. (IC; 2 cr. ; Student Option; Periodic Fall)

Introduction to basic anthropological concepts using popular depictions of "culture" and anthropology in the media, specifically, in reality TV. Students watch clips or episodes of TV shows like "Cops," "Sister Wives," "Run's House," and "Deadliest Catch." These serve as a springboard to critical engagement with anthropological concerns and concepts like cultural relativism, ethics of research and entertainment, religion, gift exchange, sexuality, gender, marriage, and kinship. prereq: new college student in their first semester of enrollment at UMM

ANTH 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) Individualized on- or off-campus research project or other learning activity not covered in the regular Anthropology curriculum. Topic determined by the student and instructor.

ANTH 2001. How We Study People: Introduction to Methods in Cultural Anthropology. (SS; 2 cr. ; Student Option; Every Spring) Survey of methods in cultural anthropology. prereq: any 1xxx Anth course

ANTH 2002. Learning from the Dead: Introduction to Methods in Archaeology and Biological Anthropology. (SS; 2 cr. ; Student Option; Every Spring) Survey of archaeological methods (lithic and ceramic analysis, zooarchaeology, paleoethnobotany, geoarchaeology, etc.), as well as biological anthropology methods (genetics, paleoanthropology, bioarchaeology, etc.). Introduction to data interpretation and site formation processes. Includes lecture and hands-on work with archaeological and biological anthropology materials. prereq: any 1xxx Anth course

ANTH 2121. Reading Ethnography. (SS; 4 cr. ; Student Option; Periodic Fall) Survey of ethnography (a key genre of anthropology writing) including classical and contemporary works. Consider issues about how research is conducted, how it is represented in writing, and ethics and consider the variety of ways in which anthropologists approach their work. Some locations, topics, and approaches may be determined by student interests.

ANTH 2151. Professional Skills in Anthropology. (SS; 2 cr. ; Student Option; Every Fall) An overview of academic and practical skills needed in the study of anthropology and in anthropology-related careers, including field-specific presentation and writing skills. Includes discussion and examples of career paths in and outside of academia. prereq: any 1xxx Anth course

ANTH 2152. Applied Anthropology. (SS; 2 cr. ; Student Option; Periodic Fall) An overview of academic and practical skills needed in the study of anthropology and in anthropology-related careers, including field-specific presentation and writing skills. Includes discussion and examples of career paths in and outside of academia. Class includes community-based learning and service-learning component. prereq: any 1xxx Anth course

ANTH 2202. Men and Masculinities. (SS; 4 cr. ; Student Option; Periodic Fall) Introduction to the field of men and masculinity. Examines cultural construction of masculinity in sports, family, work, media, and other social realms, with a focus on contemporary American, Chinese, Mexican, and Japanese societies. Highlights the multiple masculinities that exist, showing which are privileged and what effects this hierarchy of masculinities has. Topics include men's movements and networks, men's socialization, male sexuality and fertility, male aggression and violence, the idea of machismo, intimacy and friendship among males, fatherhood, men's experiences with sports and work, media representations of boys and men, and the social construction of masculinities in different historical and cultural contexts. Helps students understand how masculinity as a social concept affects their relationships with the people in their lives, approaching gender problems in a rational way, and developing cultural sensitivity toward masculinity issues.

ANTH 2204. Anthropology of Education: Learning and Schooling in Ethnographic Perspective. (SS; 4 cr. ; Student Option; Periodic Spring) Introduction to the central concepts and methods used by cultural anthropologists to study and understand educational processes. Exploration of approaches to diverse educational settings, including both formal and informal contexts. The seminar-style format of the course emphasizes critical thinking and encourages students to connect the readings and course topics to their own lives and experiences.

ANTH 2206. Sex, Marriage, and Family. (HDIV; 4 cr. ; Student Option; Periodic Spring) Introduction to classic anthropological theories of sexuality, kinship, and marriage. Consider how emotional and experiential aspects of sex, marriage, and family life--love and romance as well as conflict and control--are shaped by formal arrangements known as "social structure." Topics such as gift-exchange, cousin-marriage, patrilineal and matrilineal descent, incest, arranged marriage, and the concept of "blood" relations in North American families are addressed. Also explore recent anthropological work on such topics as transnational adoption, marriage migration, and new reproductive technologies.

ANTH 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) Individualized on- or off-campus research project or other learning activity not covered in the regular anthropology curriculum. Topic determined by the student and instructor.

ANTH 3001. Theory in Cultural Anthropology. (2 cr. ; A-F only; Every Spring)
Examines the historical development of cultural anthropological theory, influences that shaped historical and contemporary theories in cultural anthropology, and major debates regarding their interpretation. [Note: no credit for students who have received cr for Anth 4901] prereq: any 2xxx Anth course

ANTH 3002. Theory in Archaeology and Biological Anthropology. (2 cr. ; Student Option; Every Fall)
Development of theoretical foundation for archaeology and biological anthropology, particularly evolutionary theory, ecological theory, and middle-range theory. Influences that shaped historical and contemporary theory in archaeology and biological anthropology. prereq: 2001 or 2002

ANTH 3251. Health and Human Ecology. (ENVT; 2 cr. ; Student Option; Fall Odd Year)
Exploration of human ecology with an emphasis on human health and demographics, the relationship between socio-environmental factors and human health/demographics, and the evolution of human adaptations. prereq: any Anth 1xxx course

ANTH 3402. Representations from the Field: American Indian Ethnography and Ethnohistory. (HDIV; 4 cr. ; Student Option; Periodic Fall)
Same as Hist 3402. An analysis of ethnographic and ethnohistoric materials focusing on specific American Indian cultures.

ANTH 3455. North American Archaeology. (SS; 4 cr. ; Student Option; Periodic Fall & Spring)
The archaeology of the societies located in the current United States and Canada prior to European colonization. Includes the earliest human colonization of North America (circa 12,000 years ago), early hunting and gathering societies, the development of agriculture, and the formation of complex chiefdoms. Emphasis on the diversity of cultures, languages, economies, and environments found throughout precontact North America.

ANTH 3461. Archaeology of Eurasia and Africa. (SS; 4 cr. ; Student Option; Periodic Fall)
The archaeology of Europe, Asia, and Africa, from 30,000 years ago up to the development of state-level societies on all three continents. Focus is on prehistory and non-Classical societies.

ANTH 3502. Latinos in the Midwest. (SS; 4 cr. ; Student Option; Periodic Spring)
Explore the history and experiences of Latinos in the Midwest United States. Starting from a historical perspective, the course examines issues including (im)migration, undocumented status, language, religion, race/ethnicity, media, and economy. A comparative framework emphasizes the unique context of migration into (rather than out of) rural communities as well as those far from a national border. Given the context of the local Morris community, the focus is particularly on rural Latino experiences.

ANTH 3603. Latin American Archaeology. (SS; 4 cr. ; Student Option; Periodic Fall & Spring)
Latin America from the earliest human colonization to European contact. Includes societies from northern Mexico through Tierra del Fuego, as well as the Caribbean. Covers early hunting gathering societies, origins of agriculture, the rise of powerful states and empires, and their influence on later Colonial-period societies.

ANTH 3604. Gender and Sexuality in Latin America. (IP; 4 cr. ; Student Option; Periodic Spring)
A survey of gender and sexuality in contemporary Latin America. Course readings attend to the ways gender and sexuality intersect with factors such as race, ethnicity, social class, and religion. Topics include women's activism, public health, LGBTQ activism, tourism, and globalized labor.

ANTH 3701. Forensic Anthropology. (SCI-L; 4 cr. ; Student Option; Fall Odd Year)
Recovery, identification, and analysis of human skeletal remains, including investigation techniques, identification of age, sex, ancestry, and cause of death. Two 65-min lectures and one 2-hour lab weekly. prereq: 2101 or Biol 2102

ANTH 3704. Anthropological Genetics. (4 cr. ; A-F only; Periodic Fall)
Genetic variation in *Homo sapiens*, links between genes and behavior, and environmental effects on gene expression. Inheritance, "race," and population genetics. Genetics as a data source in paleoanthropology, including DNA recovered from fossil hominins. Human genetic change since the development of agriculture. Basic bioinformatic methods. prereq: 2101 or Biol 1111

ANTH 3705. The Archaeology of Death and Burial. (4 cr. ; Student Option; Spring Even Year)
The study of human remains in archaeological sites, with particular attention to the analysis of mortuary behavior and reconstruction of demographic processes from buried populations. Covers theory, methodology, results, and ethics in the subfield of bioarchaeology. prereq: 1103

ANTH 3751. Primatology. (SCI; 2 cr. ; Student Option; Periodic Spring)
A survey of non-human primates (monkeys, apes, and prosimians), with a focus on their physical and behavioral adaptations. Also covers basic methods in primatology, the evolution of primate taxonomic groups, and modern conservation status.

ANTH 3761. Human Fossil Record. (SCI; 2 cr. ; Student Option; Periodic Spring)
In-depth exploration of the human evolution through the fossil record, from the last common ancestor with chimpanzees (around 6 million years ago) up to the extinction of the last pre-modern human (sub)species. prereq: 1201

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

Individualized on- or off-campus research project or other learning activity not covered in the regular anthropology curriculum. Topic determined by the student and instructor.

ANTH 4411. Research in Cultural Anthropology. (E/CR; 4 cr. ; A-F only; Every Fall)
Exploration and evaluation of methods used in cultural anthropology; qualitative methods; research ethics; and design of qualitative research project. prereq: 1111, 2001

ANTH 4412. Research in Archaeology and Biological Anthropology. (4 cr. ; Student Option; Every Fall)
Exploration and evaluation of methods used in archaeology and biological anthropology; quantitative methods; research ethics; design of research project. prereq: 2002

ANTH 4501. Archaeological Fieldschool. (SS; 4 cr. [max 8 cr.] ; Student Option; Periodic Summer)
Experience in archaeological fieldwork, including excavation, survey, artifact processing, and living under field conditions. prereq: instr consent

ANTH 4902. Senior Seminar. (2 cr. ; A-F only; Every Spring)
Seminar to guide anthropology majors in the completion of a directed study project; selection, definition, and execution of research project. Completion of seminar with research paper and public presentation of research results. prereq: 4411 or 4412

ANTH 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
Individualized on- or off-campus research project or other learning activity not covered in the regular anthropology curriculum. Topic determined by the student and instructor.

Art Education Methods (ARTE)

ARTE 4123. Methods of Teaching Art K-12. (4 cr. ; A-F only; Every Fall)
Objectives, curricula, special methods, materials, and evaluation appropriate for teaching art in K-12. prereq: admission to the secondary teacher education program, coreq SeEd 4102, SeEd 4103, SeEd 4104, SeEd 4105

Art History (ARTH)

ARTH 1101. Interpreting the Visual World: An Introduction to Art History. (FA; 4 cr. ; Student Option; Periodic Fall & Spring)
We live in a visual culture - yet to what extent do we look deeply at, or think critically about, the art that surrounds us? This course introduces students to the field of art history and develops their abilities to more carefully observe, analyze, interpret, and appreciate works of art of the past and present.

ARTH 1111. Ancient to Medieval Art. (FA; 4 cr. ; Student Option; Every Fall)
Survey of the major works of art of western Europe from its origins in the Paleolithic period through to the full development of the

Gothic era. Includes the monuments of ancient Mesopotamia, Egypt, Greece, and Rome as well as those of the Early Christian and Romanesque periods. Also includes some treatment of non-Western traditions in this era.

ARTH 1121. Renaissance to Modern Art.

(FA; 4 cr. ; Student Option; Every Spring)
Survey of the major works of art of western Europe and the United States from 1400 to the present.

ARTH 1131. Art Beyond the West: Legacies of Colonialism and Imperialism.

(FA; 4 cr. ; Student Option; Periodic Fall & Spring)
Exploration of the cultural and historical heritage of the many regions that fall outside of the Western canon: Asia, the Native Americas, Oceania, Africa, and the Middle East. Students gain an understanding of art in a global context and examine art from prehistory to today with a focus on the effects of colonization on art practice.

ARTH 1801. Memorials and Memorialization.

(IC; 2 cr. ; Student Option; Periodic Fall)
An exploration of the ways in which cultures throughout time have sought to commemorate life, and death, through visual forms. Examines various types of memorials, including monuments, tombstones, quilts, and tattoos, and considers how these visual media express that which may elude words. prereq: new college student in their first semester of enrollment at UMM

ARTH 1802. We Live in a World of Art and Heritage.

(IC; 2 cr. [max 4 cr.] ; Student Option; Periodic Fall)
An introduction to the theories, methods, and vocabulary of art history. Involves development of basic skills of research, analysis, and interpretation of individual works of art. Helps the student to understand the intrinsic as well as the historical-cultural meanings of works of art. prereq: new college student in their first semester of enrollment at UMM

ARTH 2102. Art and Archaeology of Ancient Greece.

(FA; 4 cr. ; Student Option; Fall Odd Year)
Beginning with the Bronze Age civilizations of the Aegean (Minoan, Cycladic, and Mycenaean), this course follows the development of the painting, sculpture, and architecture of ancient Greece, concentrating on the Classical period in Athens and the Hellenistic period in the Mediterranean. prereq: any 1xxx Arth course or sophomore status or instr consent

ARTH 2103. Art and Archaeology of Ancient Rome.

(FA; 4 cr. ; Student Option; Spring Even Year)
In-depth study of Roman art and archaeology beginning with the Villanovans and Etruscans and ending with the rise of Early Christian art. Focus on the public and political art of the various emperors. prereq: any 1xxx Arth course or sophomore status or instr consent

ARTH 2104. Irish Art and Archaeology. (FA; 4 cr. ; Student Option; Periodic Fall & Spring)
Ireland looms large in our imaginations and remains a bucket list item for many. Yet, what

is it exactly that one sees when one visits the emerald isle? This course introduces students to the rich artistic and architectural heritage of Ireland and the various historical, literary, social, political, and environmental forces that shaped it. prereq: any 1xxx Arth course or soph status or instr consent

ARTH 2105. Latin American Art: Pre-Columbian to Modern Art.

(FA; 4 cr. ; Student Option; Periodic Fall & Spring)
Examination of art, society, and culture in Latin America, 1200 BCE to today. Consider Latin America's diverse cultural production, looking in particular at artists' relationships to gender, religion, and power. Special attention is paid to Latin America's enduring legacies as well as to its dynamic processes of change. prereq: any 1xxx Arth course or soph status or instr consent

ARTH 2106. Rome, Jerusalem, and Constantinople: The Art of Three Ancient Capitals.

(FA; 4 cr. ; Student Option; Periodic Spring)
Rome, Jerusalem, and Constantinople were important capitals of the medieval world and their study offers an exciting window into the major empires of the time. This course introduces students to Byzantine, Islamic, and Late Antique art and architecture as reflected in the monuments of these three cities over their long histories. prereq: any 1xxx Arth course or soph status or instr consent

ARTH 3112. Faith, Image, and Power: Art and the Byzantine Empire.

(FA; 4 cr. ; Student Option; Fall Even Year)
How are the seemingly unrelated strands of faith and power combined to make art in the Byzantine Empire? This course explores this question through a chronological and socio-political treatment of Byzantine art and the various roles that it acquired. Examine political art, religious art, and the many ways in which they were combined. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3113. Early Islamic Art and Culture.

(FA; 4 cr. ; Student Option; Spring Odd Year)
An investigation of Islamic art and architecture in both the secular and religious realm. Examination of these works in the context of the cultures and historical periods that produced them. Begins with the birth of Islamic art and continues up until the Ayyubid dynasty (14th century). prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3132. Castles and Cathedrals.

(FA; 4 cr. ; Student Option; Spring Even Year)
An investigation of the two major forms of architectural construction in the Middle Ages. Exploration of the development of the cathedral and castle as architectural forms and examination of the circumstances surrounding their evolution through the medieval period. Examples are drawn from continental Europe, the British Isles, and the Levant. prereq: any 1xxx Arth course or instr consent

ARTH 3142. Art of the Italian Renaissance, 1300-1520. (FA; 4 cr. ; Student Option; Spring Even Year)

A variety of methods (including stylistic, gender, and contextual theories) are used to explore the painting and sculpture of such artists as Giotto, Donatello, Leonardo, Raphael, and Michelangelo. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3161. After Leonardo: Mannerist and Venetian Renaissance Art.

(FA; 4 cr. ; Student Option; Fall Odd Year)
An investigation of the fascinating trends in Italian 16th-century art considered through the lenses of art theory, biography, social history, and style. Includes discussion of such artists as Michelangelo, Parmigianino, Bellini, and Titian. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3171. Baroque Art.

(FA; 4 cr. ; Student Option; Spring Odd Year)
A sociohistorical consideration of the stylistic and thematic diversity present in the works of such 17th-century masters as Caravaggio, Bernini, Velazquez, Rembrandt, and Vermeer. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3191. American Art to 1900.

(FA; 4 cr. ; Student Option; Periodic Fall & Spring)
A thematic exploration of the role of painting, sculpture, and the decorative arts in American society, from colonial times to 1900. Topics include the landscape and Manifest Destiny, American icons, folk art, and the representation of American Indians, African Americans, and women. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3201. Nineteenth-Century Art.

(FA; 4 cr. ; Student Option; Fall Odd Year)
Survey of major movements from Neoclassicism through Romanticism, Realism, and Impressionism to Post-Impressionism. Attention is given to iconographical and formal analysis as well as to the social conditions in which artists lived and worked. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3211. Modern Art from Impressionism to Surrealism.

(FA; 4 cr. ; Student Option; Spring Even Year)
Survey of the major early modernist movements from Symbolism through Cubism, Futurism, Expressionism, Constructivism, De Stijl, and the Bauhaus to Surrealism. Attention is given to theories of modern art as well as to formal and iconographical analyses and to the social conditions in which modern art was created and experienced. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3221. Contemporary Art, 1950 to the Present.

(FA; 4 cr. ; Student Option; Fall Even Year)
An examination of selected artists and movements from the 1940s through the present. Equal emphasis is given to the art and the social context in which it was made and experienced, and to modernist and postmodernist aesthetic and critical thought. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3231. History of Photography. (FA; 4 cr. ; Student Option; Spring Odd Year)

Survey of European and American photography from the period of invention to the present. Major artists and movements are examined in the context of a variety of aesthetic, social, and technical issues. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3241. African American Art. (FA; 4 cr. ; Student Option; Fall Even Year) Survey of African American art from colonial times to the present, focusing on social context and aesthetic and biographical issues. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3261. Chinese Art. (FA; 4 cr. ; Student Option; Spring Odd Year) Survey of Chinese arts from the Neolithic times to the 20th century, presented in the context of Chinese culture. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3272. Athens, Art, and Theatre. (FA; 4 cr. ; Student Option; Periodic Fall & Spring) Classical Athens was a special place. It produced works of art and theatre that are still considered cultural treasures today. Combining archaeological, art historical, and textual sources, explore the context of these great works and looks at their interaction with one another and with performances on the Morris campus today. prereq: any 1xxx Arth course or instr consent; attendance at evening UMM theatre performance required

ARTH 3273. Ars Otii: The Art of Roman Leisure. (FA; 4 cr. ; Student Option; Periodic Fall & Spring)

What did Romans do in their free time? Explore the art of daily life in ancient Rome focusing on themes and activities related to leisure. Outside the home, Romans bathed, hunted, and went to the theatre. Inside the home, they held lavish dinner parties. In all of these activities, status and social display were of central concern. prereq: any 1xxx Arth course or instr consent

ARTH 3274. Modern Art in Germany. (FA; 4 cr. ; Student Option; Periodic Fall & Spring) Survey of modern art in Germany from the late 19th century through WWII, examining many important movements, tendencies, figures, and issues. It includes the Secessions, Die Brücke, Blue Rider, Dada, the Bauhaus, New Vision, and New Objectivity and studies painting, photography, film, and design. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3281. Women and Art. (FA; 4 cr. ; Student Option; Fall Even Year) A historical survey of women's roles as creators and patrons of the visual arts in Western European and American societies, from antiquity to the present. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3291. Facing the Past: Portraiture and Social History. (FA; 4 cr. ; Student Option; Periodic Fall & Spring)

This seminar examines functions and formats of portraits created primarily in Western Europe between 1400-1800, in order to gain greater insight as to how various social identities (such as that of husband and wife, child, friend, and

freak of nature) were visually constructed and verbally interpreted. prereq: any 1xxx Arth course or jr status or instr consent

ARTH 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) Content and nature of the course to be determined by faculty and student consultation. May include individual research and writing, working in relation to the Art Gallery program, or travel and study. Prereq-Any 1xxx Arth class or jr status

ARTH 4810. Practicum in Art History Pedagogy. (1-4 cr. [max 8 cr.] ; S-N only; Every Fall & Spring)

An individualized, hands-on, guided study of the process of teaching Art History. As part of a formal affiliation with an Arth course, the student undertakes selected learning activities under supervision of the course instructor such as discussion group leader, test review leader, research assistant, and/or other teaching-related activities. Prereq-which requires an Arth major or minor or double-major, must already have taken the 1xxx-level Arth course that they wish to complete this practicum in conjunction with

ARTH 4901. Capstone Assessment of Student Experience in Art History. (1 cr. ; S-N or Audit; Every Fall & Spring)

Allows students majoring in art history to reflect on the connections among the different courses and experiences they have had in the discipline by compiling a portfolio of their work, writing a short paper, and discussing their experiences with the faculty and other majors. prereq: Arth major, instr consent

ARTH 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

Content and nature of the course to be determined by faculty and student consultation. May include individual research and writing, working in relation to the Art Gallery program, or travel and study. Prereq-Any 1xxx Arth class or jr status

Art, Studio (ARTS)

ARTS 1001. Visual Studies for Non-Majors: Drawing. (ART/P; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

For nonmajors with little or no experience in drawing. Exploration of observational drawing skills through line work in contour and gesture, continuing with studies in value, texture, and space. Contemporary and traditional modes of drawing explored using a variety of materials. [Note: no elective cr for ArtS majors or minors; materials fee required]

ARTS 1002. Visual Studies for Non-Majors: Digitally Assisted Design. (ART/P; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Development of skills necessary to produce digital imagery, including fundamental aesthetic concerns (composition, color theory, mark-making, etc.) and knowledge of digital media with emphasis on the technical, conceptual, aesthetic, and ethical aspects of digital imaging as an artistic medium. [Note: no elective cr for ArtS majors or minors; materials fee required]

ARTS 1003. Visual Studies for Non-Majors: Beginning Painting. (ART/P; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring) The development of painting as a means of artistic expression including basic technical, material, and formal compositional problems. For nonmajors with little or no previous experience in painting. [Note: no elective cr for ArtS majors or minors; materials fee required]

ARTS 1004. Visual Studies for Non-Majors: Printmaking. (ART/P; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Development of skills necessary to produce imagery using printmaking as a means of expression, including the development of fundamental aesthetic concerns (composition, color theory, mark-making, etc.). For nonmajors with little or no studio experience. [Note: no elective cr for ArtS majors or minors; materials fee required]

ARTS 1005. Visual Studies for Non-Majors: Photography. (ART/P; 3 cr. [max 6 cr.] ; Student Option; Periodic Fall & Spring)

Development of skills necessary to produce imagery using black and white photography as a means of expression, including an introduction to processes, materials, brief history, and critical skills to evaluate photographs. Students must provide their own 35 mm cameras. For nonmajors with little or no studio experience. [Note: no elective cr for ArtS majors or minors; materials fee required]

ARTS 1050. Beginning Ceramics. (ART/P; 3 cr. [max 6 cr.] ; Student Option; Every Fall)

Personal expression through the medium of clay. Topics include forming methods using stoneware and porcelain (hand building and wheel techniques), glazing, the nature of clay, glaze chemistry, firing, and kilns. [Note: materials fee required]

ARTS 1101. Basic Studio Drawing I. (ART/P; 2 cr. ; Student Option; Every Fall)

Preparation for advanced work in studio art. Basic exercises of drawing, use and exploration of materials and methods in line and form development, problems of spatial representation. [Note: materials fee required] prereq: coreq 1103, 1105; one 1xxx Arth course recommended during the same year

ARTS 1102. Basic Studio Drawing II. (ART/P; 2 cr. ; Student Option; Every Spring)

Preparation for advanced work in studio art. Basic exercises of drawing, use and exploration of materials and methods in line and form development, problems of spatial representation. [Note: materials fee required] prereq: 1101, coreq 1104, 1106; one 1xxx Arth course recommended during the same year

ARTS 1103. Basic Studio 2-D Design. (ART/P; 2 cr. ; Student Option; Every Fall)

Preparation for advanced work in studio art. Elements of two-dimensional design and color theory, introduction to painting and printmaking. [Note: materials fee required] prereq: coreq 1101, 1105; one 1xxx Arth course recommended during the same year

ARTS 1104. Basic Studio 3-D Design. (ART/P; 2 cr. ; Student Option; Every Spring)

Preparation for advanced work in studio art. Elements of three-dimensional design, introduction to sculpture. [Note: materials fee required] prereq: 1103, coreq 1102, 1106; one 1xxx ArtH course recommended during the same year

ARTS 1105. Basic Studio Discussion I. (ART/P; 1 cr. ; Student Option; Every Fall) Preparation for advanced work in studio art. Theories, philosophy, history of visual arts, contemporary trends in art, selected readings. prereq: coreq 1101, 1103; one 1xxx ArtH course recommended during the same year

ARTS 1106. Basic Studio Discussion II. (ART/P; 1 cr. ; Student Option; Every Spring) Preparation for advanced work in studio art. Theories, philosophy, history of visual arts, contemporary trends in art, selected readings. prereq: 1105, coreq 1102, 1104; one 1xxx ArtH course recommended during the same year

ARTS 1300. Watercolor Painting. (ART/P; 3 cr. ; Student Option; Periodic Fall & Spring) An introduction to various painting techniques in watercolor. [Note: materials fee required]

ARTS 1606. Film Studies and The Creative Process. (ART/P; 3 cr. ; Student Option; Every Fall & Spring) Develops students' abilities to understand the construction of films and prepares students for film and video production. Focuses on major international movements in the history of documentary, fiction, or experimental film and video. Students create short videos linked to their understanding of the technologies, cinematic techniques, and the theoretical framework of films in these movements. [Note: students need a device capable of recording video, like a smart phone or similar device; materials fee required]

ARTS 1801. Mural Project and Public Art. (IC; 2 cr. ; Student Option; Periodic Fall) Understanding and exploration of contemporary mural art through reading, writing, and production of art. Collaborative production of a large-scale painted mural in a public setting. Designed for students who have a working knowledge of the basic principles and skills of art such as drawing, 2D and 3D design, composition, and color theory. prereq: new college student in their first semester of enrollment at UMM

ARTS 1802. 2D Studies in Printmaking. (IC; 2 cr. ; Student Option; Periodic Fall) Introduces two-dimensional design concerns through the study of traditional printmaking techniques. Referencing the rich history of socially engaged printmaking as a guide for their own creative process, students learn how to visually express their own ideas related to contemporary social, political, and environmental concerns. prereq: new college student in their first semester of enrollment at UMM

ARTS 1900. Fashion Trashion: Where Style Meets Sustainability. (ART/P; 1 cr. [max 3 cr.] ; Student Option; Every Spring) Studies in fashion, sustainability, and artistic performance culminating in a final project to design and complete a wearable item from

recycled, repurposed, and reimagined items for display in a group runway fashion show. [Note: students must participate in spring runway show in April, held in the evening; materials fee required]

ARTS 2101. Drawing From Life I. (ART/P; 3 cr. ; Student Option; Every Fall) Via the study of human anatomy, the course increases and improves students' knowledge and skill in drawing as a traditional art form and as a preparation for work in other media. [Note: materials fee required] prereq: major or minor or instr consent

ARTS 2102. Drawing From Life II. (ART/P; 3 cr. ; Student Option; Every Spring) Allows students to use skills previously gained that relate to drawing the human form in a more individual way, integrates those skills with new ideas, and explores experimental drawing directions. [Note: materials fee required] prereq: 2101 recommended

ARTS 3002. Media Studies: Artist's Books. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) Personal expression through artist's books. Designed for students who have a working knowledge of the basic principles and skills of art such as drawing, 2D and 3D design, composition, and color theory. [Note: materials fee required] prereq: major or minor or instr consent

ARTS 3004. Media Studies: Mural Project and Public Art. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) Understanding and exploration of contemporary mural art through reading, writing, and production of art. Collaborative production of a large-scale painted mural in a public setting. Designed for students who have a working knowledge of the basic principles and skills of art such as drawing, 2D and 3D design, composition, and color theory. [Note: materials fee required] prereq: major or minor or instr consent

ARTS 3006. Media Studies: Feminist Art: A Studio Perspective. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) The impact of the women's movement of the 1970s on contemporary art. Exploration of the notion of "women's work" as a studio practice; the materials, methods, and issues that define feminist work. [Note: materials fee required] prereq: major or minor or instr consent

ARTS 3007. Media Studies: Printmaking. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) Study of and practice in various contemporary methods of printmaking: application of drawing skills, color, composition, and personal expression to alternative printmaking techniques. [Note: materials fee required] prereq: major or minor or instr consent

ARTS 3012. Media Studies: Ceramics. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) Study of and practice in specialized methods and techniques in ceramics not covered under the regular curriculum. [Note: materials fee required] prereq: major or minor in ArtS

ARTS 3013. Media Studies: Painting. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) Study of and practice in various contemporary methods in painting: application of drawing skills, color, composition, and personal expression to alternative painting techniques. [Note: materials fee required] prereq: ArtS major or minor

ARTS 3014. Media Studies: Fabric as Form. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall, Spring & Summer) Focus on the possibilities of fabric as the primary medium in art making. Topics include surface manipulation via hand and mechanical processes and using fabric to construct independent forms. [Note: materials fee required] prereq: major or minor or instr consent

ARTS 3100. Advanced Drawing I. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Fall) Continued development of the skills and understandings required by traditional problems of drawing. [Note: materials fee required] prereq: 2101, 2102 recommended

ARTS 3110. Advanced Drawing II. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Spring) Emphasizes self-direction, experimental approaches and materials, and study of contemporary concepts. [Note: materials fee required] prereq: 2101, 2102; 3100 recommended

ARTS 3200. Printmaking Studio I. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Fall) Study of and practice in various methods of printmaking: application of drawing skills, color, composition, and personal expression to printmaking techniques. [Note: materials fee required] prereq: major or minor or instr consent for nonmajor jrs and srs

ARTS 3210. Printmaking Studio II. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Spring) Study of and practice in various methods of printmaking: application of drawing skills, color, composition, and personal expression to printmaking techniques. [Note: materials fee required] prereq: major or minor or instr consent for nonmajor jrs and srs

ARTS 3300. Painting Studio I. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Fall) The development of painting as a means of artistic expression including basic technical, material, and formal compositional problems. [Note: materials fee required] prereq: major or minor or instr consent for nonmajor jrs and srs

ARTS 3310. Painting Studio II. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Spring) The development of painting as a means of artistic expression including basic technical, material, and formal compositional problems. [Note: materials fee required] prereq: major or minor or instr consent for nonmajor jrs and srs

ARTS 3400. Sculpture Studio I. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Fall) Exploration of sculpture as a means of artistic expression, including an introduction to the planning and construction of three-dimensional

forms using both traditional and contemporary techniques. [Note: materials fee required] prereq: major or minor or instr consent for nonmajor jrs and srs

ARTS 3410. Sculpture Studio II. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Spring) Exploration of sculpture as a means of artistic expression, including an introduction to the planning and construction of three-dimensional forms using both traditional and contemporary techniques. [Note: materials fee required] prereq: major or minor or instr consent for nonmajor jrs and srs

ARTS 3500. Photographic and Digital Processes I. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Fall) The development of photographic and digital processes as a means of artistic expression including basic technical, material, and formal compositional problems. [Note: materials fee required] prereq: major or minor or instr consent

ARTS 3510. Photographic and Digital Processes II. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Every Spring) The development of photographic and digital processes as a means of artistic expression including basic technical, material, and formal compositional problems. [Note: materials fee required] prereq: major or minor or instr consent

ARTS 3650. Advanced Ceramics. (ART/P; 3 cr. [max 9 cr.] ; Student Option; Periodic Fall & Spring) For students who have a working knowledge of basic forming and glazing techniques. Emphasis on advanced hand building and wheel techniques, critiques, glaze experiments, and firing. Assigned projects for the course may vary from semester to semester. [Note: materials fee required] prereq: 1050 or instr consent

ARTS 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ARTS 4902. Senior Thesis Project I. (2 cr. ; A-F only; Every Fall) A two-semester sequential capstone course for majors, with a focus on the planning and preparation of a senior exhibit and the investigation of other professional skills. Group seminars include portfolio presentation, framing, interviewing, grant writing, and graduate school application. Individual creative research projects focus on development of a thesis and slide talk to accompany the final body of work exhibited in the HFA Gallery during the spring semester. Students participate in a portfolio review by the studio art and art history faculty, concentrating on work from the major medium and other work completed since the Second-Year Portfolio Review. Time of the review is arranged through the discipline coordinator. [Note: materials fee required] prereq: senior ArtS major, completion of Second Year Portfolio Review

ARTS 4903. Senior Thesis Project II. (1 cr. ; A-F only; Every Spring) A two-semester sequential capstone course for majors, with a focus on the planning and preparation of a senior exhibit and investigation of other professional skills. Students continue to develop and refine the thesis, slide lecture, and install work in the HFA Gallery during the spring semester for the Senior Exhibit. [Note: materials fee required] prereq: 4902

ARTS 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Biology (BIOL)

BIOL 1002. Human Nutrition. (SCI; 3 cr. ; Student Option; Every Spring) Nutrients essential to human life and well-being. Digestion, absorption, and metabolism of nutrients. Changes in metabolism during disease. Nutrients and their roles. Sports nutrition, weight loss/gain diets, nutritional myths. (two 65-min lect)[Note: no elective cr for biol majors or minors]

BIOL 1051. Wildlife Biology. (SCI-L; 4 cr. ; Student Option; Periodic Fall & Spring) Biological principles and practices illustrated through studies of North American wildlife. Wildlife taxonomy, identification, migration and dispersal, ecological relationships, contemporary problems associated with human activities. (two 65-min lect, one 120-180 min lab/field study)[Note: no elective cr for biol majors or minors]

BIOL 1052. Introduction to Conservation Biology. (SCI-L; 4 cr. ; Student Option; Periodic Spring) Survey of topics in conservation biology, with emphasis on topics that have created controversy and debate: loss of biodiversity; endangered species preservation and management, habitat conservation, environmental degradation, and sustainable development. (two 65-min lect, one 120- or 180-min lab or field study)[Note: no elective cr for biol majors or minors]

BIOL 1054. Introduction to Immunology and Infectious Disease. (SCI; 2 cr. ; Student Option; Periodic Summer) Basic concepts of immunology, how the immune system protects people from infectious diseases (HIV, influenza, Ebola, and malaria), and how infectious diseases have shaped history.

BIOL 1071. Plants of Minnesota. (SCI-L; 4 cr. ; Student Option; Periodic Summer) Introduction to plant structure and function, especially those found in Minnesota: ecology, physiology, evolution, and conservation. Labs emphasize plant identification and anatomy. [Note: no elective cr for biol majors or minors]

BIOL 1111. Fundamentals of Genetics, Evolution, and Development. (SCI; 3 cr. ; Student Option; Every Fall & Spring)

Introduction to scientific methods and the history of biology, with an emphasis on mechanisms of inheritance, development, and descent with modification. Overview of pre-Darwinian scientific thought; the theory of evolution; a qualitative introduction to genetics and molecular biology; and a summary of developmental biology. (two 75-min lect) prereq: biol major/minor or chem major or any health sciences preprofessional program or EEd or SeEd major with middle school science specialties or instr consent

BIOL 1801. The Animals Around Us: Wildlife of Minnesota. (IC; 4 cr. ; Student Option; Periodic Fall) Discussion and examination of basic biological principles illustrated through studies of North American wildlife. Topics include movements and migration, behavior, conservation, and ecological relationships. Students research and discuss wildlife-related issues, and work together to learn how to identify species found in Minnesota. At least one field trip to observe local wildlife; additional field trips, time and weather permitting. (two 65-min lect, one 180-min lab or field study) prereq: new college student in their first semester of enrollment at UMM

BIOL 1803. Scientific and Cultural Perspectives of Vaccines and Epidemics. (IC; 2 cr. ; Student Option; Periodic Fall) Exploration of the science behind vaccines and epidemics, the ways in which vaccines and epidemics are portrayed in our culture, and how epidemics have shaped history. Includes a service-learning component in which students design and implement a public health campaign to encourage flu vaccinations on campus. prereq: new college student in their first semester of enrollment at UMM

BIOL 2101. Evolution of Biodiversity. (SCI-L; 4 cr. ; Student Option; Every Spring) Analysis of evolutionary trends using historical and contemporary evidence. Principles of classification and phylogenetic reconstruction. Includes laboratory survey of the major groups of organisms. (two 65-min lect, one 180-min lab) prereq: C- or better in 1101 or 1111 or instr consent

BIOL 2102. Human Anatomy. (4 cr. ; Student Option; Every Fall) Same as SSA 2102. Structure of human systems at their organ and cellular level. (two 75-min lect, one 120-min lab)[Note: no elective cr for biol majors or minors] prereq: soph

BIOL 2103. Introduction to Human Physiology. (SCI; 4 cr. ; Student Option; Every Spring) Function of human systems at organ, cell, and molecular levels. (three 65-min lect)[Note: no elective cr for biology majors or minors] prereq: 2102 or SSA 2102 or instr consent

BIOL 2111. Cell Biology. (SCI-L; 4 cr. ; Student Option; Every Fall) Cell structure and function. Includes topics pertaining to the chemistry, physiology, structure, and reproduction of plant and animal cells. (three 65-min lect and one 120-min lab)

prereq: C- or better in 1101 or 1111, Chem 1102 or instr consent

BIOL 3121. Molecular Biology. (SCI-L; 5 cr. ; Student Option; Every Fall & Spring)
Principles and mechanisms of DNA function, protein synthesis, and gene regulation in prokaryotes and eukaryotes. Genetic engineering and evolution at the molecular level. (two 100-min lect, 180-min lab, additional lab time arranged) prereq: C- or better in 2111, Chem 2301 or instr consent

BIOL 3131. Ecology. (SCI-L; 4 cr. ; Student Option; Every Fall)
Basic principles and models of population biology, community structure and function, and ecosystem dynamics. Lab exercises emphasize field work, techniques for characterizing local plant and animal communities, and experimental investigation of topics such as competition and behavioral ecology. (two 65-min lect, one 180-min lab and field study; weekend field trip required) prereq: C- or better in Biol 2101 or EnSt 2101, Stat 1601 or Stat 2601, or instr consent

BIOL 3700. Biological Communication I. (1 cr. ; Student Option; Every Fall & Spring)
Finding and utilizing sources of biological information. Modern techniques for searching the biological literature, as well as reading and interpreting those sources. Principles of technical written and oral communication in biology. prereq: Biol 2101, 2111

BIOL 3701. Biological Communication II. (1 cr. ; Student Option; Every Fall & Spring)
Writing, editing, and revising an extensive review paper on a biological topic under the mentorship of a faculty member. Multiple drafts and revisions are expected. prereq: 3700, instr consent

BIOL 4003. Neurobiology. (4 cr. ; Student Option; Periodic Fall)
Survey of general principles of neuronal function and formation. Emphasis on comparative aspects of simple nervous systems. prereq: 2111

BIOL 4071. Flora of Minnesota. (4 cr. ; Student Option; Periodic Summer)
Identification, ecology, and conservation of vascular plants found in Minnesota. Labs and field trips emphasize plant identification and anatomy. prereq: Biol 2101

BIOL 4103. Cancer Biology. (4 cr. ; Student Option; Periodic Fall)
Examining cancer processes from a genetic, molecular, and developmental perspective, identifying the cellular events behind uncontrolled growth and metastasis, cell cycle control, apoptosis, and cell signaling and signal transduction. Exploring genetic and environmental factors that can induce cancers. prereq: 2111

BIOL 4104. Cell Signaling Mechanisms. (4 cr. ; Student Option; Periodic Spring)
Comparison of common cell signaling mechanisms in prokaryotic and eukaryotic organisms. Basic concepts in regulation of protein activity, followed by a survey of how different organisms have modified these

processes for specific functions. Includes student presentations of primary literature to illustrate specific examples at the organismal level. prereq: 3121 or instr consent

BIOL 4111. Microbiology. (4 cr. ; Student Option; Every Spring)
The biology of pathogenesis and the treatment and prevention of infectious disease. Emphasis on prokaryotic microbes and viruses. (two 65-min lect, one 180-min lab) prereq: 2111, prereq or coreq 3121 or instr consent

BIOL 4121. Herpetology. (4 cr. ; Student Option; Spring Odd Year)
Survey of amphibians and reptiles, including their evolution, systematics, identification, behavior, ecological relationships, and contemporary problems associated with human activities. (two 65-min lect, one 180-min lab or field study) prereq: Biol 2101 or EnSt 2101 or instr consent

BIOL 4122. Virology. (4 cr. ; Student Option; Spring Odd Year)
An overview of virus biology. Consider evolutionary origins of viruses and compare structure, genome organization, replication strategies, and other features of common and unique viruses. (two 100-min lect) prereq: 3121 or instr consent

BIOL 4131. Vertebrate Natural History. (4 cr. ; Student Option; Fall Even Year)
Survey of vertebrates, including their evolution, systematics, and ecological relationships. (two 65-min lect, one 180-min lab or field study) prereq: Biol 2101 or EnSt 2101 or instr consent

BIOL 4151. Entomology. (4 cr. ; Student Option; Fall Even Year)
Structure, life histories, habits, and classification of common families of insects, including their economic significance. (two 65-min lect, 180-min lab) prereq: Biol 2101 or EnSt 2101 or instr consent

BIOL 4161. Evolution. (4 cr. ; Student Option; Spring Odd Year)
Survey of the history, evidence, and mechanisms of organic evolution. (three 65-min lect) prereq: Biol 2101, 2111 or instr consent

BIOL 4172. Plant Systematics. (4 cr. ; Student Option; Spring Even Year)
Survey of vascular plant taxa, with an emphasis on the flowering plant families and their evolutionary relationships. Lab emphasizes use of keys for identification of Midwestern plant families and genera. (two 65-min lect, 180-min lab) prereq: 2101 or EnSt 2101 or instr consent

BIOL 4181. Developmental Biology. (4 cr. ; Student Option; Periodic Fall & Spring)
Survey of general concepts in developmental biology, emphasizing molecular mechanisms of positional information, pattern formation, and cellular interactions. Stresses comparative aspects of developmental processes, and the role of development in evolution. (two 65-min lectures, one 180-min lab) prereq: 2111; 4312 recommended

BIOL 4182. Ecological Developmental Biology. (4 cr. ; A-F only; Periodic Spring)

Integrates the fields of ecology, development, and evolution. Topics covered include plasticity, environmental interactions in embryology, and the medical consequences of teratogens and other developmental perturbations. (three 65-min lect) prereq: 3131

BIOL 4191. Freshwater Biology. (4 cr. ; Student Option; Fall Odd Year)
Structure, function, and biota of freshwater ecosystems, including lakes, streams, and wetlands. Lab emphasizes independent research and field study in local habitats. (two 65-min lect, one 180-min lab; all day field trip required) prereq: Biol 2101 or EnSt 2101, 2111 and prereq or coreq Stat 1601 or 2601 or instr consent

BIOL 4211. Biochemistry. (4 cr. ; Student Option; Every Fall)
Structures, functions, and biochemical transformations of proteins, carbohydrates, and lipids. (three 65-min lect) Optional lab offered. See Biol 4611. prereq: Chem 2302 or Chem 2304, prereq or coreq Biol 3121, or instr consent

BIOL 4231. Immunology. (4 cr. ; Student Option; Periodic Spring)
An introduction to the cellular and molecular aspects of immunology that are involved in health and disease. Students consider these concepts through discussion of primary literature and clinical scenarios. prereq or coreq: 3121 or instr consent

BIOL 4241. Our Tiny Predators: Ecology, Infection, Disease. (4 cr. ; Student Option; Periodic Spring)
Combines ecological concepts and models with interdisciplinary perspectives to understand dynamics of our tiny predators, including basic epidemiology and evolutionary biology of pathogens; predicting, preventing and eradicating disease; and historical perspectives. prereq: Biol 2101 or EnSt 2101, Stat 1601 or 2601 or #

BIOL 4301. Plant Biology. (4 cr. ; Student Option; Fall Even Year)
Descriptive and experimental study of plants. Anatomy, development, physiology, secondary compounds, evolution, human uses of plants. (two 65-min lect, one 180-min lab) prereq: Biol 2101, 2111 or instr consent

BIOL 4312. Genetics. (4 cr. ; Student Option; Every Spring)
Principles and mechanics of inheritance and variation, including cytological, organismal, and population genetics; mechanisms of evolution; and the genetic problems of humans. (two 65-min lect, 180-min lab) prereq: 2111 or instr consent

BIOL 4321. Animal Physiology. (4 cr. ; Student Option; Periodic Spring)
Functions of animal structures as they relate to coping with different environmental situations. (two 65-min lect, one 120-min lab) prereq: 2101, 2111

BIOL 4332. Ecology of Agriculture and Forestry. (ENVT; 4 cr. ; Student Option; Spring Odd Year)

Global and regional aspects of agriculture, forestry, and biofuel production in the context of community and ecosystem ecology. Nutrient cycling, carbon management, biodiversity, and the ecological challenges of feeding and providing energy to 9-12 billion people in the face of global climate change. Emphasis on analysis of primary literature. Short local field trips required. prereq: 3131 or instr consent

BIOL 4333. Biogeochemistry and Global Change. (4 cr. ; Student Option; Spring Even Year)

Cycling of elements vital to life, particularly, nitrogen (N), phosphorus (P), and carbon (C). Focus on understanding the feedback between physical and ecological processes and the biologically driven coupling of nutrient cycles. Analysis of humans as drivers of change in the biogeochemistry of ecosystems. Heavy emphasis on current primary literature. prereq: 3131 or instr consent

BIOL 4334. Forest Ecology. (4 cr. ; Student Option; Periodic Spring)

Study of forests and forest dynamics at the individual to landscape scale, with an emphasis on analysis of primary literature. Topics include response of forests and forest trees to environmental change, the impact of invasive species, individual and population growth models, community assembly, stand- and landscape-level management, paleoecology, and theoretical consideration of the forces that cause and maintain forest species diversity. prereq: 3131 or instr consent

BIOL 4351. Conservation Biology. (4 cr. ; Student Option; Spring Odd Year)

Conservation theory and practice, including threats to biodiversity and approaches to overcoming them. Topics include: habitat loss and fragmentation, overexploitation, climate change and invasive species, population viability analysis using demographic and genetic models, reserve design and management and ex situ measures. Emphasis on primary literature. (two 65-min lect, one 180-min lab). prereq: Biol 2101 or EnSt 2101, Biol 3131 or instr consent

BIOL 4600. Practicum in Biology. (1-2 cr. [max 4 cr.] ; S-N only; Every Fall & Spring)

Supervised experience of selected activities; lab preparation/management, greenhouse care/management, animal care, curating museum/herbarium collections. Repeatable with different projects or activities. [Note: no elective cr for biol majors or minors]

BIOL 4611. Biochemistry Lab. (1 cr. ; Student Option; Every Fall)

Experiments using the major separation and analytical techniques of biochemistry, including centrifugation, chromatography, electrophoresis, immunochemistry, and spectrophotometry. (one 180-minute lab) prereq: (or coreq) 4211

BIOL 4901. Senior Seminar. (1 cr. ; Student Option; Every Fall)

Seminar series on selected biological topics. Includes preparation and presentation of a seminar based on original research and/or

scientific literature. Enroll in fall, continues all year. prereq: 3701, sr or instr consent; required of all sr biology majors; full-year course begins fall sem

BIOL 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Chemistry (CHEM)

CHEM 1001. Chemistry for the Curious Citizen: The Role of Chemistry in the Environment and Everyday Life. (SCI-L; 4 cr. ; Student Option; Periodic Summer)

The central nature and relevance of chemistry to the environment and everyday life. Air quality, the ozone layer, global warming, energy resources, acid rain, and nutrition. Discussion and debate of current events related to these topics. Select readings on significant historical chemical discoveries in these areas that still resonate today. Basic chemistry lab principles and techniques. This course is intended for non-science majors. [Note: may not count toward chem major or minor]

CHEM 1006. The Chemical World. (SCI; 4 cr. ; Student Option; Periodic Summer)

An online course intended for non-science majors that introduces the basic principles of chemistry with special emphasis on everyday life and sustainability. Course topics reflect a variety of current societal and technological issues and the chemical principles embedded in them. [Note: recommended for non-science majors to fulfill the Gen Ed science requirement] prereq: Math 0901 (or placement at Math 1012 or higher)

CHEM 1007. The Chemical World with Lab. (SCI-L; 5 cr. ; Student Option; Periodic Summer)

An online course intended for non-science majors that introduces the basic principles of chemistry with special emphasis on everyday life and sustainability. Course topics reflect a variety of current societal and technological issues and the chemical principles embedded in them. The laboratory component of the course includes hands-on activities related to concepts presented in the online lecture with an emphasis on scientific methods and basic lab techniques. [Note: recommended for non-science majors to fulfill the Gen Ed science with lab requirement] prereq: Math 0901 or placement at Math 1012 or higher

CHEM 1101. General Chemistry I. (SCI-L; 5 cr. ; Student Option; Every Fall)

Scientific method, measurements, nomenclature, stoichiometry, atomic and molecular structure, thermochemistry, chemical periodicity, introduction to chemical bonding, and properties of common elements and ions. Development of scientific reasoning and problem-solving skills. Laboratory exercises concomitant with these topics. (three 65-min lect, 180 min lab) prereq: Math 0901 or

placement beyond Math 0901 using ACT/ placement exam score

CHEM 1102. General Chemistry II. (SCI-L; 5 cr. ; Student Option; Every Spring)

Continuation of Chem 1101. Chemical bonding, states of matter, solutions, acid-base chemistry, chemical equilibrium, oxidation-reduction reactions, kinetics, thermodynamics, quantum theory, nuclear chemistry, organic chemistry, and biochemistry. Lab exercises concomitant with these topics. (three 65-min lect, 180 min lab) prereq: 1101

CHEM 1553. Chemistry, Empirical Inquiry, and Cultural Confluence in Thailand. (IP; 4 cr. ; Student Option; Periodic Summer)

Science is seen as objective and equally applicable all over the world. This doesn't mean that science doesn't benefit from a diversity of cultural points of view among scientists. Topics included are molecular structure, thermodynamics, equilibrium, and spectroscopy. These topics, with their universal relevance in chemistry, also provide a doorway for cultural exchange. This course offers an opportunity to study chemistry while immersed in the culture of Thailand, a Southeast Asian country never colonized by a western power. The course takes place on the campuses of Mahasarakham University, Kasetsart University, and cities, villages, and National Parks in Thailand. Discussion and lab activities are designed to build on topics from Chem 1102 and be culturally relevant and collaborative between students and faculty from UMM and universities in Thailand. The course provides a balance of perspectives both eastern and western, modern and traditional. prereq: 1102 or instr consent

CHEM 1801. Science Savvy in Our Modern World. (IC; 2 cr. ; Student Option; Periodic Fall)

If students and chemistry were in a Facebook relationship, the status would be "it's complicated." Some students love science and some love to hate it. "America's Finest News Source," The Onion, has repeatedly reported that "science is hard" but are they right? Chemistry is too important in our modern world to be ignored simply because it's complicated or perceived to be hard. Some science is hard but just because a science topic is complex doesn't mean that it can only be understood by rocket scientists. Through written reflections and discussions based on mainstream science books and current event articles, students explore the connections between science and society. The course helps students to understand the role of experts and bias in the reporting. The course also helps students to become more science literate about the green and sustainable activities on campus. Ultimately, this course fosters a relationship where students both need and want to be engaged with chemistry. prereq: new college student in their first semester of enrollment at UMM

CHEM 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a

faculty member for academic credit in areas not covered in the regular curriculum.

CHEM 1994. Directed Research. (1-5 cr. [max 10 cr.]; Student Option; Every Fall & Spring)

An on- or off-campus undergraduate research experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CHEM 2301. Organic Chemistry I. (SCI; 4 cr. ; Student Option; Every Fall)

Introduction to the structure and reactivity of organic molecules; nomenclature and functional groups; stereochemistry; mechanisms of substitution and elimination pathways; physical organic chemistry; introduction to synthetic strategy; fundamentals of spectroscopic techniques. prereq: 1102

CHEM 2302. Organic Chemistry II. (SCI; 4 cr. ; Student Option; Every Spring)

Continuation of topics from Chem 2301; spectroscopy; chemistry of polyenes, aromatic systems, and amines; enol and enolate chemistry; free-radical chemistry; retrosynthetic analysis; special topics. prereq: C or better in 2301, coreq 2321 or instr consent for chem majors

CHEM 2304. Organic Chemistry II with a Biological Emphasis. (SCI; 4 cr. ; Student Option; Periodic Spring)

Continuation of topics from Chem 2301, with an emphasis on compounds and reactions of biological interest. Topics include spectroscopy, structure and reactivity of aromatic compounds, phosphoryl and acyl group transfer, nucleophilic carbonyl addition, reactions involving enolate and enamine intermediates, coenzyme chemistry, electrophilic addition, beta elimination, oxidation and reduction of organic compounds, and reactions involving free radical intermediates. prereq: C or better in 2301, Biol 2111 or instr consent

CHEM 2311. Organic Chemistry Lab I. (1 cr. ; Student Option; Every Fall)

Development of lab techniques in organic chemistry; experimental problem-solving. (3 hrs lab) prereq: coreq 2301 or instr consent

CHEM 2321. Introduction to Research I. (1 cr. ; Student Option; Every Spring)

Interdisciplinary approach to experiment design and analysis of data. Synthesis of organic, organometallic, and/or inorganic compounds, with emphasis on purification and characterization using advanced techniques and instrumental methods. Instruction in use of the scientific literature and scientific communication. Begin research project with faculty mentor. (6 hrs lab) prereq: 2311, coreq 2302 or 2304 or instr consent

CHEM 2322. Introduction to Research II. (1 cr. ; Student Option; Every Spring)

Continue research with faculty mentor. Experiment design and analysis of data. Instruction in the use of the scientific literature and oral and written scientific communication. (6 hrs lab) Prereq-2321, coreq 2302 or 2304

CHEM 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CHEM 2994. Directed Research. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus undergraduate research experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CHEM 3101. Analytical Chemistry. (SCI-L; 4 cr. ; Student Option; Every Fall)

The application of chemical equilibria to chemical analysis with emphasis on the fundamental quantitative aspects of analytical chemistry. Acid-base, oxidation-reduction, and complexometric titrations, introduction to electrochemical and spectrophotometric analyses and separations. (3 hrs lect, 3 hrs lab) prereq: 1102

CHEM 3301. The Chemistry of Sustainable Energy. (SCI; 4 cr. ; Student Option; Fall Even Year)

Same as ESci 3301. The fundamental chemical concepts underlying energy sources. Topics include: energy basics, fossil fuels, "sustainable" energy sources, biomass, solar voltaics, hydrogen fuel cells, and nuclear energy. prereq: 2302 or 2304 or instr consent

CHEM 3406. Polymer Properties and Characterization. (2 cr. ; Student Option; Periodic Spring)

Introduction to the principles and history of polymer chemistry with an emphasis on polymer properties, their characterization, and sustainable sources. prereq: 2302 or 2304

CHEM 3407. Polymer Synthesis. (2 cr. ; Student Option; Periodic Spring)

Introduction to the synthesis of traditional and sustainable polymers and their role in renewable energy and our environment. prereq: 2302 or 2304

CHEM 3411. Polymer Chemistry Lab. (1 cr. ; Student Option; Periodic Spring)

Synthesis, characterization, and physical properties of polymers with an emphasis on sustainable polymer chemistry. (3 hrs lab) prereq: 2322, coreq 3406 or instr consent

CHEM 3501. Physical Chemistry I. (SCI; 4 cr. ; Student Option; Every Fall)

The gas state. Classical thermodynamics. Phase, chemical and heterogeneous equilibria. Chemical kinetics. Kinetic theory of gases. Transport. prereq: 1102, Phys 1101, Math 1102 or instr consent

CHEM 3502. Physical Chemistry II. (SCI; 4 cr. ; Student Option; Every Spring)

Introduction to quantum theory. Atomic and molecular structure. Group Theory. Introduction to statistical mechanics. Chemical dynamics. Topics drawn from the liquid and solid states, advanced kinetics, electrochemistry, and surfaces. prereq: 3501, coreq 3511 or instr consent for chem majors

CHEM 3511. Physical Chemistry Lab. (1 cr. ; Student Option; Every Spring)

Lab experiments to illustrate physico-chemical principles and to develop skills in data collection, analysis and interpretation, and in report writing. (3 hrs lab) prereq: coreq 3502

CHEM 3901. Chemistry Seminar I. (0.5 cr. ; A-F only; Every Spring)

Presentations by faculty, guest speakers, and students on topics of current research interest. Students are required to present one seminar for the Chem 3901-4901 sequence. [Note: required of all chem majors; may not count toward chem minor] prereq: 2321

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CHEM 3994. Directed Research. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus undergraduate research experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CHEM 4111. Instrumental Analysis. (5 cr. ; Student Option; Spring Even Year)

Principles of chemical instrumentation and instrumental methods of analysis; extensive lab work using chromatographic, spectrophotometric, and electrochemical methods of analysis. (3 hrs lect, 6 hrs lab) prereq: 3101

CHEM 4351. Bioorganic Chemistry. (4 cr. ; Student Option; Every Spring)

Discussion of the theory of enzyme catalysis and catalytic antibodies, experimental determination of catalytic mechanisms for a variety of organic reactions in biological systems, and elucidation of biosynthetic pathways. Involves extensive reading in the primary literature. prereq: 2302 or 2304, Biol 4211

CHEM 4352. Synthesis. (4 cr. ; Student Option; Fall Odd Year)

Study of the preparation of biologically active molecules, emphasizing the application of transition metal chemistry to modern synthetic methods. prereq: 2302 or 2304

CHEM 4353. Synthesis Laboratory. (1 cr. ; Student Option; Periodic Fall & Spring)

Modern organometallic synthetic methods applied to the preparation of small organic molecules. Preparation, purification, analysis, and identification of synthetic products. Scientific record-keeping and literature searching. (3 hrs lab) prereq: 4352 or instr consent

CHEM 4354. Biochemistry of Neurological Disorders. (4 cr. ; Student Option; Periodic Spring)

Discussion of the biochemical aspects of neurodegenerative diseases, addiction, and poisons such as the roles of metal ions and non-covalent interactions in protein folding

and function. The course involves extensive reading and discussion of primary literature with a strong focus on data interpretation and experimental design. prereq: 2321 or Biol 3700, Biol 4211 or instr consent

CHEM 4355. Biochemistry of Carbohydrates and Glycoconjugates. (4 cr. ; Student Option; Periodic Spring)

The study of carbohydrates including the chemical and biological syntheses, functions in metabolism, applications in signaling, and implications for a range of diseases' diagnosis and treatment. Involves extensive reading in primary literature. prereq: 2321 or Biol 3700, Biol 4211 or instr consent

CHEM 4551. Theoretical Chemistry. (4 cr. ; Student Option; Periodic Spring)

Quantum theory of molecules. Statistical thermodynamics; Gibbsian ensembles; applications. prereq: or coreq 3502 or instr consent

CHEM 4552. Molecular Spectroscopy. (3 cr. ; Student Option; Spring Odd Year)

Interaction of molecules and electromagnetic radiation. Spectroscopic determination of molecular structure. Operation of spectrometers and spectrophotometers. prereq: 2302 or 2304, 3101 or instr consent

CHEM 4553. Impermanence and Equilibrium in Chemical Thermodynamics and Buddhism in Thailand. (4-6 cr. ; Student Option; Periodic Summer)

An advanced course both in physical chemistry and in Buddhist concepts. Two of the deepest and furthest reaching ideas in chemical thermodynamics are that non-equilibrium states are impermanent and that they evolve toward equilibrium. Parallel topics equally fundamental to Buddhism are that compounded things are impermanent and that, free from clinging to that which is intrinsically fleeting, one's mind can settle to a state of calm and clarity. Chemical thermodynamics and Pali Buddhism have very different origins. This course offers the opportunity to reinforce and build on important chemical concepts from Physical Chemistry I while learning some analogous Buddhist concepts and applying them to gain calm and clarity of mind. The course takes place in Thailand on the campus of Mahasarakham University and in cities, villages, and National Parks in Thailand. The course includes a mix of discussion, lecture, and lab as well as cultural activities and excursions. prereq: 3501 or instr consent; 4 credits for may session only; 6 credits if continuing into June in Morris

CHEM 4701. Inorganic Chemistry. (4 cr. ; Student Option; Spring Even Year)

The periodic table; models of structure and bonding of main group elements and transition metals, nomenclature, symmetry, and bonding theory of coordination compounds. prereq: 3501 or instr consent

CHEM 4711. Inorganic Chemistry Lab. (1 cr. ; Student Option; Spring Even Year)

Lab experiments in inorganic/organometallic chemistry illustrating synthetic and spectroscopic techniques. (3 hrs lab) prereq: 2322, coreq 4701 or instr consent

CHEM 4751. Advanced Inorganic Chemistry. (2 cr. [max 4 cr.] ; Student Option; Periodic Fall, Spring & Summer)

Structure and reactions of coordination compounds, inorganic cages and clusters, lanthanide and actinide series. Nanoparticles, bioinorganic topics, and other trends in the field. prereq: 4701 or instr consent

CHEM 4901. Chemistry Seminar II. (0.5 cr. ; A-F only; Every Fall)

Continuation of Chemistry Seminar I. This is a full-year course. Students must attend year round and present one of the seminars. [Note: required of all chem majors; may not count toward chem minor: full-year course begins fall semester] prereq: 3901

CHEM 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CHEM 4994. Directed Research. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus undergraduate research experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Chinese (CHN)

CHN 1001. Beginning Modern Chinese I. (4 cr. ; Student Option; Every Fall)

First semester of a two-semester sequence in first-year modern standard Chinese (Mandarin) for students who have no previous exposure to the Chinese language. Introduction to the sounds of Mandarin, basic grammar, vocabulary, and the Chinese writing system.

CHN 1002. Beginning Modern Chinese II. (FL; 4 cr. ; Student Option; Every Spring)

Second semester of the two-semester sequence in first-year Chinese. Designed for those who have completed first-semester Chinese or who have equivalent preparation. Introduction to additional modern standard Chinese (Mandarin) grammar, vocabulary, and sentence structures. By the end of the semester, students should be able to recognize some of the Chinese characters, write about part of them from memory, conduct simple conversations, and read simple Chinese texts on general topics. prereq: 1001 or instr consent

CHN 1101. Introduction to Chinese Culture and Society. (IP; 2 cr. ; Student Option; Periodic Spring)

Introduction to Chinese culture and society. Topics include the development of China from the ancient period to the modern era; exploring the country's customs, religion and philosophy; language and literature; regional cuisines and holidays in China. Aim is to enhance students' knowledge of Chinese culture and society through reading, discussion, video, and various cultural activities. Taught in English.

CHN 2001. Intermediate Chinese I. (IP; 4 cr. ; Student Option; Periodic Fall)

This course is designed for those who have learned Chinese for more than one year or who have equivalent preparation. Introduction to additional modern standard Chinese grammar, vocabulary, and sentence structures; exposure to Chinese culture and authentic texts appropriate to this level. By the end of the semester, students should be able to handle most daily conversation with moderate fluency. prereq: 1002 or placement or instr consent

CHN 2002. Intermediate Chinese II. (IP; 4 cr. ; Student Option; Periodic Spring)

A continuation of 2001 designed for those who have learned Chinese more than one year or who have equivalent preparation. Introduction to additional modern standard Chinese grammar, vocabulary, and sentence structures; exposure to Chinese culture and authentic texts appropriate to this level. By the end of the semester, students should be able to handle most daily conversation with moderate fluency. prereq: 2001 or placement or instr consent

Communication, Media, Rhetoric (CMR)

CMR 1042. Public Speaking and Analysis. (E/CR; 4 cr. ; Student Option; Periodic Fall, Spring & Summer)

Public address theories, practices, and analysis.

CMR 1052. Introduction to Public Speaking. (E/CR; 2 cr. ; Student Option; Every Fall & Spring)

Activities, assignments, and exercises related to public address/public speaking in a variety of speech settings.

CMR 1062. Introduction to Interpersonal and Group Communication. (HUM; 4 cr. ; Student Option; Every Fall & Spring)

Activities, assignments, and exercises related to interpersonal and group communication in private and public settings including dating, family, and work.

CMR 1101. Introduction to Theories of Communication, Media, and Rhetoric. (HUM; 4 cr. ; Student Option; Every Fall)

A survey of the field of study. Students learn the history, theories, and contexts of communication study that prepare them for upper-division courses.

CMR 1388. College Newspaper Experience. (1 cr. [max 2 cr.] ; Student Option; Every Fall & Spring)

Supervised experience of selected learning activities to be done in conjunction with an appointment working at the campus newspaper. prereq: instr consent

CMR 1389. College Radio Experience. (1 cr. [max 2 cr.] ; Student Option; Every Fall & Spring)

Supervised experience of selected learning activities to be done in conjunction with an appointment working at the campus radio station. prereq: instr consent

CMR 1801. Legal Argument and Free Speech: Ready to Become a Supreme Court

Justice?. (IC; 4 cr. ; Student Option; Periodic Fall)

Examination of the development of legal argument in Supreme Court decisions dealing with free speech. Read Supreme Court cases, write opinions, speak to a mock Supreme Court, listen to arguments, and analyze the issues that define the ability to communicate in this country. prereq: new college student in their first semester of enrollment at UMM

CMR 2311. Media History and Society. (SS; 4 cr. ; Student Option; Periodic Fall & Spring)

Examines the historical and on-going development of the relationship of media, culture, and the public. Traces and explores the developments of various communication technologies, their impacts and consequences, and their relationships to notions of "the public."

CMR 2321. Digital Media Production. (HUM; 4 cr. ; Student Option; Periodic Fall & Spring)

Basic theories and practice: equipment, procedures, and skills associated with planning, writing for, and producing mediated messages. Lectures, studio projects, class critiques.

CMR 2411. Health Communication. (HUM; 4 cr. ; Student Option; Periodic Fall)

A survey of the critical role communication plays in health promotion, specifically in the area of doctor-patient interaction and health campaigns. Communicative issues include the social construction of health, the role of culture in health and healing, and social support.

CMR 2421. Business and Professional Communication. (E/CR; 4 cr. ; Student Option; Periodic Spring)

Developing proficiency in communication skills in business and professional contexts. Preparing, selecting, organizing, designing, and delivering messages in business situations. Analyzing meeting/group facilitation, interviewing, and professional presentations. prereq: 1042, 1062 or instr consent

CMR 3101. Rhetorical History and Theories: Pre-Socratic to Modern Periods. (IP; 4 cr. ; Student Option; Every Fall)

Rhetoric from the classical theories of the older Sophists, Aristotle, and Cicero to the modern theories of Blair, Campbell, and Whately. prereq: 1101 or instr consent

CMR 3123. Rhetorical Criticism and Speeches that Changed the World. (HUM; 4 cr. ; Student Option; Periodic Spring)

Human beings create and maintain their cultures through rhetoric, the art of being persuasive. This course explores the rhetorical nature of the speeches that have changed the world from Moses and Mohammed to Elie Wiesel and George W. Bush. prereq: 1101 or instr consent

CMR 3124. Rhetoric of Comic Art: Analysis and Creation. (HUM; 4 cr. ; Student Option; Periodic Fall)

Explores and analyzes the rhetorical, persuasive features of comic art. Examines the rhetorical construction of comic art in comic strips, comic books, and political cartoons by exploring the persuasive synergy created

between picture and text. Students are required to both analyze and create comic art. prereq: 1101 or instr consent

CMR 3125. Rhetoric of Free Speech in American Schools: Case Law and Queries. (SS; 4 cr. ; Student Option; Periodic Spring)

Focus on the shifting clash between individual student expression and administrative authority. Assumes a fundamental understanding of freedom of speech case law. prereq: 1801 or 3251 or instr consent

CMR 3202. Rhetoric of Presidential Inaugurals. (HUM; 4 cr. ; Student Option; Periodic Fall & Spring)

Study of the rhetorical dimensions of the genre of presidential inaugurals. Students will complete a variety of rhetorical criticisms concerning an assigned presidential inaugural. prereq: 1101 or instr consent

CMR 3251. Rhetorical Criticism and Free Speech Discourse. (E/CR; 4 cr. ; Student Option; Periodic Fall & Spring)

Analysis and evaluation of Supreme Court opinions establishing the contours of First Amendment protection for freedom of speech. Particular attention is devoted to the nature of "communication" revealed by the decisions studied. prereq: 1101 or instr consent

CMR 3301. Media Theory, Criticism, and Problems. (SS; 4 cr. ; Student Option; Every Spring)

Theories, research studies, current trends, and various critical approaches to examine and explain the reflexive relationships between media and society. prereq: 1101 or instr consent

CMR 3311. Social Uses of the Media. (E/CR; 4 cr. ; Student Option; Every Spring)

Participation in the planning, production, and performance of media projects designed to serve various publics, such as campus units or the community.

CMR 3312. Media Literacy. (4 cr. ; Student Option; Periodic Fall)

Examining ways people decode media images and messages. Topics include principles of literacy, media content/industries, media and identity, and media effects. prereq: 1101 or instr consent

CMR 3342. Visual Journalism. (HUM; 4 cr. ; Student Option; Periodic Spring)

Both a theoretical and a hands-on course that immerses students in all aspects of the visual side of journalism, as well as in design principles and techniques for the web and print.

CMR 3401. Communication Theory. (SS; 4 cr. ; Student Option; Every Fall)

Detailed study of the theoretical tradition of human communication. Focuses on social scientific and humanities theories used to explain social interaction. Provides general foundation on various traditions of inquiry as well as qualitative and quantitative methods. prereq: 1101 or instr consent

CMR 3411. Intercultural Communication Theory and Research. (HDIV; 4 cr. ; Student Option; Periodic Fall)

Study of intercultural communication from an interpersonal and group perspective. prereq: 1101 or instr consent

CMR 3421. Organizational Communication Theory and Research. (SS; 4 cr. ; Student Option; Periodic Spring)

Study of organizational communication, including small group perspectives. prereq: 1101 or instr consent

CMR 3432. Communication Research Methods. (SS; 4 cr. ; Student Option; Periodic Fall)

Elements/methods of communication research. Use of quantitative/qualitative research methodologies, basic research design, and data collection methods to inform decision making. prereq: 1101 or instr consent

CMR 3433. Communication, Power, and Identity. (HUM; 4 cr. ; Student Option; Periodic Spring)

Exploration of the relationship between communication, culture, and social identities. The focus is negotiation of meaning and social identity in face-to-face interaction and intercultural contexts. Surveyed are theories and texts within intercultural communication, environmental communication, ethnic and racial identity, power in discourse. prereq: 1101

CMR 3434. Communication, Nature, and Belonging. (HUM; 4 cr. ; Student Option; Periodic Fall & Spring)

Explore how various cross cultural means of communication are active in and about our worlds and allow for better insights about communication, environment, people, and the ways they are related. Overview research that links communication and the ways knowledge and understanding of our environment are situated in local historical contexts. prereq: 1101

CMR 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CMR 4122. Rhetoric of Picture Books, Prose and Picture. (HUM; 4 cr. ; Student Option; Periodic Fall)

Explore and analyze picture books for intended and unintended messages. Examine the rhetorical construction of pictures and the rhetorical impact of the intersection between picture and prose. Gain a deeper sensitivity to the formerly unseen rhetorical dimensions of the symbols that surround them. prereq: 1101 or instr consent

CMR 4123. Rhetoric of Advertising. (HUM; 4 cr. ; Student Option; Periodic Spring)

Exploration of the rhetorical dimensions of advertising by examining current theory and practice. Students are asked to both analyze and create print advertising campaigns. prereq: 1101

CMR 4152. Advanced Public Speaking. (HUM; 4 cr. ; Student Option; Every Fall)

A study of rhetorical argument design and evaluation. Students analyze and critique

arguments, as well as plan and present formal speeches. prereq: 1042 or instr consent

CMR 4341. New Media Technologies. (HUM; 2 cr. ; Student Option; Periodic Spring) Examination of the impact of "new media" on current/future cultures; the structure/processes of media and global society in a comparative context; ways new media change how people communicate, distribute, and process information. prereq: 1101 or instr consent

CMR 4800. Directed Experience in Teaching Communication, Media, and Rhetoric. (1-4 cr. [max 8 cr.] ; S-N only; Every Fall & Spring) Practice as facilitators in the introductory-level communication, media, and rhetoric courses; weekly seminar sessions focus on method, planning, and problems in communication, media, and rhetoric instruction. prereq: instr consent

CMR 4900. Communication, Media, and Rhetoric Seminar I. (1 cr. ; A-F only; Every Fall)

Familiarizes students with the literature of the field, including ethical and social implications of communication studies. Students analyze various articles and similarly published works, synthesize contents, and construct a research proposal for a project to be completed as a senior capstone experience. prereq: 1042, 1062, 1101 or sr status with instr consent

CMR 4901. Communication, Media, and Rhetoric Seminar II. (3 cr. ; A-F only; Every Spring)

Completion of capstone experience for majors. Students conduct a project of original study and present their findings in written and oral form. prereq: 4900, or sr status in the major, instr consent

CMR 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Computer Science (CSCI)

CSCI 1001. Introduction to the Computing World. (M/SR; 2 cr. ; Student Option; Periodic Fall)

Basic hardware and software concepts, elementary data representation, problem solving techniques, algorithm development, introduction to web development, and methods for separation of content and presentation (such as HTML and CSS). [Note: no elective cr for CSci majors or minors]

CSCI 1201. Introduction to Digital Media Computation. (M/SR; 4 cr. ; Student Option; Every Spring)

Using images, sounds, and movies to introduce problem solving, data representation, data manipulation, and programming principles including recursion. Introduction to basic ideas in hardware, software, and computing.

CSCI 1251. Computational Data Management and Manipulation. (M/SR; 4 cr. ; Student Option; Every Fall)

Introduction to principles and practices of computational data management such as using advanced spreadsheet operations, designing and implementing algorithms to summarize and transform data sets, understanding organization of databases, writing and executing simple database queries, and creating effective data visualizations. Topics include basic issues of information security and introduction to modern technologies that support collaboration. [Note: no elective credit for CSci majors or minors]

CSCI 1301. Problem Solving and Algorithm Development. (M/SR; 4 cr. ; Student Option; Every Fall)

Introduction to different problem solving approaches, major programming paradigms, hardware, software, and data representations. Study of the functional programming paradigm, concentrating on recursion and inductively-defined data structures. Simple searching and sorting algorithms.

CSCI 1302. Foundations of Computer Science. (M/SR; 4 cr. ; Student Option; Every Spring)

Basic proof techniques, propositional and predicate logic, induction and invariants, program correctness proofs, simple Big-Oh analysis of algorithms, set theory, introductory graph theory, and basic summations.

CSCI 1801. The Design of Everyday Technologies. (IC; 2 cr. ; Student Option; Periodic Fall)

Discussion and examination of examples of everyday things, issues surrounding the design of technologies for people, and the impacts of new technologies and tools on people in society. Discussion of how values and ethics are manifested in design. Study of design techniques and approaches with an emphasis on promoting design literacy. Includes discussion, readings, presentations, and a project. Requires attending two activities outside of class, a poster session, and a presentation. prereq: new college student in their first semester of enrollment at UMM

CSCI 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CSCI 2101. Data Structures. (M/SR; 5 cr. ; Student Option; Every Fall)

Introduction to data structures, including stacks, queues, trees, and graphs; implementation of abstract data types and introduction to software testing, using object-oriented techniques and reusable libraries. (4 hrs lect, 2 hrs lab) prereq: 1201 or 1301 or instr consent

CSCI 2701. Introduction to Data Science. (M/SR; 4 cr. ; Student Option; Every Spring) Same as Stat 2701. Introduction to data science and informatics and their application to real world scenarios. Computational approaches to data types; database creation including technologies such as SQL/no-SQL; data visualization; data reduction,

condensation, partitioning; statistical modeling; and communicating results. prereq: CSci 1201 or CSci 1251 or CSci 1301, Stat 1601 or Stat 2601 or Stat 2611 or instr consent

CSCI 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CSCI 3402. Computing Systems: Concepts. (3 cr. ; Student Option; Every Spring)

Overview of computing systems, operating systems, and networks. Sources of complexity. Fundamental abstractions such as memory, processing, and communication; memory management and data storage; threads, processes, race conditions and deadlock; and inter-process and inter-computer communication. Modularity and organization; virtualization; protection and security; performance. [Note: Credit will not be granted if credit has been received for CSci 3401] prereq: CSci 1302 or both Math 2202 and Math 3411, CSci 2101 or instr consent

CSCI 3403. Computing Systems: Practicum. (2 cr. ; Student Option; Every Fall)

Lab experience with key computing systems tools and concepts. Command-line tools; shell and system scripting; system programming. Pointers and explicit memory management. Digital logic, gates, electronics, and microcomputers. Network organization and communication; client-server programming. Processes and threads; parallel and distributed computing. Performance and profiling. [Note: Credit will not be granted if credit has been received for CSci 3401] prereq: CSci 1302 or both Math 2202 and Math 3411, CSci 2101 or instr consent

CSCI 3501. Algorithms and Computability. (5 cr. ; Student Option; Every Fall)

Models of computation (such as Turing machines, deterministic and non-deterministic machines); approaches to the design of algorithms, determining correctness and efficiency of algorithms; complexity classes, NP-completeness, approximation algorithms. (4 hrs lect, 2 hrs lab) prereq: CSci 1302 or both Math 2202 and Math 3411, CSci 2101 or instr consent

CSCI 3601. Software Design and Development. (5 cr. ; Student Option; Every Spring)

Design and implementation of medium- and large-scale software systems. Principles of organizing and managing such designs and implementations throughout their lifetime. Designing for modularity and software reuse; use of libraries. Dynamics of working in groups. Group work on a substantial software project. prereq: grade of C- or better in 2101 or instr consent

CSCI 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

CSCI 4403. Systems: Data Mining. (2 cr. ; Student Option; Periodic Fall & Spring)
An introduction to a new field which tries to solve the problem of how to store (warehouse) and how to extract (mine) valid, useful, and previously unknown data from a source (database or web) which contains an overwhelming amount of information. Algorithms applied include searching for patterns in the data, using machine learning, and applying artificial intelligence techniques. prereq: 2101 or instr consent

CSCI 4406. Systems: Wireless Data Networks. (2 cr. ; Student Option; Periodic Fall & Spring)
Licensed vs. unlicensed carrier frequencies. Physical layer characteristics and protocols. Network topologies. Discussion of current and upcoming standards. Data privacy and security. prereq: 3402, 3403 or instr consent

CSCI 4409. Systems: Programming for Parallel Architecture. (2 cr. ; Student Option; Periodic Spring)
Study of programming models, languages, and approaches for parallel computer architectures. Topics include introduction to parallel computing and parallel architectures, approaches to program parallelization, mechanisms for communication and synchronization between tasks, and study of programming language support for parallel computation. prereq: 3402, 3403 or instr consent

CSCI 4451. Systems: Distributed Systems. (4 cr. ; Student Option; Periodic Fall & Spring)
An introduction to distributed systems/ computation. Topics include processes and threads, physical vs. logical clocks, interprocess communication and coordination, election algorithms, synchronization, distributed task scheduling, distributed shared memory, distributed file systems, and replicated data management. prereq: 3402, 3403 or instr consent

CSCI 4452. Systems: Computer Networks. (4 cr. ; Student Option; Periodic Fall & Spring)
Principles of computer networks. Network topologies, protocols, routing, internetworking, security and privacy. prereq: 3402, 3403 or instr consent

CSCI 4453. Systems: Database Systems. (4 cr. ; Student Option; Periodic Fall & Spring)
Introduction to relational, object-relational, and object database systems. Topics include the relational model, SQL and related query languages, JDBC and database applications programming, database design, query processing and optimization, indexing techniques, and transaction management. prereq: 2101 or instr consent

CSCI 4454. Systems: Robotics. (4 cr. ; Student Option; Periodic Fall & Spring)
An introduction to robotic systems. Topics may include robot classification, mechanical armatures, concepts of kinematics and coordinate systems, basic electronic circuits as applied to robotic systems, embedded system architecture and programming, communications hardware and protocols, and

algorithms in robotics. Some lecture times may be replaced by supervised work in electronics lab and machine shop; times for this work are to be arranged with the instructor. prereq: 2101 or instr consent

CSCI 4456. Systems: Advanced Operating Systems. (4 cr. ; Student Option; Periodic Fall & Spring)
Broad exposure to advanced operating systems topics such as process communication, protection, security, memory management, operating system kernels, network operating systems, synchronization, naming, and distributed systems. prereq: 3402, 3403 or instr consent

CSCI 4457. Systems: Ubiquitous Computing. (4 cr. ; Student Option; Periodic Fall & Spring)
Study of the mechanisms and environments of ubiquitous computing. Topics may include computer and network architectures for ubiquitous computing, mobile computing mechanisms, multimodal interaction, pervasive software systems, location mechanisms, techniques for security and user-authentication, and experimental ubiquitous computing systems. prereq: 3403 or instr consent

CSCI 4458. Systems: Bioinformatic Systems. (4 cr. ; Student Option; Periodic Fall & Spring)
Introduction to bioinformatics with an emphasis on computer systems. Possible topics include: utilizing software for genetic sequencing, large-scale data management using databases, algorithms for construction of phylogenetic trees, bioinformatic scripting, and other tools for bioinformatics. prereq: 3403 or instr consent

CSCI 4459. Systems: Virtualization and Operating System Administration, Configuration, and Implementation. (4 cr. ; Student Option; Periodic Fall & Spring)
The basics of virtualizing hardware and key systems services such as networking. Use of virtualization tools to support an incremental exploration of the installation and configuration of an operating system. More detailed exploration of the implementation details of certain operating system services as time allows. prereq: 3402 and 3403 or instr consent

CSCI 4506. Theory: Fuzzy Logic and Fuzzy Sets. (2 cr. ; Student Option; Periodic Fall & Spring)
Fuzzy logic and fuzzy sets are used in expert systems, controllers, pattern recognition, databases, decision making, robotics, and economics. The basic theory of fuzzy sets and fuzzy logic along with a brief survey of some of the current research. May include presentations and/or a project. prereq: 3501 or instr consent

CSCI 4507. Theory: Data Compression. (2 cr. ; Student Option; Periodic Fall & Spring)
Introduction to data compression (including lossy and lossless compression techniques), wavelets, differential encoding techniques (including pulse code and delta modulation), and subband coding with applications to speech, audio, and images. Compression

standards such as the CCITT international standard and MPEG audio compression standard. prereq: 3501 or instr consent

CSCI 4508. Theory: Algorithm Design. (2 cr. ; Student Option; Periodic Fall & Spring)
Approaches to the design of efficient algorithms for solving a variety of practical problems such as string matching or those that can be modeled on a tree or graph. Techniques studied include dynamic programming, divide and conquer, greedy methods, backtracking, and approximation algorithms. prereq: 3501 or instr consent

CSCI 4511. Theory: Artificial Life. (2 cr. ; Student Option; Periodic Fall & Spring)
Introduction to the field of Artificial Life and the phenomena of living systems, with an emphasis on computational approaches to understanding the logic of living systems in artificial environments. Techniques and tools used to better understand the complex information processing that defines living systems, such as agent-based systems, evolutionary computation, cellular automata, and digital simulations. prereq: 2101 or instr consent

CSCI 4552. Theory: Advanced Algorithms. (4 cr. ; Student Option; Periodic Fall & Spring)
Techniques for designing and analyzing efficient algorithms to solve a variety of practical problems. Some algorithmic techniques include dynamic programming, greedy methods, and amortized analysis. Other topics include graph algorithms, string matching, approximation algorithms, and NP-Completeness. prereq: 3501 or instr consent

CSCI 4553. Theory: Evolutionary Computation and Artificial Intelligence. (4 cr. ; Student Option; Periodic Fall & Spring)
Introduction to Evolutionary Computation as an Artificial Intelligence tool for developing solutions to problems that are difficult to describe precisely or solve formally, as well as comparisons with other AI techniques. Includes discussions of theoretical background and tools, implementation issues, and applications. prereq: 2101 or instr consent

CSCI 4554. Theory: Cryptography. (4 cr. ; Student Option; Periodic Fall & Spring)
Theory and applications of cryptography. Overview of necessary mathematical concepts. Discussion of algorithms and protocols including public and private key encryption, authentication, and zero knowledge proofs. prereq: CSci 1302 or both Math 2202 and Math 3411, CSci 2101 or instr consent

CSCI 4555. Theory: Neural Networks and Machine Learning. (4 cr. ; Student Option; Periodic Fall & Spring)
Study of the underlying theory, structure, and behavior of neural networks and of how neural networks compare to and can be used to supplement other methods of machine learning. Methods such as decision tree learning, inductive learning, reinforcement learning, supervised learning, and explanation-based learning are examined. Analysis of the strengths and weaknesses of various approaches to machine learning. Includes an

implementation project. prereq: CSci 1302 or both Math 2202 and Math 3411, CSci 2101 or instr consent

CSCI 4556. Theory: Computer Graphics. (4 cr. ; Student Option; Periodic Fall & Spring) Introduction to basic concepts and algorithms in computer graphics, including three-dimensional geometry and various approaches to modeling three-dimensional scenes. An introduction to transformation and viewing, lighting, shading, texture, and color. Advanced topics may include ray tracing, radiosity, and animation. Students complete several significant projects. prereq: CSci 1302 or both Math 2202 and Math 3411, CSci 2101 or instr consent

CSCI 4557. Theory: Quantum Computing. (4 cr. ; Student Option; Periodic Spring) Summarization of relevant mathematical and quantum mechanical concepts. Basic quantum algorithms concepts and simple algorithms are explored, along with Shor's algorithm, Grover's algorithm, and the quantum Fourier transform. prereq: CSci 1302 or both Math 2202 and Math 3411, CSci 2101, CSci 3501 or Math 1101 or higher or instr consent

CSCI 4604. Processes, Programming, and Languages: Graphical User Interfaces. (2 cr. ; Student Option; Periodic Fall & Spring) An exploration into designing Graphical User Interfaces. Aspects of human-computer interaction are discussed along with how to design good user interfaces. Students complete a project using Java's Swing. prereq: 3601 or instr consent

CSCI 4605. Processes, Programming, and Languages: Refactoring. (2 cr. ; Student Option; Periodic Fall & Spring) Introduction to methodologies for the long-term development and maintenance of software systems. Discussion of methods of fixing errors and extending functionality in a controlled manner that builds on and improves the underlying system design, as well as tools for regression testing to help catch introduced errors. There is a significant programming component as well as change documentation and classroom presentations. prereq: 3601 or instr consent

CSCI 4609. Processes, Programming, and Languages: Usability of Open Source Software. (; 2 cr. ; Student Option; Periodic Fall) Introduction to usability studies and how users interact with systems using open source software as an example. Students learn usability methods, then explore and contribute to open source software by performing usability tests, presenting their analysis of these tests, and making suggestions or changes that may improve the usability. prereq: 2101

CSCI 4651. Processes, Programming, and Languages: Programming Languages. (4 cr. ; Student Option; Periodic Fall & Spring) History of programming languages, formal specification of syntax and semantics of programming languages from a variety of paradigms (procedural, functional, logic-programming, object-oriented, and parallel

paradigms), modern language features. prereq: 2101 or instr consent

CSCI 4652. Processes, Programming, and Languages: Compilers. (4 cr. ; Student Option; Periodic Fall & Spring) Program translations from a variety of paradigms. Lexical analysis and parsing techniques, intermediate representations, type checking, code generation, error detection and recovery, optimization. prereq: 3501, 3601 or instr consent

CSCI 4653. Processes, Programming, and Languages: Software Engineering. (4 cr. ; Student Option; Periodic Fall & Spring) Examination of software engineering techniques and methodologies. Topics include software life cycle models, analytical and software tools used in software engineering, software metrics, testing techniques, design techniques, planning and estimation methodologies, and issues related to the reusability, portability, and interoperability of software systems. Emphasis on the application of these techniques and methodologies to real world problems. Includes a team-based software development project. prereq: 3601 or instr consent

CSCI 4654. Processes, Programming, and Languages: Modern Functional Programming. (4 cr. ; Student Option; Periodic Fall & Spring) Survey of concepts, tools, and techniques from the realm of functional programming. Topics include higher order functions, currying, type systems, concurrency models, mechanisms for managing state, and methods of compilation and evaluation such as graph reduction and term rewriting. prereq: 1302, 2101 or instr consent

CSCI 4655. Processes, Programming, and Languages: Software Design and Development II. (4 cr. ; Student Option; Periodic Summer) Design and implementation of a medium-scale software system in an intensive, full-time lab setting where teams use object-oriented tools and agile development processes. Emphasis on the creation, evolution, and maintenance of system design. prereq: 3601 or instr consent

CSCI 4656. Processes, Programming, and Languages: Human-Computer Interaction and Interface Design. (4 cr. ; Student Option; Periodic Fall & Spring) Introduction to the design, evaluation, and implementation of interactive computing systems for human use with a particular emphasis on user interfaces. Possible domains include usability issues for desktop applications, embedded systems, and Web design. Student projects include evaluative studies and sample implementations. prereq: 2101 or instr consent

CSCI 4657. Processes, Programming, and Languages: Programming Languages for Client-Server Systems. (4 cr. ; Student Option; Periodic Fall & Spring) Client/Server model and related Internet protocols. Server-side data storage. Common programming languages and technologies for

client-side and server-side data processing. Related security issues. prereq: 3601 or instr consent

CSCI 4658. Processes, Programming, and Languages: Usability, Design, and Mobile Technologies. (4 cr. ; Student Option; Periodic Fall) Design, evaluation, and use of innovative handheld, mobile, and wearable technologies. Topics include needs and issues unique to mobile users, as well as social and organizational impacts of mobile technologies. The course consists of a mix of lectures and seminar-style discussions, with projects incorporating important aspects of design, implementation, and evaluation. prereq: 3601 or instr consent

CSCI 4901. Senior Seminar. (2 cr. ; S-N only; Every Fall & Spring) In-depth survey of literature in a specific computer-related field of the student's choice. Students analyze various articles or similarly published works, synthesize their contents, and present their work formally in a conference setting. Multiple writing and speaking experiences reviewed by faculty and classmates. Requires attendance and presentation at a student conference near the end of the semester in addition to regular class meetings. prereq: IS 1091 or instr consent, jr or sr

CSCI 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Dance (DNCE)

DNCE 1321. Introduction to Modern Dance and Ballet. (ART/P; 1 cr. [max 2 cr.] ; S-N only; Every Fall) Practice in the fundamental movement vocabulary and steps of dance with an emphasis on traditional ballet techniques and modern dance interpretations. Exploration of body awareness through improvisational exercises and compositional studies. Discussion of the cultural origins of style in dance and the role of dance in contemporary life.

DNCE 1322. Introduction to Jazz and Modern Dance. (ART/P; 1 cr. [max 2 cr.] ; S-N only; Every Spring) Fundamental movement vocabulary and steps of dance from the unique perspective of American Jazz combined with modern dance. Explores body awareness through improvisational exercises and composed studies. Discussion of dance in contemporary life, individual style, and the cultural origins of jazz music and movement.

DNCE 1323. Introduction to Tap Dance. (ART/P; 1 cr. [max 2 cr.] ; S-N only; Every Fall) Practice in footwork and introduction to vocabulary that forms the basis of the percussive dance form. Discussion of origins of the dance form, different styles, and

relationship to musical structures. Practice in improvisational Tap skills. [Note: Tap shoes required]

DNCE 1330. Introduction to Dance in Musical Theatre. (ART/P; 1 cr. [max 2 cr.]; Student Option; Periodic Fall & Spring)
A basic study of dance including its vocabulary, technique, and history. Examine the works of choreographers such as Bob Fosse, Agnes de Mille, Michael Bennett, and Twyla Tharp. The class is a combination of movement and discussion.

DNCE 1331. Ballet I. (ART/P; 1 cr. [max 2 cr.]; Student Option; Every Fall & Spring)
A basic study of ballet including its vocabulary, technique, and history. Appropriate for beginning-level students or students who have completed Dnce 1321 or 1322. prereq: 1321 or instr consent

DNCE 1332. Jazz Dance I. (ART/P; 1 cr. [max 2 cr.]; Student Option; Every Fall)
A basic study of jazz dance including its technique, history, and applications. Appropriate for beginning-level students or students who have completed Dnce 1321 or 1322. prereq: 1322 or instr consent

DNCE 1333. Modern Dance I. (ART/P; 1 cr. [max 2 cr.]; Student Option; Every Spring)
A basic study of modern dance including alignment, technique, and history. Appropriate for beginning-level students or students who have completed Dnce 1321 or 1322. prereq: 1321 or 1322 or instr consent

DNCE 1334. Tap Dance I. (ART/P; 1 cr. [max 2 cr.]; Student Option; Every Spring)
Practice in footwork and advanced beginning vocabulary of this percussive dance form, including opportunities for improvisation. Learn about the origins of the dance form, different styles and how they evolved, and the dance form's relationship to musical structures. Learn and compose Tap dance choreography. [Tap shoes required] prereq: 1323 or instr consent

DNCE 2011. Dance in Society. (HDIV; 2 cr. ; Student Option; Spring Even Year)
Through a broad, cross-cultural survey of the different ways in which dance functions in the modern world, students gain an appreciation of the way this art form reflects social and historical experiences. Includes lectures, readings, and opportunities to see dance through videos, observations, and live performances.

DNCE 2301. Practicum in Dance. (ART/P; 1 cr. ; Student Option; Every Spring)
Directed projects in performance and production aspects of dance for the stage. Projects can be focused on either choreography or technical theatre for dance. prereq: instr consent

DNCE 2311. Dance Composition. (ART/P; 2 cr. [max 3 cr.]; Student Option; Periodic Fall & Spring)
Introduction to the basic elements of choreography, including the use of space, time, energy, abstraction, motif and development, and the selection of music. Using improvisation

and assigned movement problems to learn the process of crafting solo and group choreography.

DNCE 2320. Contemporary and Modern Technique and Choreography. (ART/P; 1 cr. [max 2 cr.]; Student Option; Periodic Fall & Spring)
Builds upon basic dance vocabulary with movement exercises drawn from traditional schools of modern dance technique. Dancers examine contemporary technique and place an emphasis on aesthetic and expressive qualities that lead to performance. prereq: 1321 or instr consent

DNCE 2331. Ballet II. (ART/P; 1 cr. [max 2 cr.]; Student Option; Every Fall)
A low intermediate-level study of classical ballet. Emphasis on advancing technical skill through conditioning and performance of ballet steps and combinations. [Note: ballet slippers required] prereq: 1331 or instr consent

DNCE 2332. Jazz Dance II. (ART/P; 1 cr. [max 2 cr.]; Student Option; Every Spring)
Builds upon basic dance vocabulary with emphasis on the movement vocabulary of jazz dance. Emphasis on African dance roots and stylistic variations in contemporary jazz dance forms. Includes a performance experience. prereq: 1332 or instr consent

DNCE 2333. Modern Dance II. (ART/P; 1 cr. [max 2 cr.]; Student Option; Every Fall)
Builds upon basic dance vocabulary with movement exercises drawn from traditional schools of modern dance technique (Wigman/ Holm, Graham, Humphrey/Limon, Horton, Cunningham). Emphasis is on advancing technical skills through conditioning, improvisation, and movement combinations. Includes a performance experience. prereq: 1333 or instr consent

DNCE 2993. Directed Study. (1-5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)
A learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum such as dance history, choreography and directing, dance education for children.

DNCE 3011. Dance History. (FA; 4 cr. ; Student Option; Periodic Spring)
Identify significant developments in the history of Dance. Trace the roots of Ballet, Modern, Tap and Jazz Dance and Modern Dance and their impact on dance as performance art in Western society. Examine the history of select styles of non-Western dance and research major figures in dance history. prereq: any 1xxx Dnce course or instr consent

DNCE 3993. Directed Study. (1-5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)
A learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum such as dance history, choreography and directing, dance education for children.

DNCE 4993. Directed Study. (1-5 cr. [max 10 cr.]; Student Option; Every Fall, Spring & Summer)
A learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum such as dance history, choreography and directing, dance education for children.

Economics (ECON)

ECON 1103. Essentials of Economics. (SS; 3 cr. ; Student Option; Every Fall & Spring)
The first half of the course develops theories related to individual and firm decision-making. Students will learn how consumers and producers respond to price changes, how price is determined in the market, concepts of elasticity, gains from trade, and how different types of firms maximize profit. The latter half of the course will introduce the theories related to aggregate economy. Specific attention will be given to models that explain business cycles fluctuations and policy initiatives to ameliorate them.

ECON 1111. Principles of Microeconomics. (SS; 4 cr. ; Student Option; Every Fall & Spring)
Study of scarce resource allocation in a market economy. Supply and demand, consumer theory, theory of the firm, market structure, pricing of factors of production, income distribution and the role of government. prereq: high school algebra or instr consent

ECON 1112. Principles of Macroeconomics. (SS; 4 cr. ; Student Option; Every Fall & Spring)
Introduction to basic economic problems, concepts, and theoretical models. U.S. economic institutions and the economic organization of society. The role of markets in the production and distribution of societal resources. Measurement of economic performance; national income, inflation, and unemployment; competing macroeconomic theories and stabilization policies. prereq: high school algebra or instr consent

ECON 1993. Directed Study. (1-5 cr. [max 10 cr.]; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ECON 2993. Directed Study. (1-5 cr. [max 10 cr.]; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ECON 3005. Experimental and Behavioral Economics I. (2 cr. ; Student Option; Periodic Fall & Spring)
Introduction to economic experiments as controlled tests of microeconomic and game-theoretic behavioral predictions. In-class economic experiments, elements of non-cooperative game theory, results of market and

social preference experiments, and empirical applications. prereq: 1111, 1112, Math 1101, Stat 1601 or Stat 2601; or instr consent

ECON 3006. Experimental and Behavioral Economics II. (2 cr. ; Student Option; Periodic Fall & Spring)

Advanced concepts and applications in experimental and behavioral economics. prereq: 3005 or instr consent

ECON 3007. Environmental and Natural Resource Economics I. (ENVT; 2 cr. ; Student Option; Periodic Fall & Spring)

An overview of "brown" pollution and "green" sustainability issues in environmental and natural resource economics. Emphasis on the role of market failures in causing environmental problems and on the design of market mechanisms and incentive regulations to solve those problems. Analysis of current federal policy in the areas of water and air pollution. prereq: 1111 or instr consent

ECON 3008. Environmental and Natural Resource Economics II. (ENVT; 2 cr. ; Student Option; Periodic Fall & Spring)

The economic analysis of sustainability, focusing on market designs to discourage over-exploitation of both renewable and exhaustible natural resources. Topics include markets for water, fisheries, and energy. prereq: 3007 or instr consent

ECON 3009. Political Economy. (4 cr. ; Student Option; Periodic Spring)

The historical evolution, methodological relevance, and basic structure of the modern capitalist economy, including the dynamics of capital accumulation, economic crisis, transformation and regulating mechanism of contemporary capitalism, and hegemonic tendency of economy over polity and other aspects of life in contemporary society. prereq: 1111, 1112 or instr consent

ECON 3014. Game Theory: The Theory of Strategic Behavior I. (2 cr. ; Student Option; Spring Odd Year)

The analytic approach to strategic interaction. Strategic interaction takes place among people when the payoffs to each person depend on the choices of all the others, and each person knows this fact in choosing their behavior. Development of the basic concepts of the theory of strategic interaction, including the definition of a strategy, extensive form and strategic form representations of the same game, and the solution concepts of Nash equilibrium and rollback equilibrium. A selection of applications of economic interest are covered, such as market entry deterrence and social dilemma games. [Note: no credit for students who have received cr for IS 3206H] prereq: 1111 or instr consent

ECON 3015. Game Theory: The Theory of Strategic Behavior II. (2 cr. ; Student Option; Spring Odd Year)

Extensions to the basic analytic theory of strategic interaction that widen its applicability, including topics such as repeated games, asymmetric information, and refinements to basic solution concepts. A selection of

applications of economic interest, such as screening, signaling, and brinkmanship. prereq: 3014 or instr consent

ECON 3113. Money, Banking, and Financial Markets. (4 cr. ; Student Option; Every Fall)

Nature and function of money; role of commercial banks and other financial institutions; structure and function of Federal Reserve system; monetary policies for stabilization and growth; and a survey and synthesis of major theories on the value of money. prereq: 1111, 1112 or instr consent

ECON 3121. Public Economics I. (2 cr. ; Student Option; Periodic Spring)

Analysis of the economics of public expenditures. prereq: 1111, 1112 or instr consent

ECON 3122. Public Economics II. (2 cr. ; Student Option; Periodic Spring)

Analysis of the economics of taxation. prereq: 3121 or instr consent

ECON 3131. Comparative Economic Systems I. (IP; 2 cr. ; Student Option; Periodic Fall & Spring)

Comparison of the theory and functioning of the major economic systems of the world. Initial exploration of particular cases. prereq: 1111, 1112 or instr consent

ECON 3132. Comparative Economic Systems II. (IP; 2 cr. ; Student Option; Periodic Fall & Spring)

Extended exploration of the institutional characteristics, resource allocation patterns, performance, and current issues of selected world economies. prereq: 3131

ECON 3134. Cooperative Business Model. (2 cr. ; Student Option; Spring Odd Year)

Same as Mgmt 3134. In the northern plains of the United States, cooperative businesses, including consumer, producer, and worker cooperatives, have made significant contributions to economic growth and development. Identify the unique economic, legal, and organizational characteristics of these firms and their role in the economy. Special attention is given to the potential role of cooperative business organizations in community development. prereq: 1111 or instr consent

ECON 3141. Economic Development and Growth I. (IP; 2 cr. ; Student Option; Every Fall)

Nature and meaning of economic development. Theories of economic growth and the historical experience of now developed countries. General development problems facing developing countries. prereq: 1111, 1112 or instr consent

ECON 3142. Economic Development and Growth II. (IP; 2 cr. ; Student Option; Every Fall)

Current development problems and policies in developing countries; the possibilities and prospects for future development. Case studies examining the development progress of these countries. prereq: 3141 (or concurrent enrollment in 3141) or instr consent

ECON 3153. Contemporary Global Economic Issues. (IP; 2 cr. ; Student Option; Periodic Spring)

Many of the most important global issues are economic in nature. Questions of population growth and aging, economic and political stability, security, terrorism, trade policy, poverty, development, the environment, energy, technology transfer, and even public health and education, in a global context can only be properly understood with some knowledge of economic principles. Gain knowledge of economic ideas necessary to understand and to criticize professional economic advice about global affairs. Strong emphasis on argumentation, rhetoric, and ability to debate economic ideas in a given framework. prereq: 1111, 1112, Stat 1601, or instr consent

ECON 3172. Strategic Firm Interaction and Market Structures. (4 cr. ; Student Option; Periodic Spring)

Firms must interact strategically in all market settings except perfect competition and pure monopoly. The course begins with imperfect markets for simple commodities and a consideration of substitutes and complements. More advanced models are then presented which develop topics such as quality differentiation, entry deterrence, collusion, mergers along the supply chain, various types of price discrimination, and natural monopoly. Emphasis is on the relative efficiency of different market structures, with some consideration of options for government regulation. prereq: 1111 or instr consent

ECON 3201. Microeconomic Theory. (4 cr. ; Student Option; Every Fall)

Analytical approach to decision making by individual economic units in the output and input markets, under perfect and imperfect market conditions. Externalities and role of government. prereq: 1111, Math 1101 or instr consent

ECON 3202. Macroeconomic Theory. (4 cr. ; Student Option; Every Spring)

The theory of national income determination; inflation, unemployment, and economic growth in alternative models of the national economy. prereq: 1112, Math 1101 or instr consent

ECON 3211. History of Economic Thought I. (HIST; 2 cr. ; Student Option; Every Fall)

The origin and development of economic thought from Mercantilism through the classical school. Among others, Adam Smith and Karl Marx are featured. Nature of economics as a social science through the study of its historical development. prereq: 1111, 1112

ECON 3212. History of Economic Thought II. (HIST; 2 cr. ; Student Option; Every Fall)

The development of economic thought from Marx and the end of the classical school, through the development of more modern approaches. In addition to the demise of classical thought, a selection from the thinkers who contributed to the foundations of modern microeconomics and/or macroeconomics is covered. Nature of economics as a social science, through the study of its historical development. prereq: 3211 or instr consent

ECON 3501. Introduction to Econometrics. (M/SR; 4 cr. ; Student Option; Every Fall)
Statistical techniques and statistical problems applicable to economics and management, focusing on ordinary least-squares regression, classical inference, and detections of and adjustments for violations of the classical assumptions. The course also briefly explores some advanced econometric topics in model specification, estimation, and prediction that include pooled and panel data models, instrumental variable estimation, two-stage least squares estimation, limited dependent variables and logistic regression. prereq: 3201 or 3202, Stat 1601 or Stat 2601

ECON 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ECON 4101. Labor Economics I. (HDIV; 2 cr. ; Student Option; Every Fall)
Wage and employment determination. Distribution of earnings and earnings inequality by race and sex. Labor supply applications. prereq: 3201 or instr consent

ECON 4102. Labor Economics II. (2 cr. ; Student Option; Every Fall)
Functioning and performance of the labor market. Heterodox explanations of labor market behavior. Labor demand applications. prereq: 3201 or instr consent

ECON 4111. Mathematical Economics I. (2 cr. ; Student Option; Periodic Fall & Spring)
Application of mathematical methods to economic analysis. Mathematical formulations and solution of optimizing models pertaining to households and firms and of adjustments to disturbances. prereq: 3201, 3202 or instr consent

ECON 4112. Mathematical Economics II. (2 cr. ; Student Option; Periodic Fall & Spring)
Topics include linear modeling, input-output analysis and linear programming, efficiency and exchange, comparative static analysis, and dynamic microeconomic and macroeconomic models. prereq: 4111 or instr consent

ECON 4121. International Trade Theory. (2 cr. ; Student Option; Every Spring)
Overview of why trade occurs, pattern of trade and international factor movement. Effect of trade and trade policy on the economy. Current topics in trade theory. prereq: 3201 or Mgmt 3123 or instr consent

ECON 4131. International Finance. (2 cr. ; Student Option; Every Spring)
Foreign exchange markets; theories of exchange rate determination; fixed vs. flexible rate systems; theories of balance of payments adjustments; international quantity of money theory; international reserves; international monetary system (past, present, and future); internal and external balance, international economic policy coordination, international debt problem; effect of international sector on domestic growth and stability. prereq: 3202 or instr consent

ECON 4141. Empirics of Economic Growth. (2 cr. ; Student Option; Periodic Fall & Spring)
Presentation of the recent developments in economic growth with an emphasis on empirical research. The course asks, "Why are some countries so rich and some countries so poor?" Students first explore the proximate causes of economic growth such as physical capital, human capital, and productivity, and then address the role played by fundamental causes such as institutions, geography, and deep history. prereq: 3501

ECON 4501. Senior Research Seminar in Economics and Management. (2 cr. [max 4 cr.] ; Student Option; Every Fall)
Guided research sessions familiarize students with literature in the field. Students devote their time to identify a research question and prepare a literature review and research plan. Students are required to write a short literature review paper and make a formal presentation of their literature review and their research plan to their peers. Required presentations may occur outside the regular class schedule. prereq: 3501 for econ majors or sr status for mgmt majors or instr consent

ECON 4502. Advanced Research Seminar in Economics and Management. (2 cr. ; Student Option; Every Spring)
Guided sessions familiarize students with advanced research tools in the field. Students extend their research from Econ 4501 in the form of a deeper literature review, an empirical analysis, or a specific case study (management majors only). Students are required to submit a final paper and make a formal presentation of their research to their peers. Required presentations may occur outside the regular class schedule. prereq: 4501, instr consent

ECON 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Education (ED)

ED 1801. Critical Issues in K-12 Education. (1C; 2 cr. ; Student Option; Periodic Fall & Spring)
Most first-year college students have spent the majority of their lives immersed in the K-12 education system. This course is an opportunity for students to learn about the historical, political, and social forces that shaped their educational experiences. Students deliberate about and examine pressing and controversial issues in K-12 education today. They explore questions such as whether school dress codes violate students' First Amendment rights, why there are disparities in educational outcomes for students from different backgrounds and what can be done about this, what role religion should be allowed to play in public schools, and more. Students engage with multiple perspectives on each issue and reflect on how each issue impacted their own K-12 educational experiences. Includes opportunities for students to learn

and practice strategies and structures for democratic deliberation of public issues. prereq: new college student in their first semester of enrollment at UMM

ED 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ED 2111. Tutor-Aide Practicum. (1 cr. ; S-N only; Every Fall, Spring & Summer)
Students complete 30 hours of preprofessional field experience in the schools. Students enrolled in this course are required to pay for and submit to a Minnesota background check. prereq: coreq 2121

ED 2121. Introduction to Education. (SS; 4 cr. ; A-F only; Every Fall & Spring)
History, philosophy, and purposes of American education; classroom practices and effective teaching; instructional technology; and certification requirements in education. prereq: coreq 2111

ED 2131. Foundations of Reading. (2 cr. ; A-F only; Every Spring)
Theoretical frameworks that undergird the process of reading and its development, including language and linguistic foundations. Stages of reading and fundamentals of reading processes, including phonemic awareness, phonics, fluency, vocabulary, and reading comprehension. Survey of research on key aspects of literacy development and assessment. [Note: this course is a prerequisite for admission to the Elementary Education program; open to students from all disciplines. Students enrolled in this course are required to pay for and submit to a Minnesota background check.]

ED 2201. Perspectives on Young Adult Literature: Schooling, Society, and Culture. (HUM; 4 cr. ; Student Option; Periodic Summer)
Exposure to multiple genres of young adult literature and brief introduction to various types of response to literature. Special emphasis on multicultural literature, the role of literature in forming moral and cultural values, using literature in the grade 5-12 classroom, and reader response theory and pedagogy. Students read, respond to, select, and evaluate young adult literature.

ED 2221. Diversity and Identity in Literature and Film. (HDIV; 4 cr. ; Student Option; Periodic Spring)
A survey of key concepts in diversity research (including power, prejudice, social justice, institutionalized discrimination, tolerance) as well as identity representation in literary and film texts. Additionally, students analyze power relationships and how they impact and are impacted by such institutions as schooling and the media.

ED 2302. Critical Research on Indigenous Languages and Policies in Public Schools. (E/CR; 4 cr. ; Student Option; Spring Odd Year)
Introduction to Indigenous languages and policies in schools from state, federal, district,

and tribal perspectives. Critical examination of the history of Indigenous language policies from the 19th and early 20th centuries and the impacts of U.S education policies on Indigenous languages. Emphasis on the cultural value of Indigenous communities.

ED 2601. Development, Learning, and Teaching. (SS; 2 cr. ; A-F only; Every Spring) Introductory exploration of perspectives on child and adolescent development including cognitive, social/emotional, personal, physical, and language development and theories of learning, with a strong focus on the implications for effective teaching in the P-12 classroom. This course is a prerequisite for admission to the Elementary and Secondary Education programs.

ED 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ED 3010. Teaching Sustainability: Global Storylines. (ENVT; 4 cr. [max 8 cr.] ; Student Option; Periodic Spring) Introduction to practical methods of teaching sustainability in a variety of settings. Through particular attention to international issues in sustainability, students explore ways to effectively engage others in sustainability issues through developing a short course in their own fields of interest within the sciences, the arts, and the humanities. This "blended" course (mostly in-class sessions combined with a few on-line sessions) will require some site visits to be arranged by the student at the location of the student's choice.

ED 3011. Global Practicum: Building Intercultural Perspectives for PK-12 Education. (IP; 6-10 cr. ; S-N only; Every Fall, Spring & Summer) The practicum provides students interested in education an opportunity to build their intercultural competence, compare and contrast educational systems, and reflect on teaching and learning by assisting a PK-12 mentor teacher in a school. [Note: credit will not be granted if credit has been received for IS 3011; special fee required] prereq: jr status, instr consent

ED 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ED 4121. Strategies for Inclusive Schooling. (2 cr. ; A-F only; Every Fall) Strategies and techniques for developing inclusive learning environments. Discussion of the differences in strategies in accommodations and modifications. Emphasizes adaptations for students with mild, moderate, and severe disabilities. Introduction to various methods of identifying students with disabilities and follow-up interventions. prereq: EIEd 3101, 3102, 3103, 3111 or admission to the secondary education program

ED 4901. The Teacher and Professional Development. (1 cr. ; A-F only; Every Spring) Capstone experience. Professional development issues and philosophy of education are included as topics of study. prereq: EIEd or SeEd 4201 or 4204 or instr consent

ED 4903. Kindergarten Education. (; 4 cr. ; A-F only; Periodic Fall, Spring & Summer) Study of kindergarten education. Topics include: historical foundations, philosophy, current issues and trends, developmental characteristics and organizational needs of kindergarten children, and developmentally appropriate practices and instruction in the classroom. prereq: instr consent

ED 4911. Kindergarten Practicum. (; 1 cr. ; S-N only; Periodic Fall, Spring & Summer) Field experience with kindergarten children. prereq: coreq 4903

ED 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Elementary Education (ELED)

ELED 3101. Teaching and Learning Strategies. (3 cr. ; A-F only; Every Fall) Elementary school teaching and learning. Planning for instruction, learning theory, multicultural education, classroom management, use of technology in the classroom. prereq: admission to the elementary teacher education program

ELED 3102. Reading Methods: Literacy and Language Instruction in the Elementary School. (4 cr. ; A-F only; Every Fall) Beginning and advanced reading instruction in the elementary grades. Includes study of theory, issues, literacy frameworks, assessment, materials, organization, and instructional strategies to scaffold children's literacy development. prereq: admission to elementary teacher education program

ELED 3103. Mathematics in the Elementary School. (4 cr. ; A-F only; Every Fall) Standards, curriculum, assessment, and methodology for teaching mathematics in the elementary school. Includes the theoretical basis of methodology in mathematics and its application, measurement and evaluation, selection and use of instructional media and computer software, and meeting the needs of culturally diverse and special needs students. prereq: admission to the elementary teacher education program

ELED 3111. Practicum I: Field Experience in the Elementary Classroom. (2 cr. ; S-N only; Every Fall) Field experience in the elementary classroom. prereq: admission to the elementary teacher education program

ELED 3202. Middle Level Theory and Methods. (1 cr. ; A-F only; Every Spring)

Developmental characteristics, organizational and instructional needs of pre-adolescent and adolescent level classrooms. Characteristics of effective middle level teachers. prereq: 3101, 3102, 3103, 3111

ELED 3203. Preprimary Theory and Pedagogy. (4 cr. ; A-F only; Every Spring) The theoretical foundations of young children's development, historical foundations of early childhood education, interaction with families. Explore the methods, materials, and research for planning and implementing a developmentally appropriate curriculum, assessments, and learning environments for children from ages 3-5. Required for students pursuing a preprimary endorsement. A 40-hour practicum experience (EIEd 3211) must be taken concurrently. prereq: 3101, 3102, 3103, 3111

ELED 3204. Advanced Childhood and Adolescent Development. (2 cr. ; A-F only; Every Spring) Extended study of child and adolescent development with a particular focus on teaching and learning for early elementary and middle school learners. This is a required course for students majoring in elementary education. prereq: 3101, 3102, 3103, 3111

ELED 3211. Practicum II: Field Experience in a Preprimary Setting. (1 cr. ; S-N only; Every Spring) Field experience in preprimary or kindergarten setting. prereq: 3101, 3102, 3103, 3111

ELED 3212. Practicum II: Field Experience in a Middle Level Setting. (1 cr. ; S-N only; Every Spring) Field experience in the middle level classroom. prereq: 3101, 3102, 3103, 3111

ELED 3213. Practicum II: Field Experience in a K-6 Setting. (1 cr. ; S-N only; Every Spring) Field experience in a K-6 classroom. prereq: 3101, 3102, 3103, 3111

ELED 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ELED 4102. Social Studies in the Elementary School. (2 cr. ; A-F only; Every Fall) Outcomes, content, integration strategies, and assessment of social studies instruction in the elementary curriculum. prereq: 3201, 3202, (3211 or 3212)

ELED 4103. Science in the Elementary School. (2 cr. ; A-F only; Every Fall) Standards, curriculum, and assessment of elementary school science. Includes theoretical basis of methodology and its application, assessment, selection and use of instructional media and computer software, and meeting the needs of cultural diverse and special needs students. prereq: 3201, 3202, (3211 or 3212)

ELED 4104. Language Arts and Literature in the Elementary School. (3 cr. ; A-F only; Every Fall)

Theory, content, assessment, and strategies that support identification, selection, and use of materials and practices in the language arts and children's literature that foster children's language development and growth in reading, writing, speaking, listening, viewing, and visually representing. prereq: 3201, 3202, (3211 or 3212)

ELED 4107. Health and Physical Education in the Elementary School. (1 cr. ; A-F only; Every Fall)

Scope, sequence, and related activities in elementary health and physical education. prereq: 3201, 3202, (3211 or 3212)

ELED 4111. Practicum III: Beginning Student Teaching. (2 cr. ; S-N only; Every Fall)

Participation in in-service, teaching, and teaching-related activities in preparation for student teaching. prereq: 3201, 3202, (3211 or 3212)

ELED 4112. Practicum IV: Cross-Cultural Experience in the Elementary School. (1 cr. [max 2 cr.] ; S-N only; Every Fall)

Field experience in the elementary classroom. [Note: special fee required if practicum is in Chicago] prereq: 3201, 3202, (3211 or 3212)

ELED 4201. Directed Student Teaching in Primary and Intermediate Grades. (HDIV; 12 cr. ; S-N only; Every Spring)

Students teach for a period of 10 to 12 weeks demonstrating application of approaches to teaching and learning in primary and intermediate grades under the guidance of a cooperating teacher and University supervisor. [Note: special fee required] prereq: 4102, 4103, 4104, 4111, 4112, passing scores on basic skills exams or instr consent

ELED 4202. Directed Student Teaching in Primary and Intermediate Grades. (1-16 cr. ; S-N only; Every Fall & Spring)

For students who need alternative or additional student teaching experience. Students demonstrate application of approaches to teaching and learning in primary and intermediate grades under guidance of a cooperating teacher and University supervisor. [Note: special fee required] prereq: passing scores on basic skills exams or instr consent

ELED 4204. Directed Global Student Teaching at the Primary and Intermediate Level. (IP; 1-16 cr. ; Student Option; Every Fall, Spring & Summer)

Students complete Global Student Teaching for demonstrating application of approaches to teaching and learning in primary and intermediates grades under the guidance of a cooperating teacher and University supervisor. [Note: special fee required] prereq: 4102, 4103, 4104, 4111, 4112, passing scores on basic skills exams or instr consent

ELED 4206. Directed Student Teaching in Preprimary Classroom. (HDIV; 4 cr. ; S-N only; Every Spring)

Students teach for a period of 4 weeks demonstrating application of approaches to teaching and learning in preprimary grades under the guidance of a cooperating teacher

and University supervisor. [Note: special fee required] prereq: 3201, 3203, 3211, passing scores on basic skills exams or instr consent

ELED 4207. Directed Student Teaching in Middle Level Classroom. (HDIV; 4 cr. ; S-N only; Every Spring)

Students teach for a period of 4 weeks demonstrating application of approaches to teaching and learning in middle level grades under the guidance of a cooperating teacher and University supervisor. [Note: special fee required] prereq: 3202, 3212, appropriate methods course, passing scores on basic skills exams or instr consent

ELED 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

English (ENGL)

ENGL 1001. Fundamentals of Writing. (4 cr. ; Student Option; Every Fall)

Intensive practice in the fundamentals of writing. Students learn and apply strategies for generating, organizing, revising, and editing their writing. [Note: does not fulfill the Writing for the Liberal Arts (WLA) requirement]

ENGL 1011. College Writing. (; 4 cr. ; Student Option; Periodic Fall & Spring)

Practice in academic writing, with special emphasis on argumentation, reading closely and critically for the purposes of scholarly analysis, responding to and making use of the work of others, and drafting and revising texts. [Note: does not fulfill the Writing for the Liberal Arts (WLA) requirement]

ENGL 1601. Writing for the Liberal Arts. (WLA; 4 cr. ; Student Option; Every Fall & Spring)

Instruction in academic writing: analysis, argument, inquiry, research, scholarly conversation, clarity, style. Emphasis on writing processes: plan, draft, review, rewrite, revise. Development of information literacy: identify, locate, evaluate, cite, and use electronic and print resources. Workshops with peers and instructor.

ENGL 1801. Fan Cultures and Fan Creativity. (IC; 4 cr. ; Student Option; Periodic Fall)

Exploration of histories and theories of media fandom: communities dedicated to celebrating, analyzing, and transforming commercial entertainment (film, TV, music, books, comics) through discussions, fan works, and other interactions and activities. Assignments include both written and multimedia projects. prereq: new college student in their first semester of enrollment at UMM

ENGL 1802. You're Here! Where's Here?: Reading the Prairie. (IC; 2 cr. ; Student Option; Every Fall)

Explore the idea of place and the nature of the place that is the western Minnesota prairie through film, art, and readings by writers such

as Bill Holm, Paul Gruchow, Meridel LeSueur, Adrian Louis, Robert Bly, Thomas McGrath, and Carol Bly. [Note: field trips outside of class are required; credit will not be granted if cr has been received for IS 1813] prereq: new college student in their first semester of enrollment at UMM

ENGL 1803. Shakespearean Adaptations. (IC; 4 cr. ; Student Option; Periodic Fall)

Read four Shakespeare plays and watch a range of contemporary film adaptations of each one. The course also incorporates discussion (about the texts, the nature of adaptation, Shakespeare's celebrity, etc.) and addresses skills essential to academic success (research, collaboration with peers, analytical writing, etc.). prereq: new college student in their first semester of enrollment at UMM

ENGL 1804. The American Graphic Novel. (IC; 4 cr. ; Student Option; Periodic Fall)

Introductory survey of the recent rise of graphic novels. In addition to discussing the aesthetic possibilities afforded by the medium of sequential art, study several celebrated graphic novels in their cultural contexts, and read criticism that situates them in relation to broader issues of representing identity in current popular culture. prereq: new college student in their first semester of enrollment at UMM

ENGL 1805. Environmentalism in Science Fiction and Fantasy. (IC; 4 cr. ; Student Option; Periodic Fall)

An exploration of environmental representations, ideas, and themes within science fiction and fantasy literature. Also features an introduction to basic environmental theories in literature. Assignments include reading novels, short stories, academic articles, and writing both critical and creative pieces. prereq: new college student in their first semester of enrollment at UMM

ENGL 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ENGL 2014. Introduction to Popular Literature: Science Fiction. (HUM; 4 cr. ; Student Option; Periodic Fall)

Introduction to popular literature in a variety of styles and forms with emphasis on analysis and context. prereq: 1601 (or 1011) or equiv or declared English major

ENGL 2015. Introduction to Film Studies.

(HUM; 4 cr. ; Student Option; Periodic Spring) Develops students' abilities to view films critically and to deepen their understanding of the film experience. Begins with critical analysis skills and terminology, then takes up the study of genres and styles, including documentaries and foreign films. [Note: weekly lab required for viewing films] prereq: 1601 (or 1011) or equiv or declared English major

ENGL 2016. Monsters and the Monstrous in English Literature. (HUM; 4 cr. ; Student Option; Periodic Spring)

Monsters in literature reveal our fascination with the supernatural and the grotesque, with the unknown and the boundaries of what it means to be human. Explore how writers have imagined monsters and in what contexts, with examples from the Middle Ages to the present and from British and American literature and film.

ENGL 2022. Sports Literature and Writing. (ART/P; 4 cr. ; Student Option; Periodic Fall) Introduction to sports literature and sports writing, including exploration of rhetorical modes and techniques. prereq: 1601 (or 1011) or equiv

ENGL 2031. Gender in Literature and Culture. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring) Introduction to literary and cultural representations of gender. Emphasis on the intersections between power and the social relations of gender, race, class, and sexuality. prereq: 1601 (or 1011) or equiv or declared English major

ENGL 2033. The Bible and Literature. (HUM; 4 cr. ; Student Option; Periodic Fall) Introduction to the role of the English Bible in the western literary tradition. Readings include key Biblical narratives, as well as English and American literary texts that are either deeply influenced by these stories or attempt to re-write them. prereq: 1601 (or 1011) or equiv or declared English major

ENGL 2041. Introduction to African American Literature. (HDIV; 4 cr. ; Student Option; Periodic Spring) Introduction to issues and themes in African American literature and culture, with emphasis on historical and cultural context. prereq: 1601 (or 1011) or equiv or declared English major

ENGL 2059. Introduction to Shakespeare. (HUM; 4 cr. ; Student Option; Spring Even Year) A careful reading of a representative selection of Shakespeare's poetry and plays (including histories, comedies, tragedies, and romances). Consideration of generic and dramatic conventions, cultural contexts, literary elements, and performance choices on stage and in film. Serves non-majors as well as majors. prereq: 1601 (or 1011) or equiv or declared English major

ENGL 2061. Introduction to Popular Literature: Detection and Espionage in Fiction and Film. (HUM; 4 cr. ; Student Option; Fall Even Year) Examination of the detective and espionage genres in relation to 20th-century social and geopolitical pressures. prereq: 1601 (or 1011) or equiv or declared English major

ENGL 2106. Topics in Writing: The Environmental Imagination: Reading and Writing about the Natural World. (ENVT; 4 cr. ; Student Option; Periodic Fall & Spring) Writing about the environment. Students learn to use the rich possibilities of language to express their responses to nature and convey to others the importance of close contact with the natural world. Readings in

poetry and prose, discussion of technique, and experimentation with a variety of styles and literary forms. prereq: 1601 (or 1011) or equiv

ENGL 2107. Writing with Digital Media. (HUM; 4 cr. ; Student Option; Periodic Spring) Theory and practice of planning, designing, creating, and revising digital texts, including assessing writing situations to choose appropriate form. Students learn building blocks of writing in digital environments (text, sound, images, video), produce texts using these elements, read about multimodal composing, and analyze digital media works. prereq: 1601

ENGL 2108. Writing With Style. (2 cr. ; Student Option; Periodic Spring) Students identify key elements of the writing styles they want to practice; learn about the rhetorical effects of words, sentence structures, and emphasis patterns; revise their own sentences to be more clear, concise, and coherent--or witty, satirical, elaborate, elegant. prereq: 1601

ENGL 2121. Topics in Writing: Introduction to Creative Writing. (ART/P; 4 cr. ; Student Option; Every Fall) Introduction to the basic elements of creative writing, including exploration of poetry, story, and journal writing. Practice with techniques such as dialogue, description, voice, and style. prereq: 1601 (or 1011) or equiv

ENGL 2171. Topics in Writing: Editing and Proofreading. (HUM; 4 cr. ; Student Option; Periodic Spring) Students learn and practice the techniques of developmental editing, copyediting, and proofreading, while exploring career applications for these skills. prereq: 1601 (or 1011) or equiv

ENGL 2173. The Nature Essay: Writing and Reading Creative Non-fiction about the Natural World. (ENVT; 4 cr. ; Student Option; Periodic Spring) Students write creative non-fiction centered on the natural world and read the work of noted essayists in the field such as Henry David Thoreau, Gretel Ehrlich, Scott Russell Sanders, Kathleen Dean Moore, and Terry Tempest Williams. prereq: 1601

ENGL 2201. Survey of British Literature to the 18th Century. (HUM; 4 cr. ; Student Option; Every Fall) Readings in English poetry, prose, and/or drama from the beginnings to the 18th century. Specific authors vary.

ENGL 2202. Survey of British Literature from the 18th Century Forward. (HUM; 4 cr. ; Student Option; Every Spring) Readings in English poetry, prose, and/or drama from the 18th century to the present. Specific authors vary.

ENGL 2211. Survey of American Literature to the Civil War. (HUM; 4 cr. ; Student Option; Periodic Fall & Spring) Study of important texts, canonical and non-canonical, and important periods and movements that define the colonial and U.S. experience up to 1865.

ENGL 2212. Survey of American Literature from the Civil War Forward. (HUM; 4 cr. ; Student Option; Periodic Fall & Spring) Study of selected historical and literary texts in U.S. literature, canonical and non-canonical, from 1865 to the present.

ENGL 2253. Modern and Postmodern Love in the Novel. (HUM; 4 cr. ; Student Option; Spring Odd Year) Modernists and postmodernists are famous for casting an ironic glance on God and Truth. But are they as cynical and skeptical about love? In this course, students work through the writings of prominent 20th- and 21st-century novelists who struggled to define love. prereq: 1601

ENGL 2411. Representations of American Indians in Popular and Academic Culture. (HDIV; 4 cr. ; Student Option; Periodic Fall) Study of representations of American Indians in American popular and academic culture including literature, films, and sports. Particular attention given to how Indian identity, history, and cultures are represented in pop culture by non-Indians and, more recently, Indians themselves. prereq: 1601 (or 1011) or equiv or declared English major

ENGL 2501. Literary Studies. (HUM; 4 cr. ; Student Option; Every Fall & Spring) An introduction to the tools and methods of literary analysis, including the vocabulary of criticism, the techniques of close reading, and the conventions of literary argumentation. Primarily for English majors and minors. A prerequisite to advanced courses in English. [Note: no credit for students who have received cr for Engl 1131] prereq: 1601 (or 1011) or equiv

ENGL 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ENGL 3005. Understanding Writing: Theories and Practices. (HUM; 4 cr. ; Student Option; Every Fall) Introduction to composition theory: generating, composing, revising, and responding to writing; conventions across disciplines; strategies for teaching and tutoring writing. Weekly short assignments; three formal papers, written and revised in stages; oral presentation of research. Required for first-semester Writing Room staff. prereq: 1601 (or 1011) or equiv, soph standing, instr consent, coreq IS 3720 for students working in the Writing Room

ENGL 3012. Advanced Fiction Writing. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) For experienced writers. Focus on developing skills and mastering creative and technical elements of writing fiction. prereq: 2121 or instr consent

ENGL 3015. Writing Poetry for the 21st Century. (ART/P; 4 cr. ; Student Option; Periodic Spring) A creative writing class. Practice with the different elements of poetry-sound, rhythm,

imagery, voice, line-and exploration of the ways contemporary poets use and transform traditional forms and techniques. prereq: 2121 or instr consent

ENGL 3016. Innovations on the Page. (ART/P; 4 cr. ; Student Option; Periodic Spring) In this creative writing course, students explore new models in literary publishing, literary fiction, nonfiction, and poetry while writing and learning about sudden fiction, the lyric essay, the collage novel, linked short stories, and other innovative forms and movements. prereq: 2121 or instr consent

ENGL 3017. Book Publishing: History and Contemporary Trends. (HUM; 4 cr. ; Student Option; Periodic Spring) Consider the history of the book, the role of publishing in cultural production, the implications of the shift toward digital publishing, and an overview of the tasks involved in contemporary publishing, including acquisitions, editing, design, production, sales, and marketing. prereq: 1601 (or 1011) or equiv

ENGL 3018. Scholarly Writing Workshop. (2 cr. ; Student Option; Periodic Spring) For juniors and seniors from any major working on substantial academic writing projects. Readings and discussions critically investigate history of and differences among disciplinary discourse conventions; workshops support processes of planning, researching, drafting, organizing, revising. prereq: 1601

ENGL 3021. Grammar and Language. (HUM; 4 cr. ; Student Option; Every Fall) Study of the English language. Historical development and current structure. Includes language variation and change, social history of language, phonology, syntax, semantics, development of English grammar, prescriptive versus descriptive grammar, and contemporary theories of grammar.

ENGL 3032. Creative Nonfiction Writing. (ART/P; 4 cr. ; Student Option; Periodic Spring) For experienced writers. Focus on understanding and practicing the rhetorical and stylistic choices available to writers of creative nonfiction, especially decisions about structure, pacing, language, style, tone, detail, description, and narrative voice. prereq: 2121 or instr consent

ENGL 3043. Medieval Makings of Tolkien's Worlds. (4 cr. ; Student Option; Periodic Fall & Spring) Texts in Old and Middle English, as well as some Welsh, Old Irish, and Old Norse ones, are the basis for this course, framed by references and uses in the fiction of J. R. R. Tolkien, one of the most influential fantasy writers of the 20th century and a scholar of medieval literature. (Readings will be mostly medieval literature.) prereq: 2501, two from 2201, 2202, 2211, 2212

ENGL 3142. The Rise of the Novel. (4 cr. ; Student Option; Periodic Spring) The 18th-century origins of the British novel: experiments with the new form, influence of earlier genres, evolution of formal realism. Authors may include Austen, Burney, Fielding,

Richardson, and Sterne. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3153. Gothic Literature. (4 cr. ; Student Option; Periodic Fall) The cultural origins of gothic literature in tension with the neoclassical values of 18th-century Britain and its persistent influence over the next two centuries (including its relationship to modern horror fiction and film). Emphasis on the ways gothic tales encode cultural anxieties about gender, class, and power. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3154. 19th-Century British Fiction. (4 cr. ; Student Option; Periodic Fall & Spring) The rise of the novel to respectability and prominence in Britain from the Romantics to the Victorians. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3155. 20th-Century British Fiction. (4 cr. ; Student Option; Periodic Fall & Spring) Major novelists from the Modernist period and after, focusing on the historical context of the new challenges to literary tradition. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3156. Modern Irish Literature. (4 cr. ; Student Option; Periodic Spring) The poetry, fiction, and drama of Irish writers from 1890-1927, with attention to the ways that literature shaped a national identity. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3157. English Renaissance Drama. (4 cr. ; Student Option; Periodic Fall) A thorough study of the early modern English theater, including readings of 16th- and 17th-century plays and consideration of the literary and cultural contexts that informed them. Special attention is given to the works of Shakespeare's contemporaries, such as Marlowe, Jonson, Cary, Middleton, and Webster. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3159. Shakespeare: Studies in the Bard. (4 cr. ; Student Option; Spring Odd Year) A topics-based study of Shakespeare's works and other pertinent texts. Sample topics include "Shakespeare's Women," "Dangerous Rhetoric in Shakespeare," and "Shakespeare and His Sources." Attention is given to historical and literary contexts, and students are asked to consider Shakespeare's work as it is read as well as performed. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3161. Medieval Literature. (4 cr. ; Student Option; Periodic Fall & Spring) Early and later medieval prose, poetry, and drama produced and/or widely read in England from about 700-1500. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3163. Life in a Medieval City: Literature and Culture in York, 700-1500. (HUM; 4 cr. ; Student Option; Periodic Summer) Travel to York, England, to study the literature and history of the city from Anglo-Saxon times to the end of the Middle Ages. Focus on the

role that York played as the second city of medieval England, emphasizing the diverse cultural influences on the city. Day trips to historically significant sites in the vicinity of York. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212 or instr consent

ENGL 3165. Seventeenth-Century Revolutions. (4 cr. ; Student Option; Periodic Fall) An in-depth study of how 17th-century British literature represents and responds to the numerous revolutionary changes of the time, including political, religious, sexual, cultural, and genre-based upheavals. Writers to be considered may include Philip Sidney, John Donne, Mary Wroth, George Herbert, Margaret Cavendish, Aphra Behn, and John Milton. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3166. Postcolonial Literature. (4 cr. ; Student Option; Periodic Fall & Spring) Study of literature as site of cultural conflict during and after imperial encounters, from the perspectives of both colonizers and colonized peoples. Particular focus on Britain and its former colonies. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3168. Victorian Literature and Culture. (4 cr. ; Student Option; Every Spring) Studies an array of 19th-century literary forms, including fiction, poetry, drama, and prose, in their social and political contexts. prereq: 2501, two from 2201, 2201, 2211, 2212, or instr consent

ENGL 3171. The Literature of Creative Nonfiction. (4 cr. ; Student Option; Periodic Summer) Explore the genre of creative nonfiction as a literary tradition and help to articulate what creative nonfiction is (as well as what it isn't). Students collaborate in creating working definitions for the genre and prepare projects in which they curate and present a list of readings in the genre. prereq: 2501 (or 1131)

ENGL 3172. American Utopian Literature. (4 cr. ; Student Option; Periodic Fall) Americans have always been drawn to visions of transformation even as they shrink from imagined dangers. Investigate American literary responses to utopian possibilities and how that literature has shaped and continues to influence the American sense of the possible. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3173. Contemporary British Literature. (4 cr. ; Student Option; Periodic Spring) Exploration of contemporary British literature, with emphasis upon a diversity of new voices. prereq: 2501, two from 2201, 2202, 2211, 2212, or instr consent

ENGL 3174. Contemporary Indian and Caribbean Literature. (IP; 4 cr. ; Student Option; Periodic Spring) Exploration of contemporary literature in English from India and the Caribbean. prereq: 2501, two from 2201, 2201, 2211, 2212, or instr consent

ENGL 3261. Modern British and American Poetry. (4 cr. ; Student Option; Periodic Fall)
A study of the continuities and break with traditions in 20th-century poetry. Focus on innovations and experiments in form and theme. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3262. 20th-Century American Poetry: From Modern to Contemporary. (4 cr. ; Student Option; Periodic Fall)
Study of the radical shifts in poetry and poetics in 20th-century America. Exploration of the ways that poets such as Robert Lowell, Adrienne Rich, Frank O'Hara, Denise Levertov, Allen Ginsberg, James Wright, and Sylvia Plath broke with modernist conventions and New Critical aesthetics and opened the field for the poetry of the late 20th and early 21st centuries. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3301. U.S. Multicultural Literature. (HDIV; 4 cr. ; Student Option; Periodic Spring)
Examination of literatures by African American, American Indian, Asian American, Chicana/o, U.S. Latino/a, and other under-represented peoples. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212, or instr consent

ENGL 3311. American Indian Literature. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring)
Study of American Indian literature written in English. Particular attention given to language, identity, land, and sovereignty. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212, or instr consent

ENGL 3312. World Indigenous Literature and Film. (HDIV; 4 cr. ; Student Option; Spring Odd Year)
Comparative study of indigenous literature and film from North America, New Zealand, and Australia with particular emphasis given to issues of political and cultural sovereignty, cultural appropriation, self-representation, and colonial nostalgia. prereq: 2501, two from 2201, 2202, 2211, 2212, or instr consent, or Amln major

ENGL 3331. African American Literature. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring)
Study of African American literature. Particular attention given to issues of gender, class, power, "passing," and the racialized body. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3332. African American Women Writers. (HDIV; 4 cr. ; Student Option; Periodic Fall)
If African Americans struggled to achieve equality and recognition in the racist United States, the situation was even more difficult for African American women, who had to contend with the sexism in both the white and black communities. This course examines the writings of prominent African American women. prereq: 1601 (or 1011) or equiv or instr consent

ENGL 3411. Critical Approaches to Literature. (4 cr. ; Student Option; Periodic Fall)

An introduction to the major schools of literary theory and cultural analysis; particular attention to the ways in which the dialogue and debate between these approaches define the discipline of literary criticism. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3414. Feminist Theory. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring)
Same as GWSS 3414. Engages students in a critical examination of several influential works participating in the elaboration of feminist theories. Readings and discussions focus on a series of themes and issues--gender, sexuality, race, class, language, bodies, etc.--and how these issues bear upon society. prereq: [2501 (or 1131), two from 2201, 2202, 2211, 2212] or [GWSS 1101]

ENGL 3444. Holocaust Literature and Film. (IP; 4 cr. ; Student Option; Fall Even Year)
Survey of Holocaust literature and film, focusing on works that clarify the political ideology that led so many to participate in the murder of two-thirds of Europe's Jews and that articulated what Jews suffered during the Nazi era. prereq: 1601 (or 1011) or equiv

ENGL 3522. Harlem Renaissance. (HDIV; 4 cr. ; Student Option; Fall Even Year)
During the 1920s, there was a major aesthetic outpouring in the African American community. Listen to jazz, examine African American artwork, and read poetry, short stories, novels and essays from Harlem Renaissance writers. prereq: 2501 (or 1131), two from 2201, 2202, 2211, 2212

ENGL 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ENGL 4004. Research Seminar: Old English Literature and Language. (4 cr. ; Student Option; Periodic Fall & Spring)
Prose and poetry of early medieval England (650-1100) in translation and in Old English (which is studied), with attention to material (manuscripts) and cultural contexts and to reception history. prereq: two from 31xx-35xx, instr consent

ENGL 4012. Research Seminar: Imagining the Earth. (4 cr. ; Student Option; Periodic Fall & Spring)
Study of imaginative writing (poetry and prose) about the earth, and an examination of the ways that language transforms or shapes our perceptions of the natural world. In addition to the primary literary works, students read selections about our understanding of the natural world from science, philosophy, and ecocriticism. prereq: two from 31xx-35xx, instr consent

ENGL 4017. Research Seminar: Tricksters-Conjurers in American Indian and African American Literature. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring)
Study of tricksters and conjurers in American Indian and African American literature, in particular their ability to maintain traditional

practices and subvert the dominant culture and imposed cultural norms. Special attention given to cultural and historical contexts and questions of power, identity, cultural difference, and assimilation. prereq: two from 31xx-35xx, instr consent

ENGL 4023. Research Seminar: Nationalism and Irish Literature. (4 cr. ; Student Option; Periodic Fall & Spring)
Examination of 20th-century Irish literature through the lens of cultural nationalism. How questions of language, race, culture, and colonial history make the idea of Ireland problematic. Exploration of a diverse host of writers interested in Irish myths, ideals, and identities with research from Irish and postcolonial studies. prereq: two from 31xx-35xx, instr consent

ENGL 4024. Research Seminar: Poet's Choice: The Book as the 25th Poem. (4 cr. ; Student Option; Periodic Spring)
"If you have a book of twenty-four poems, the book itself should be the twenty-fifth," claims poet James Wright. Study of single volumes of poetry, examination of the book as a whole, and consideration of the sequence of poems and recurring images and themes. Exploration of key movements of the 20th century, placing each volume in its literary context. prereq: two from 31xx-35xx, instr consent

ENGL 4027. Research Seminar: Dickens and Criticism. (4 cr. ; Student Option; Periodic Fall)
Multiple novels by Dickens in their historical context with sustained attention to recent critical analysis of his work. prereq: two from 31xx-35xx, instr consent

ENGL 4028. Research Seminar: Inventing a Nation: Early American National Literature. (4 cr. ; Student Option; Periodic Spring)
At the end of the Revolution, Americans set out to create a literature that would define the new nation. Writers adapted old forms and invented new ones in an effort to make American writing distinct and somehow reflective of the nation's values. This course explores those efforts, including drama, novels, magazine writing, and their contexts. prereq: two from 31xx-35xx, instr consent

ENGL 4029. Research Seminar: Perspectives on Literacy. (4 cr. ; Student Option; Spring Odd Year)
Study of literacies and literate practices, both print and digital; the history and politics of defining literacy; and the role of technologies in literate activities. prereq: two from 31xx-35xx, instr consent

ENGL 4031. Research Seminar: Renaissance Romance. (4 cr. ; Student Option; Periodic Fall)
An intensive study of the ever-controversial and paradoxical romance genre of 16th- and 17th-century England. Texts include Sir Philip Sidney's "Arcadia," Lady Mary Wroth's "Urania," Robert Greene's "Menaphon," and William Shakespeare's "The Winter's Tale," among others. prereq: two from 31xx-35xx, instr consent

ENGL 4032. Research Seminar: Transnational Theory and Literatures. (4 cr. ; Student Option; Periodic Spring)

An intensive study of transnational literature and theory from the turn of the 20th century to the present, emphasizing the movement of marginalized subjects to the center of cultural expression, the intertwining of cultures in contact zones, and the forms of identity emerging from these modern, hybrid cultures. prereq: two from 31xx-35xx, instr consent

ENGL 4034. Research Seminar: The Adventure Novel in American and British Literature. (4 cr. ; Student Option; Fall Odd Year)

Survey of adventure fiction in the Anglo-American tradition from Walter Scott through the mid 20th century, paying particular attention to themes that shaped this tradition, including imperialism and revisions of masculine identity. prereq: two from 31xx-35xx, instr consent

ENGL 4035. Research Seminar: Booker Watch: Contemporary British Literature and the Emergence of Canonicity. (1P; 4 cr. ; Student Option; Periodic Fall & Spring)

Comparison of leading contenders for the annual Booker Prize. Student research encompasses the history and controversies that have surrounded the Booker, the generic and national traditions favored in the prize, and the emergence of canonicity through the awarding of the prize. prereq: two from 31xx-35xx, instr consent

ENGL 4036. Research Seminar: American Biographical Novel. (4 cr. ; Student Option; Periodic Spring)

Before the 1970s, there were only a handful of biographical novels, but since the 1980s, this genre of fiction has become incredibly popular. Examine what led to the rise of the biographical novel and examine a variety of such novels. prereq: two from 31xx-35xx, instr consent

ENGL 4037. Research Seminar: The Biographical Novel. (4 cr. ; Student Option; Spring Odd Year)

Before the 1970s, there were only a handful of acclaimed biographical novels, but since the 1980s, this genre of fiction has become incredibly popular. Examine what led to the rise of the biographical novel across the globe and examine a variety of such novels. prereq: two from 31xx-35xx, instr consent

ENGL 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

English Education Methods (ENGE)**ENGE 4121. Methods of Teaching Communication Arts and Literature in the Middle and Secondary School.** (4 cr. ; A-F only; Every Fall)

Objectives, curricula, special methods, materials, and evaluation appropriate for

teaching communication arts and literature in the middle and secondary school. prereq: admission to the secondary teacher education program or elementary education program, coreq SeEd 4102, SeEd 4103 or prereq ELED 3202, ELED 3212

Environmental Science (ESCI)**ESCI 1131. Renewable Energy With Biomass Gasification.** (SCI-L; 3 cr. ; Student Option; Every Summer)

Principles of biomass gasification with a focus on chemical, biological, and economic considerations of biomass energy production. Features hands-on training in chemistry and biomass with classroom and lab activities. Prereq-Math 0901 or placement beyond Math 0901 using ACT/placement exam or instr consent.

ESCI 2201. Field Experience in Environmental Challenges of the Italian Alps. (ENVT; 4 cr. ; Student Option; Summer Even Year)

Study of the impact of geologic processes such as tectonism, mass movement, and flooding; understanding climate change through the observation of vegetation changes and glacier fluctuations; soil and water resources and the archaeological record of the nature of human settlements in the Alps.

ESCI 3111. Evolution of the Minnesota Prairie. (SCI-L; 4 cr. ; Student Option; Fall Odd Year)

Interpretation of the geologic, geochemical, climatologic, and paleontological records of western Minnesota to reconstruct the origin and history of the landscape, flora, and fauna during the last 15,000 years. Topics include: climate, deglaciation, large lakes, vegetation changes, late Pleistocene mammals, peopling of the upper Midwest, and extraterrestrial impact events in the upper Midwest. (3 hrs lect, 3 hrs lab, and field trip) prereq: Geol 1101 or EnSt 2101 or instr consent

ESCI 3196. Environmental Science Field Camp. (SCI; 2-4 cr. ; Student Option; Every Fall, Spring & Summer)

An educational experience in a field or internship setting focusing on identification and solution of environmental science problems in an environmental field, including environmental geology, hydrology, environmental chemistry or environmental biology. A course syllabus or written plan of work must be approved by the Environmental Science Advisory Committee before registration. Prereq-jr status

ESCI 3301. The Chemistry of Sustainable Energy. (SCI; 4 cr. ; Student Option; Fall Even Year)

Same as Chem 3301. The fundamental chemical concepts underlying energy sources. Topics include: energy basics, fossil fuels, "sustainable" energy sources, biomass, solar voltaics, hydrogen fuel cells, and nuclear energy. prereq: Chem 2302 or instr consent

ESCI 4901. Environmental Science Senior Seminar I. (1 cr. ; A-F only; Every Fall)

Capstone experience in environmental science. Identification and selection of individual research topics and related bibliographic resources; development of skills in the reading of environmental science literature (assessing data, recognizing gaps in the research findings, identifying problems in research conclusions). Discussion of selected topics of environmental interest. prereq: instr consent

ESCI 4902. Environmental Science Senior Seminar II. (1 cr. ; A-F only; Every Spring)

Capstone experience in environmental science. Completion of research, assessment of information or data, and formulation of conclusions on the research topic selected. Presentations of research projects. prereq: 4901, instr consent

Environmental Studies (ENST)**ENST 1101. Environmental Problems and Policy.** (ENVT; 4 cr. ; Student Option; Every Fall & Spring)

An introduction to the ways in which state, national, and international political systems deal with environmental issues and goals. The development of environmental governance, the regulatory and economic tools of environmental policy, and the impact of institutions, culture, social movements, and historical development.

ENST 1201. Mapping the Environment. (ENVT; 4 cr. ; Student Option; Periodic Fall & Summer)

An intense immersion into the world of geographic information systems (GIS), with an emphasis on providing a foundation upon which future coursework and projects can be built. The first half of the course focuses on basic skills and functions; the second half is devoted to an environment-related mapping project. [Note: no elective cr for EnSt majors if credit has been received for Geol 2161]

ENST 2101. Environmental Biology. (SCI-L; 4 cr. ; Student Option; Every Fall)

Introduction to concepts in biodiversity, evolution, and ecology. Includes basic chemistry and concepts from cell biology, molecular biology, and genetics. A one-course gateway into upper division Biology courses normally requiring the Biol 1111-2101 sequence. (two 65-min lectures, one 180-min lab)[Note: credit will not be granted if credit has been received for Biol 2101]

ENST 3001. Water Resources Policy. (ENVT; 4 cr. ; Student Option; Fall Odd Year)

An examination of fundamental contemporary water resource challenges. Units on water quality (e.g., drinking water) and quantity (e.g., irrigated agriculture) encourage critical evaluation of local, national, and international water resources policy in the contexts of environmental quality, human health, and technology. (two 100 min discussions) prereq: 1101 or Pol 1201 or Pol 1401 or instr consent

ENST 3101. Industrial Ecology. (4 cr. ; Student Option; Fall Even Year)

Systems thinking in the context of industrial/environmental issues. Methods or frameworks including life cycle analysis and design for

disassembly, guide an examination of product design, material choice, and flows of energy and resources into, through, and from industrial cycles. [Note: no credit for students who have received cr for EnSt 4101] prereq: 1101, 2101, Econ 1111, Geol 1101, Stat 1601, or instr consent

ENST 3112. Climate Change and Moral Responsibility. (ENVT; 4 cr. ; Student Option; Every Spring)

Considers the moral responsibilities that citizens have regarding climate change. Includes: 1) tours and discussion of local green infrastructure; 2) panel discussions by professionals and practitioners from the community who will share their expertise; and 3) discussion of the most recent work on climate ethics. prereq: 4 cr of EnSt or instr consent

ENST 3201. Environmental Justice. (E/CR; 4 cr. ; Student Option; Periodic Fall)

Environmental justice has shifted the way that scholars, activists, and policy makers understand and address environmental problems. Core environmental concerns such as pollution and climate change are now also understood to be social justice problems. Considers development of the environmental justice movement and key contemporary environmental justice problems. prereq: 4 cr of EnSt or instr consent

ENST 3988. Environmental Studies Pre-Internship Seminar. (1 cr. ; S-N only; Every Fall)

Preparation for the environmental studies internship, including attending and writing reflections on presentations by post-internship students, and developing ideas and opportunities for the ENST internship. Students should enroll in this course in fall of sophomore or junior year prior to completing the ENST internship. prereq: 1101

ENST 3989. Environmental Studies Post-Internship Seminar. (1 cr. ; A-F only; Every Fall)

Culmination of the environmental studies internship. Includes preparing a final paper and delivering a public presentation on the internship experience. Assessment is based on the quality of the final products and on class participation. prereq: 3988 or instr consent

ENST 3996. Internship/Field Experience in Environmental Studies. (2-4 cr. ; S-N only; Every Fall, Spring & Summer)

An educational experience in a work, research, and/or field setting that provides practical application of the student's theoretical classroom learning experiences. A written plan of work must be approved by the Environmental Studies Internship Coordinator before registration. Prereq-Jr status or instr consent

ENST 4901. Senior Capstone Experience. (4 cr. ; A-F only; Every Spring)

Students engage in an individual and/or group problem solving project on a multidisciplinary topic germane to Environmental Studies and present results in a public forum. prereq: 3989 or 3996, sr status or instr consent

Foreign Studies (FOST)

FOST 3000. Study Abroad. (0-18 cr. [max 90 cr.] ; S-N only; Every Fall, Spring & Summer) Study abroad outside program placeholder course. prereq: dept consent

French (FREN)

FREN 1001. Beginning French I. (4 cr. ; Student Option; Every Fall)

An introduction to oral and written French, its basic structure, and to French culture.

FREN 1002. Beginning French II. (FL; 4 cr. ; Student Option; Every Spring)

Continuation of 1001. prereq: 1001 or placement or instr consent

FREN 1021. July in Paris I: French

Language and Culture in Paris. (IP; 4 cr. ; A-F only; Summer Even Year)

Four weeks of intensive beginning French language and culture at the Sorbonne, Paris IV; guided visits to cultural and historical sites. UMM July in Paris course for students with no French experience or less than one semester of college-level French. Does not satisfy FL Gen Ed requirement. See also Fren 1023 and 3060: July in Paris II and III: French Language and Culture in Paris.

FREN 1023. July in Paris II: French Language and Culture in Paris. (FL; 4 cr. ; A-F only; Summer Even Year)

Fren 1002 equivalent for the July in Paris Program. Four weeks of intensive beginning French language and culture at the Sorbonne, Paris IV; guided visits to cultural and historical sites. Satisfies UMM language requirement. See also Fren 1021 and 3060: July in Paris I and III: French Language and Culture in Paris prereq: 1001 or placement

FREN 1031. Modern Studies: The Modern Body in France. (SS; 2 cr. ; Student Option; Periodic Fall & Spring)

Beginning with Vesalius, this course examines how the notions of body and mind have been shaped and reshaped in tandem with the rise of the sciences in France, with emphasis on evolving conceptions of ability and disabilities. Taught in English. Meets Modern Studies (MOS) requirement in the French major. prereq: (or coreq) 3011 or instr consent

FREN 1302. French Cinema. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)

The history of filmmaking in France from the Lumiere brothers to the present; introduction to major trends in film theory. All films have English subtitles. Taught in English. Meets Modern Studies (MOS) requirement for the French major. [Note: does not count towards the Fren minor]

FREN 1303. Paris as Text/Image/Sound. (IP; 2 cr. ; Student Option; Periodic Fall & Spring)

Explores how representations of Paris in literature, film, music, and photography have been a key to the construction and the lived experience of the city and how new forms of writing, image-making, and sound production have emerged from the modern metropolis.

Texts by Balzac, Baudelaire, Hemingway, Stein, and others. Taught in English, but all written work can be completed in French to count toward the major. Meets Modern Studies requirement in French major. prereq: instr consent

FREN 1311. Sub-Saharan Francophone Cinema. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)

Introduction to the history of cinema in French-speaking West Africa. Students learn to read African films, to recognize and analyze political themes in the films, and to become sensitive to issues facing many African nations in the postcolonial world. All films have English subtitles. Taught in English. Meets Francophone Studies (FRS) requirement for the French major. [Note: does not count toward the Fren minor]

FREN 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

FREN 2001. Intermediate French I. (IP; 4 cr. ; Student Option; Every Fall)

Review of the essential structural patterns of the French language; continued development of oral, aural, reading, and writing skills based on cultural and literary texts appropriate to this level. prereq: 1002 or placement or instr consent

FREN 2002. Intermediate French II. (IP; 4 cr. ; Student Option; Every Spring)

Review of the essential structural patterns of the French language; continued development of oral, aural, reading, and writing skills based on cultural and literary texts appropriate to this level. prereq: 2001 or placement or instr consent

FREN 2012. Business French. (IP; 1 cr. [max 4 cr.] ; Student Option; Periodic Spring)

Equips students with the basic skills needed to function as bilingual citizens in a global market, focusing on specialized vocabularies and cultural knowledge related to conducting business in a French-speaking environment. Does not count toward the French major or minor. prereq or coreq: 1002

FREN 2013. Explorations in Grammar. (1 cr. [max 2 cr.] ; S-N only; Periodic Fall & Spring)

Meets once weekly for review, practice, and reinforcement of French grammar and syntax. A good option for students whose semester schedule cannot accommodate a more in-depth course in French or whose skills would be strengthened by review and practice of basic concepts. prereq: 1002 or instr consent

FREN 2014. Explorations in Cultures. (1 cr. [max 2 cr.] ; S-N only; Periodic Fall & Spring)

An opportunity for integrated practice in the four skills (listening, speaking, reading, writing) through the discussion of various non-academic texts: children's books, movies, music videos, commercials, and news stories from throughout the French-speaking world. prereq: 1002 or instr consent

FREN 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

FREN 3002. Civilization and Composition: Tools for Studying the Medieval and Early Modern Periods. (HIST; 2 cr. ; Student Option; Every Fall)

Study Paris as the center of society, culture, religion, and literature from 1100-1300, while also refining the ability to write academic papers and engaging in academic discussions in French. Read primary texts about religion, mythology, and Classical epics that form the foundation of much of medieval French literature. prereq: 2002 or instr consent

FREN 3003. Civilization and Composition: France Since the Enlightenment. (HIST; 2 cr. ; Student Option; Every Fall)

A study of French culture from the Enlightenment period up to contemporary society. Study the development of the French nation while also refining the ability to write academic papers and to participate in academic discussions in French. prereq: 2002 or instr consent

FREN 3004. Civilization and Composition: Colonialism and Francophone Worlds. (HIST; 2 cr. ; Student Option; Every Spring)

A study of the history of French colonialism and of the development of la Francophonie as an association of French-speaking countries outside of France. An introductory exploration into the cultures, literatures, and current events of multiple francophone countries and regions throughout the world. prereq: 2002 or instr consent

FREN 3011. Introduction to French and Francophone Literature. (HUM; 4 cr. ; Student Option; Every Spring)

A survey of literature from France and from across the Francophone world. Study poetry, novels, theater, and film, and develop reading skills and methods of analysis. prereq: 4 credits of 3002 or 3003 or 3004 or instr consent

FREN 3060. July in Paris III: French Language and Culture in Paris. (IP; 4 cr. [max 8 cr.] ; A-F only; Summer Even Year)

Four weeks of intermediate or advanced French-language study at the Sorbonne, Paris IV; guided visits to cultural and historical sites. UMM July in Paris course for students who have had a minimum of one year of college-level French. See also Fren 1021 and Fren 1023: July in Paris I and II: French Language and Culture in Paris. prereq: 1002 or equiv

FREN 3112. Advanced Language Studies: Introduction to French Phonetics. (2-4 cr. ; Student Option; Periodic Fall & Spring)

Training in French pronunciation through general and French phonetics. Students learn the International Phonetic Alphabet and study the correct articulation of French vowels and consonants, as well as other important parts of speech such as liaison, enchainement, and intonation. Meets Advanced Language Studies

(ALS) requirement in French major. [Note: no credit for students who have received credit for Fren 2011] prereq: 2002 (or concurrent enrollment in 2002) or instr consent

FREN 3113. Advanced Language Studies: Introduction to Translation. (2-4 cr. ; Student Option; Periodic Fall & Spring)

The art of translation applied to everyday discourse, literary texts, and a number of professional fields: journalism, international business, and political, social, and natural sciences with a particular emphasis on specialized vocabularies and advanced grammar and syntax. Meets Advanced Language Studies (ALS) requirement in French major. prereq: (or coreq) 3011 or instr consent

FREN 3114. Advanced Language Studies: Advanced French Grammar. (2-4 cr. ; Student Option; Periodic Fall & Spring)

Refinement of grammar. Students gain a deeper understanding of the functionality of the French language through a study of French grammar and through applied and historical linguistics. Meets Advanced Language Studies (ALS) requirement in French major. prereq: (or coreq) 3011 or instr consent

FREN 3402. Medieval and Early Modern Studies: Pre-Enlightenment Culture in France. (2-4 cr. ; Student Option; Periodic Fall & Spring)

This course traces the history of French culture in the Middle Ages and into the Early Modern Period; it examines the geography, language, and institutions of medieval and early modern France through literature. Meets Medieval and Early Modern Studies (MEMS) requirement in French major. prereq: (or coreq) 3002, 3011 or instr consent

FREN 3406. Medieval and Early Modern Studies: Emotional Extremes in Medieval and Early Modern Literature. (4 cr. ; Student Option; Periodic Fall & Spring)

Theories from cultural and religious studies, anthropology, history, psychology, and sociology combine to approach emotional expression in society and in literature. Readings: Durkheim, Freud, Laplanche, Bataille, Chretien's Lancelot, Partonopeus, Le Roman de Troie, troubadour lyric, Aucassin et Nicolette, Legenda Aurea, Saint Augustine, Ovid's Metamorphoses. Meets Medieval and Early Modern Studies (MEMS) requirement in French major. prereq: (or coreq) 3002, 3011

FREN 3407. Medieval and Early Modern Studies: The "East" and its Marvels. (2-4 cr. ; Student Option; Periodic Fall & Spring)

A Medieval French course introducing cultural and literary aspects of the Middle Ages through marvelous figures and manifestations of the medieval French interpretation of the "East," including attention to exotic forms of clothing and food in romance, crusades, bestiaries, and fabliaux. Students read medieval interpretations of adventure stories such as the Iliad and Aeneid. Meets Medieval and Early Modern Studies (MEMS) requirement in French major. prereq: (or coreq) 3002, 3011

FREN 3408. Medieval and Early Modern Studies: Quests, Quails, and Custards--

Food in Life and Literature. (2-4 cr. ; Student Option; Periodic Fall & Spring)

Spices, game, and chocolate trace the real and imagined movement of European people in the Middle Ages and Early Modern period in literary and historical sources. Make authentic recipes and read authors, including Marco Polo, from many genres of literature. Meets Medieval and Early Modern Studies (MEMS) requirement in French major. prereq: (or coreq) 3002, 3011 or instr consent

FREN 3409. Medieval and Early Modern Studies: Monsters and the Marvelous. (2-4 cr. ; Student Option; Periodic Fall & Spring)

The Middle Ages and Early Modern period are introduced through monsters, beasts, and other marvelous figures in genres including romance, hagiography, theatre, bestiaries, and fabliaux. Students analyze gender roles and sexual expression, childhood and adulthood, and animals. Meets Medieval and Early Modern Studies (MEMS) requirement in French major. prereq: (or coreq) 3002, 3011 or instr consent

FREN 3410. Medieval and Early Modern Studies: Troubadours and Old Occitan: Creative Writing in the Middle Ages. (HUM; 4 cr. [max 8 cr.] ; Student Option; Periodic Fall & Spring)

The Troubadours considered Occitan, at the crossroads of French, Spanish, and Italian, the best vernacular for lyric poetry. Poetic innovation flourished at the courts from Auvergne to Catalonia. Learn the grammar of this medieval language as you translate lyric texts and compose and workshop parallel modern poems in a variety of forms. Non-French students and students below French 3xxx write and workshop their poems in English, and French students above French 2002 wanting to count the course for the MEMS elective in the major write and translate in French. Language of instruction is English. Meets Medieval and Early Modern Studies (MEMS) requirement in French major. prereq: completion of 1002, its equivalency, or above in French, Spanish, Italian, German, Latin, Portuguese, or Greek or instr consent

FREN 3501. Modern Studies: The Old Regime and New Ideas: The French Enlightenment. (4 cr. ; Student Option; Periodic Fall & Spring)

Explores the absolutism of Louis XIV and the rise of modern secular thinking in the French literature and philosophy of the Enlightenment, with particular attention given to shifting notions of freedom, agency, and one's place within society and relationship to others. Meets Modern Studies (MOS) requirement for the French major. prereq: (or coreq) 3003, 3011 or instr consent

FREN 3502. Modern Studies: Revolution, Romanticism, Modernity. (4 cr. ; Student Option; Periodic Fall & Spring)

Examines the emergence of Romanticism, Modernity, Realism, and Naturalism in a historical context shaped by the successive revolutions of 1789, 1815, 1830, 1848, and 1870; industrialization; the rise of a middle class; advances in technology and medicine; and the centrality of images and the popular

press in daily life in France. Meets Modern Studies (MOS) requirement in French major. prereq: (or coreq) 3003, 3011 or instr consent

FREN 3503. Modern Studies: Avant-Garde, Existentialism, Experimentation. (2-4 cr. ; Student Option; Periodic Fall & Spring)
From la belle époque through two world wars and the civil unrest of 1968; from France's efforts to come to terms with its colonial past to its role within the European Union, from Proust to Pennac, this course examines French history, culture and literary movements of the past century to the present day. Meets Modern Studies (MOS) requirement in French major. prereq: (or coreq) 3003, 3011 or instr consent

FREN 3505. Modern Studies: Immigration and Identity in Modern France. (4 cr. ; Student Option; Periodic Fall & Spring)
Examination of the history of immigration in France, with a particular focus on the years following the Algerian War to the present. Study of literary representations of cultural dislocation as written by immigrant minorities in France and of the effects of these narratives on the creation of cultural, social, and national identities within these communities and in France. Discussions of the tensions in France between its relatively new multicultural identity and its traditional identity based on a homogenous set of characteristics. Meets Modern Studies (MOS) requirement for the French major. prereq: (or coreq) 3003, 3011 or instr consent

FREN 3603. Francophone Studies: Witches, Wilderness, and Words in Francophone Folktales. (4 cr. ; Student Option; Periodic Fall & Spring)
Study of the oral tale in African and Caribbean cultures and how these texts encapsulate cultural knowledge of identity, community, and spirituality. Examination of the supernatural and ancestral spiritual worlds, with a special emphasis on the magical power of words and their ability to create, transform, and destroy. Meets Francophone Studies (FRS) requirement in French major. prereq: (or coreq) 3004, 3011 or instr consent

FREN 3604. Francophone Studies: Francophone America. (4 cr. ; Student Option; Periodic Fall & Spring)
Survey of literary texts and movements in Francophone North America, including Quebec and Louisiana, as well as the history of French exploration of the New World. A discussion of the cultural tensions that have threatened and continue to shape Francophone identity in North America. Meets Francophone Studies (FRS) requirement in French major. prereq: (or coreq) 3004, 3011 or instr consent

FREN 3605. Francophone Studies: Maghrebian Cinema. (4 cr. ; Student Option; Periodic Fall & Spring)
A study of Algerian, Tunisian, and Moroccan history and culture as presented through the art of cinema. Examination of films produced in the francophone Maghreb thematically, focusing on topics such as colonialism, gender, Islam, childhood, and immigration. An important goal is to learn to analyze and discuss film

academically. Meets Francophone Studies (FRS) requirement in French major. prereq: (or coreq) 3004, 3011 or instr consent

FREN 3606. Francophone Studies: Sub-Saharan Francophone Cinema. (4 cr. ; Student Option; Periodic Fall & Spring)
Introduction to the history of cinema in French-speaking West Africa. Students learn to read African films, to recognize and analyze political themes in the films, and to become sensitive to issues facing many African nations in the postcolonial world. Meets Francophone Studies (FRS) requirement in French major. prereq: (or coreq) 3004, 3011 or instr consent

FREN 3607. Francophone Studies: Sex and Gender in Francophone Literature and Film. (4 cr. ; Student Option; Periodic Fall & Spring)
The study of the representation of women, men, and queer identities in Francophone literature and film. Discussion of models of femininity and masculinity, and LGBTQAA* identities and how the dual system of sexuality and gender is problematic. Examination of various models of Feminist and Queer Theory from Africa and the Caribbean and how they may differ from American or French models. Meets Francophone Studies (FRS) requirement in French major. prereq: (or coreq) 3004, 3011 or instr consent

FREN 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

FREN 4902. French Capstone Project. (2 cr. ; Student Option; Every Spring)
Students work in consultation with the course instructor in one of two tracks: they either develop a project they began in another French elective course or they develop a project related to another major. For either track, students undertake a significant research project (in terms of both length and depth) and present their findings in a formal presentation in French. prereq: a minimum of 16 credits completed in 3xxx electives, instr consent

FREN 4991. Independent Study in French Abroad. (IP; 4 cr. [max 12 cr.] ; Student Option; Periodic Fall & Spring)
An independent study designed for study abroad and based on the student's research interests in French or Francophone language, culture, history, etc. The project is defined in consultation with a French faculty member before the student leaves the United States. The faculty member guides the project via email. prereq: 2002 or instr consent; 3022 or 3032 or 3041 recommended

FREN 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Gender, Women, & Sexuality Std (GWSS)

GWSS 1101. Introduction to Gender, Women, and Sexuality Studies. (HDIV; 4 cr. ; Student Option; Every Fall)

This course introduces students to the theoretical concepts and impact of gender and sexuality in everyday life. Various feminist, queer, and other gender-oriented theories are considered and employed as students explore how definitions of femininity, masculinity, and sexuality have been created, maintained, negotiated, and resisted. Particular attention is paid to the complicated relationships between individuals and social systems, and to the ways in which class, race, ethnicity, age, and other identity categories intersect with definitions and representations of gender and sexuality.

GWSS 2001. Gender and Sexuality in Media Fandom. (HDIV; 4 cr. ; Student Option; Periodic Fall, Spring & Summer)

Examine and analyze how genders and sexualities affect the social, critical, and creative practices of media fandom and are represented, negotiated, and transformed in fan fiction, vids, art, and other creative works. Readings include feminist and queer theories, fan studies scholarship, and fans' essays about TV, film, and fandom itself. prereq: 1101 or Engl 1801 or Engl 2031 or instr consent

GWSS 3414. Feminist Theory. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring)

Same as Engl 3414. Engages students in a critical examination of several influential works participating in the elaboration of feminist theories. Readings and discussions focus on a series of themes and issues--gender, sexuality, race, class, language, bodies, etc.--and how these issues bear upon society. prereq: [1101] or [Engl 2501 (or 1131), two from 2201, 2202, 2211, 2212]

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

GWSS 4901. Gender, Women, and Sexuality Studies Capstone. (1 cr. ; A-F only; Every Fall & Spring)

This course requires a theoretical analysis paper, in which students analyze and reflect on their academic coursework and own intellectual autobiography. Students are expected to consider and apply feminist, queer, and/or other gender-oriented theoretical approaches in this final paper. This course also requires a portfolio and a presentation and panel discussion. Students can work with any faculty teaching GWSS courses. prereq: completion of 32 cr in women's studies

Geography (GEOG)

GEOG 2001. Problems in Geography. (ENVT; 4 cr. ; Student Option; Every Spring)

Basic concepts and questions in the field of geography. The terminology and approaches of geographical inquiry and analysis, with emphasis on the spatial patterns and arrangements of human interaction with the

landscape and the production of geographical knowledge.

GEOG 3501. Geographic Information

Systems. (ENVT; 4 cr. ; Student Option; Periodic Fall & Spring)

The theory and practice of Geographic Information Systems. Topics include data models, spatial statistics, and cartographic modeling. Special emphasis on social and environmental applications. (two 65-minute lect, one 120-minute lab session per week) prereq: any 1xxx course in social or natural sciences

Geology (GEOL)

GEOL 1001. Environmental Geology:

Geology in Daily Life. (SCI; 4 cr. ; Student Option; Every Spring)

Effects of volcanoes, earthquakes, and floods on humans and civilization; geologic problems associated with rural and urban building, waste management, and waste disposal; the importance of geologic knowledge in the discovery of fossil fuels and mineral resources. (4 hrs lect)[Note: may not count toward the geol major or minor]

GEOL 1011. Geology of the National Parks.

(SCI; 4 cr. ; Student Option; Periodic Fall) Exploration of the fundamental aspects of the geosciences: earth materials, geologic time, plate tectonics, and the evolution of landscapes by examining the geology and geologic history of the U.S. national parks. (4 hrs lect)[Note: may not count toward the geol major or minor]

GEOL 1101. Physical Geology. (SCI-L; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the materials that make up the Earth and the structures, surface features, and geologic processes involved in its origin and development. Lab work includes study of the major constituents of the Earth's crust, including the important rocks and minerals; study of surface and geologic features using aerial photographs, topographic maps, and satellite imagery. (3 hrs lect, 3 hrs lab)

GEOL 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

GEOL 2001. Natural and Unnatural Geologic Hazards. (ENVT; 4 cr. ; Student Option; Periodic Spring)

Examination of the more significant interactions between humans and geologic environments and processes. Earthquake and volcanic hazards, river flooding, mass movements and slope stability, coastal hazards, and water resources and pollution. Lectures and problem sets emphasize the quantitative approaches used to determine the likelihood and frequency of natural hazards, assess associated risks, and mitigate damage. prereq: 1001 or 1101

GEOL 2101. Mineralogy and

Crystallography. (SCI-L; 4 cr. ; Student Option; Every Fall)

Classification, identification, physical and chemical properties, origin and natural occurrence of major mineral groups. Lab study of crystal systems by use of models; introduction to optical aspects and physical and chemical testing. (3 hrs lect, 6 hrs lab and field trips) prereq: 1101, Chem 1101 or instr consent

GEOL 2111. Igneous and Metamorphic

Petrology. (SCI-L; 4 cr. ; Student Option; Every Spring)

Classification, composition, genesis, and natural occurrence of igneous and metamorphic rocks; lab study and identification of rocks by various macroscopic, microscopic, and chemical means. (3 hrs lect, 6 hrs lab and field trips) prereq: 2101

GEOL 2121. Sedimentology and

Stratigraphy. (SCI-L; 4 cr. ; Student Option; Fall Even Year)

Processes of sedimentation, including origin, transportation, and deposition of sediments; interpretation of sedimentary environments. Principles of stratigraphy and their applications. Lab work includes sedimentary particle analysis; stratigraphic sections; and interpretation of ancient sedimentary environments based on stratified sequences of sedimentary rock. (3 hrs lect, 3 hrs lab and field trips) prereq: 2101

GEOL 2131. Geomorphology. (SCI; 4 cr. ; Student Option; Fall Even Year)

Study of the Earth's surface and surficial processes; weathering, erosion, and deposition, and the resulting landforms and products; the history of the study of landforms in the United States. (3 hrs lect, 3 hrs lab and field trips) prereq: 1101

GEOL 2141. Glacial and Quaternary

Geology. (SCI; 4 cr. ; Student Option; Spring Even Year)

Glaciers, glaciology, glacial deposition, glacial erosion; climatic change and the growth and advance of ice sheets; effect of glaciations on flora and fauna. (3 hrs lect, 3 hrs lab and field trips) prereq: 1101

GEOL 2151. Historical Geology: Earth

History and Changing Scientific Perspectives. (SCI-L; 4 cr. ; Student Option; Fall Odd Year)

Development of fundamental theories and principles of geology, including stratigraphy, uniformitarianism, geologic time, evolution, and plate tectonics. Emphasis on how geological thought has evolved through time as the scientific, religious, and political climate has changed. Discussion of the Earth's history and science's changing views of the Earth; continental movements, mountain building, and the evolution and development of organisms and ecosystems. Lab experience on methods of interpreting Earth's history from rocks, fossils, and structures and solving geological problems. (3 hrs lect, 3 hrs lab)

GEOL 2161. GIS and Remote Sensing. (SCI;

4 cr. ; Student Option; Every Spring) Introduction to design, development, and application of Geographic Information Systems (GIS); overview of acquisition and utility of

satellite data and imagery; emphasis on applications in Earth and environmental sciences; lab component focuses on practical aspects of GIS development and use and involves original semester projects designed and implemented by individual students. prereq: 1101 or Biol 1101 or Biol 1111 or instr consent

GEOL 2301. Geology of Minnesota. (SCI-L;

4 cr. ; Student Option; Periodic Summer) Active, hands-on learning both in class and on class field trips to selected localities throughout the state. Field trips include: Pipestone National Monument; glacial geology of west-central Minnesota; geology of the Minnesota River Valley; and St. Cloud Quarry Park.

GEOL 2311. Forensic Geology. (ENVT; 4

cr. ; Student Option; Periodic Summer) Introduction to the application of geological concepts, principles, and research methods in the field of forensic studies. Includes analysis of rocks, minerals, soils, and microfossils; air photo and seismic interpretations; applications to gemology, art, and archaeology; and tracing of pollutants, among other topics. Students learn how interactions between people and the natural world or natural materials leave evidence of those interactions. Regular discussion periods focus on actual case histories and real-world scenarios. [Note: this course is for non-majors and does not satisfy the geology elective requirements for the major] prereq: 1001 or 1101 or Chem 1101

GEOL 2993. Directed Study. (1-5 cr. [max 10

cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

GEOL 3001. Global Tectonics. (SCI; 4 cr. ; Student Option; Periodic Fall & Spring)

Internal structure and composition of the earth; geometry and motion of lithospheric plates; geological and geophysical processes at plate boundaries; evolution of mountain belts; heat flow, thermal convection, and the driving mechanism for plate movement. prereq: instr consent

GEOL 3011. Earth Resources. (ENVT; 4 cr. ; Student Option; Periodic Fall)

Geology of mineral (base metals, precious metals, and non-metals), energy (fossil fuels, uranium, and alternatives), and other (water and soil) resources; overview of techniques for resource identification, delineation, and extraction; discussion of issues (e.g., environmental, political, and social) surrounding resource identification, extraction, and use; global resource distribution, historical trends, and future outlook. prereq: any 1xxx or 2xxx Geol course or instr consent

GEOL 3101. Structural Geology. (SCI-L; 4

cr. ; Student Option; Every Spring) Elementary concepts of stress and strain, theory of rock deformation; description and classification of structures in the Earth's crust; application of geometric, analytical, and map interpretation techniques to solving structural problems; field mapping problems. (three 50-

min lect, 3 hrs lab and field trips) prereq: 2111, Math 1021 or Math 1101 or instr consent

GEOL 3111. Introduction to Paleontology. (SCI-L; 4 cr. ; Student Option; Fall Even Year)
An introduction to the study of the evolutionary history of life on earth as revealed in the fossil and geologic record. Laboratory focuses on study of the classification, morphology, and paleoecology of invertebrate fossils. (two 65-min lect, one 3-hr lab, and weekend collecting trip required) prereq: 2151 or Biol 2101 or EnSt 2101 or instr consent

GEOL 3401. Geophysics. (SCI; 4 cr. ; Student Option; Periodic Fall)
Propagation of seismic waves, earthquake seismology, and the structure of the Earth; the origin and nature of the Earth's magnetic and gravitational fields; the Earth's internal production and flow of heat; composition, state, and rheology of the Earth's interior; plate tectonics and elementary geodynamics. (three 65-min lect) prereq: Math 1101, Phys 1101 or instr consent

GEOL 3501. Hydrology. (SCI; 4 cr. ; Student Option; Every Fall)
An examination of the hydrological cycle; evapotranspiration and precipitation; processes of infiltration; rainfall-runoff relationships and the generation of overland flow; response of the drainage basin to storm events; flood-frequency analysis; elements of groundwater flow and evaluation of aquifer characteristics; water quality, contamination, and contaminant transport. (three 65-min lect) prereq: Math 1021 or Math 1101 or instr consent

GEOL 3502. Groundwater. (ENVT; 4 cr. ; Student Option; Spring Even Year)
The origin, occurrence, and availability of groundwater, aquifer geology and groundwater resources, chemical character of groundwater and groundwater pollution, groundwater wells and well design, and groundwater as a geologic agent. (3 hrs lect, 3 hrs lab and field trips) prereq: 1101 or instr consent

GEOL 3601. Introduction to Geochemistry. (SCI; 4 cr. ; Student Option; Periodic Fall)
Applying chemistry to geologic problems such as weathering, sedimentary processes and diagenesis, formation of evaporites and ore deposits, magma genesis and magmatic differentiation; thermodynamic functions and the Phase Rule; oxidation potential and Eh-pH diagrams; isotopic geochemistry and geochronology. (three 65-min lect) prereq: 1101 or Chem 1101 or instr consent

GEOL 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

GEOL 4130. Advanced Geomorphology. (4 cr. [max 8 cr.] ; Student Option; Periodic Spring)
Surficial processes and the resulting landforms; may include catastrophic events, large lakes, arid regions geomorphology or the evolution of the Badlands. (3 hrs lect, 3 hrs lab and field trips) prereq: 2131

GEOL 4140. Advanced Glacial and Quaternary Geology. (4 cr. [max 8 cr.] ; Student Option; Fall Odd Year)
Glacial geology and glacial history; may include pre-pleistocene glaciations, quaternary stratigraphy, or subglacial processes. (3 hrs lect, 3 hrs lab and field trips) prereq: 2141

GEOL 4901. Geology Senior Seminar. (1 cr. ; Student Option; Every Fall)
Capstone experience in Geology. Discussion of selected topics of geologic interest. prereq: instr consent; required for geol major

GEOL 4902. Geology Senior Seminar Presentations. (1 cr. ; Student Option; Every Spring)
Capstone experience in geology. Presentations of research projects. prereq: instr consent; required for geol major

GEOL 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

German (GER)

GER 1001. Beginning German I. (4 cr. ; Student Option; Every Fall)
Introduction to German as it is spoken and written presently. The course acquaints students with the basic sounds, structures, and vocabulary of German and enables them to understand, read, and write the language and to communicate in German about everyday situations. It makes them aware of the relationship between culture and language.

GER 1002. Beginning German II. (FL; 4 cr. ; Student Option; Every Spring)
Continuation of 1001. prereq: 1001 or placement or instr consent

GER 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

GER 2001. Intermediate German I. (IP; 4 cr. ; Student Option; Every Fall)
The skills of listening, reading, and writing are enhanced through grammar review while exploring several different cities in German-speaking lands and their history and cultural heritage. Course improves students' listening, speaking and writing abilities through guided readings including assignments on the internet relevant to topics such as geography, history, and culture. prereq: 1002 or placement or instr consent

GER 2002. Intermediate German II. (IP; 4 cr. ; Student Option; Every Spring)
Builds on existing German skills by exploring several different cities in German-speaking lands along with their history and cultural heritage. The course further improves students' listening, speaking and writing abilities through grammar review and guided readings including

assignments on the internet relevant to topics such as geography, history, and culture. prereq: 2001 or instr consent

GER 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

GER 3002. Introduction to the Linguistic Analysis of German. (IP; 4 cr. ; Student Option; Periodic Fall)
This course will provide an introduction to the linguistic analysis of German. In addition to examining the German language from the perspective of linguistic theory, students will be introduced to a variety of different theories of language and linguistic frameworks. [Note: knowledge of German is required] prereq: 3333 or equi

GER 3011. Readings in German. (IP; 4 cr. ; Student Option; Every Spring)
Students read and analyze modern texts in order to advance their ability to comprehend and discuss various literary styles. This course is a prerequisite for more advanced courses in the major and minor. prereq: may enroll concurrently with 2002; soph or higher recommended

GER 3031. German Play. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring)
Reading, study, and presentation of a short contemporary play. Enhances fluency and familiarity with the modern German idiom. prereq: 2001 or instr consent

GER 3041. New German Cinema. (IP; 4 cr. ; Student Option; Periodic Fall)
Traces the development of New German Cinema, which began in the 1960s, and continues in the post-unification period. Introduction to films by both East and West German directors who define this national cinema; the cultural, political, and economic context of its production; reference to theories and critiques to provide an overview of German film and culture of the period. Film presentations are in German with English subtitles. Readings and lectures are in English. Final papers are either in German (for German credit) or English (for Humanities credit). prereq: 3011

GER 3042. Weimar Film. (IP; 4 cr. ; Student Option; Periodic Spring)
Development of the German film as expressionistic art form. Film as text, film as history, film as aesthetic expression. Film presentations are in German but with English subtitles in most cases. Readings and lectures are in English. Final papers either in German (for German credit) or English (for Humanities credit). prereq: 3011

GER 3043. Thinking Economy and Desire: Introduction to Critical Theory. (HUM; 4 cr. ; Student Option; Periodic Spring)
Same as Ger 3043, Phil 3043. Introduction to the classical canon of critical theory, with a special focus on the Frankfurt School of the early and mid-20th century, including films

and works of literature as case studies for interpretation. prereq: soph or higher status or instr consent

GER 3101. Introduction to German Literature and Culture I. (HUM; 4 cr. ; Student Option; Every Fall)

Introduces German culture through a variety of texts and media (music, film, etc.) throughout all periods of German literature with the aim of building reading, writing, and listening skills. Ideally taken together with Ger 3001. prereq: 2002 or instr consent; may enroll concurrently with 3001

GER 3102. Introduction to German Literature and Culture II. (HUM; 4 cr. ; Student Option; Every Spring)

Builds on 3101 and introduces German culture through a variety of texts and media (music, film etc.) throughout all periods of German Literature with the aim of building reading, writing and listening skills. prereq: 3101 or instr consent

GER 3201. Periods: German Classicism. (HUM; 4 cr. ; Student Option; Spring Even Year)

Readings in aesthetic theory and exemplary works by writers of the period. Texts by Goethe and Schiller are read and analyzed in conjunction with opera librettos based on their works. Modern films and videos of theater performances supplement the readings. prereq: 3101, 3102 or instr consent

GER 3202. Periods: German Romanticism. (HUM; 4 cr. ; Student Option; Spring Odd Year)
Readings in Romantic theory and works by important authors of the period: Wackenroder, Tieck, Novalis, Eichendorff, and E.T.A. Hoffmann. Other art forms, such as music and painting, supplement the literary discussions. prereq: 3101, 3102 or instr consent

GER 3203. Periods: German Modernism. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)

Explores the culture of German-speaking countries around the turn of the 20th century (1890-1933) through literature, music, and the visual arts, especially as manifested in Symbolism, Secession (Art Nouveau), Expressionism, Dada, and New Objectivity. prereq: 3101, 3102 or instr consent

GER 3333. Advanced German Grammar. (IP; 4 cr. ; Student Option; Every Fall)

Reinforce and review the entirety of German Grammar at an advanced level to competently approach reading and writing assignments in advanced German courses while gaining a detailed knowledge of grammar. prereq: 2002 or instr consent; may enroll concurrently with 3101

GER 3501. Women's Issues in Contemporary German Culture. (IP; 4 cr. ; Student Option; Periodic Spring)

Focus is on the German women's movement during the 20th century, historical relationship of gender and class, and lives of women from various ethnic backgrounds in Germany and Austria. Short stories, essays, and poems document the evolution of feminist literary

theory in German studies. Readings and lectures are in English. Final papers either in German (for German credit) or English (for Humanities credit). prereq: 3011 or instr consent

GER 3601. Studies in German Literature. (HUM; 4 cr. ; Student Option; Fall Odd Year)

Selected readings in German reflecting modern literary trends. The course examines the cultural politics in the evolution of the literature in the formerly divided Germany, using plays, novels, biography, and documentary reports. It deals with questions of literary theory, history, and socio-political structures. prereq: 3011

GER 3602. Scandinavian Literature 20th and 21st Century Novel. (HUM; 4 cr. ; Student Option; Periodic Summer)

An introduction to the modern Scandinavian novel, including works from Norwegian, Danish, Swedish, Icelandic, and Finnish authors. This course is taught in English.

GER 3611. Austrian Studies. (HUM; 4 cr. ; Student Option; Fall Even Year)

Selected readings in Austrian Literature from 1875 to 1925, including Marie von Ebner-Eschenbach, Rainer Maria Rilke, Arthur Schnitzler, and Hugo von Hofmannsthal. Historical background for the period through Brigitte Hamann's biography of Empress Elisabeth and/or Rudolph von Habsburg, the modern musical "Elisabeth," as well as the operetta "Die Fledermaus" and Istvan Szabo's film "Oberst Redl." prereq: 3011 or instr consent

GER 3701. The Red Army Faction in German Literature. (IP; 4 cr. ; Student Option; Periodic Summer)

Examination of the historical background surrounding the turbulent era of student protest in Germany and subsequent formation of the terrorist organization, the Red Army Faction. This course is only offered in German. prereq: Ger 3xxx course or instr consent

GER 3702. Martial Masculinities: Manhood and Aggression in German Literature and Culture. (HUM; 4 cr. ; Student Option; Periodic Summer)

Examination of masculinity in German-speaking lands by exploring history, literature, film, and graphic art from a theoretical perspective with particular focus on patterns of representation that define and shape "manliness" from the medieval to the modern era.

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

GER 4001. German Civilization I: From the Stone Age to 1871. (HIST; 4 cr. ; Student Option; Fall Even Year)

This course facilitates effective engagement with the history and culture of German-speaking countries and Europe throughout the 19th century. This is a lecture style course

taught entirely in German to improve listening, speaking, and writing abilities as well as to prepare for a study abroad experience. prereq: 3333 or equiv

GER 4002. German Civilization II: From 1871 to the Present. (HIST; 4 cr. ; Student Option; Spring Odd Year)

This course facilitates effective engagement with the history and culture of the German-speaking countries and Europe from the late 19th century to the present. This is a lecture style course entirely in German that improves listening, speaking, and writing abilities and prepares students for a study abroad experience. prereq: 3333 or equiv

GER 4101. History of the German Language. (HIST; 4 cr. ; Student Option; Spring Odd Year)

A linguistic history of the German language from its Proto-Indo-European roots to the present day. Particular emphasis is placed on understanding the historical origins of modern structures, leading to a deeper understanding of Modern German. Taught in English. Some knowledge of German required. (German majors must turn in written work in German.) prereq: 1001 or equiv

GER 4901. Senior Project. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

A substantial scholarly or creative work (at the undergraduate level) in conjunction with or upon the completion of another course within the discipline. The senior project is recommended for German majors. prereq: 3011 or instr consent

GER 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

History (HIST)

HIST 1015. Topics and Problems in World History. (HIST; 4 cr. [max 8 cr.] ; A-F only; Every Fall & Spring)

Examination of special topics in world history. Course is built around specific topics, such as genocide in the 20th century or global approaches to environmental history, and emphasizes how historians work, pose questions, use sources, and engage in debate.

HIST 1111. Introduction to World History. (HIST; 4 cr. ; Student Option; Every Fall & Spring)

Methods, themes, and problems in the study of world history.

HIST 1112. Introduction to African History to 1880. (HIST; 4 cr. ; Student Option; Fall Even Year)

Exploration of Africa's incredible human and environmental diversity from the earliest times to European contact. Special attention to how historians of Africa interpret non-written sources to understand the past.

HIST 1113. Introduction to African History since 1880. (HIST; 4 cr. ; Student Option; Every Spring)

Consideration of Africa's past from the colonial era to the present. Special attention to the challenges Africans faced living under Europe's grip as well as their courage to build independent African nations.

HIST 1301. Introduction to U.S. History. (HIST; 4 cr. ; Student Option; Every Fall) Methods, themes, and problems in the study of the history of the United States.

HIST 1402. Gender, Women, and Sexuality in American History. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring) Themes and methods in the history of women in the United States. Topics may include women in the colonial era; American Indian, African American, and immigrant women; sex roles; women and work, family, politics, the law, and religion.

HIST 1501. Introduction to East Asian History: China, Japan, and Korea before 1800. (HIST; 4 cr. ; Student Option; Periodic Fall) Examination of the social, political, economic, technological, and cultural changes in East Asia before 1800. Possible sub-themes include the rise of the Confucian world order, the spread of Buddhism, and East Asian interactions with the outside world. Discussion of changing perceptions of gender.

HIST 1601. Latin American History: A Basic Introduction. (IP; 4 cr. ; Student Option; Spring Even Year) Methods, themes, and problems in the study of Latin American history.

HIST 1811. A History of You(th). (IC; 4 cr. ; Student Option; Periodic Fall) Why does the behavior of young people attract so much attention and anxiety? Why does the stage between childhood and a fully recognized adulthood carry such significance in our collective consciousness? Engage in a historical analysis of what youth has signified, using source materials from Plato to pop culture. Along the way, engage chronologically with the emergence of the categories of childhood and youth and thematically with the relationship between youth and a multitude of social categories and phenomena (for example, politics, media, consumption, and sexuality). Requires extensive reading, active classroom participation, and the completion of a research project and presentation with both individual and group components. prereq: new college student in their first semester of enrollment at UMM

HIST 1812. FIRE!: An introductory Seminar to American Environmental History. (IC; 4 cr. ; Student Option; Periodic Fall) One of the primary ways in which people have manipulated their environments has been through the burning of fossil fuels. Indigenous people, for instance, used fire to clear land, to improve soil quality, and to drive game. Coal powered the Industrial Revolution and oil provided the energy necessary for the Automobile Age. The impact of using energy in this way is today obvious. This course is organized around the topic of fire and uses this theme to examine core issues in American

Environmental History. Topics might include: American Indian peoples and fire, burning and early agriculture, coal and industrialization, the Age of the Automobile, incineration and the problem of waste, and forest arson as a mode of political protest. prereq: new college student in their first semester of enrollment at UMM

HIST 1816. Explaining the Inexplicable: 20th Century Genocides. (IC; 2 cr. ; Student Option; Periodic Fall)

Examination of a couple of the contemporary world's largest and most important dilemmas. Why did we see all the now familiar campaigns of mass murder based on racial and ethnic hatred in the last century, a time of incredible scientific progress? Why, in addition, have we been so slow to learn from this experience? Why, in short, have we been so unsuccessful in honoring our pledge of "never again?" Through history, memoir, and film, examine these questions and try to understand and answer them from both an historical and a moral perspective. prereq: new college student in their first semester of enrollment at UMM

HIST 1817. Introduction to American Political History and Television. (IC; 2 cr. ; Student Option; Periodic Fall) Introduction to the role that television has played (and continues to play) within American political history. As one of the most powerful forms of communication in the United States, television has impacted how Americans view their political leaders and their policies. Topics include political advertising, satire and comedy programming, the news, and children's programming. prereq: new college student in their first semester of enrollment at UMM

HIST 1818. Environmental History of Latin America. (IC; 2 cr. ; Student Option; Periodic Fall) Examination of human interaction with the natural environment in Latin America and how these interactions have shaped the region's social, cultural, political, and economic history. Considers historical and contemporary environmental challenges and people's responses to them. Possible topics include: the Columbian Exchange, the Amazon, economic development, ecotourism, indigenous rights, and urbanization. prereq: new college student in their first semester of enrollment at UMM

HIST 1819. Medieval Cathedrals as Historical Sources. (IC; 2 cr. ; Student Option; Periodic Fall) Introduction to the medieval past using Gothic cathedrals as primary sources. Over the course of the semester, students explore a wide variety of clues these spectacular buildings provide to the historical forces shaping Europe during the 12th and 14th centuries. Students consider the influence not only of religious, political, and economic factors but also social, geographical, technical, literary, and artistic currents out of which such structures emerged. prereq: new college student in their first semester of enrollment at UMM

HIST 2003. Public History. (HIST; 2 cr. [max 4 cr.] ; Student Option; Periodic Spring) Introduction to the many ways historians conduct research and present historical topics

to public audiences. Public historians, who typically come from a traditional academic discipline, utilize their knowledge in such public settings as museums, archives, historic sites, historical societies, and federal agencies. Examine a number of themes ranging from oral histories and historical reenactments to websites and electronic media. Explore what is public history, who practices it, the role of audience, the tension between history and memory, and the ethical concerns that influence public history practice. Gain hands-on experience in facets of public history such as archival management and oral history.

HIST 2103. Medieval Europe. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring) Survey of historical developments in Europe from about 500 to 1500.

HIST 2132. History of Fairy Tales and Folklore in Europe. (HIST; 4 cr. ; Student Option; Periodic Fall) Examination of fairy tales and folklore in European history from the early modern era to the present, with a primary emphasis on tracing changes in the social and cultural use of fairy tales over time. Sources drawn from a diverse corpus of tales and retellings, as well as scholarly interpretations from historians, ethnographers, and folklorists. Explores key developments, such as the transformation of 17th-century French tales written as political allegory into the Grimms' 19th-century reinvention of the fairy tale as a staple of middle-class childhood. Other topics may include the oral tradition and literacy; changing ideas about gender, class, and religion; and themes of violence, nationalism, and sexuality.

HIST 2151. Modern Europe. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring) History of modern Europe emphasizing political, economic, social, and intellectual developments since 1789.

HIST 2251. American Indians and the United States: A History. (HDIV; 4 cr. ; Student Option; Every Spring) The experience of the original Americans and their interaction with later immigrants.

HIST 2252. Comparative Indigenous History: Beyond Native America. (HIST; 4 cr. ; Student Option; Periodic Fall) Same as Amln 2252. Explore indigenous experiences with settler colonialism in the United States, Canada, Australia, New Zealand, and sub-Saharan Africa. With special attention to issues of race, labor, gender, education, and movements for decolonization, place the indigenous histories of Morris and Minnesota within a global context. [Note: no credit for students who have received credit for Amln 1701 or Hist 1701]

HIST 2312. History of South Africa to 1976. (HIST; 4 cr. ; Student Option; Fall Even Year) Exploration of South Africa's settler colonial history from European contact to youth resistance against white supremacy. Special attention to examining the history of structural racism in a global perspective.

HIST 2313. History of South Africa since 1910. (IP; 4 cr. ; Student Option; Periodic Spring)

Consideration of apartheid South Africa's roots and the multiracial country's struggle to reconcile its colonial past. Special attention to 20th-century black and non-racial political thought from a global perspective.

HIST 2352. The U.S. 1960s. (HIST; 4 cr. ; Student Option; Fall Even Year)

History of the United States in the 1960s. Backgrounds to the 1960s; political and cultural issues of the decade; the Kennedy promise, civil rights and other movements, Vietnam war, counterculture, conservative backlash, and legacy.

HIST 2441. The United States and the Great War. (HIST; 4 cr. ; Student Option; Periodic Summer)

Presentation of a highly integrated picture of the American experience in World War I. Part of the focus is on the military experience, although approached from the perspective of average sailors and soldiers. More of the emphasis is on the home front and how the war at home encouraged the emergence of a new, more powerful, federal state while simultaneously inviting attacks on civil liberties and ethnic culture. Follow the impact of war through the post-war Red Scare and into the 1920s and explore how it ushered in a new period in American life but one rife with political and cultural contradictions.

HIST 2451. The American West. (HIST; 4 cr. ; Student Option; Fall Even Year)

Overview of the history of the American West up to the 21st century. While many scholars have argued that the "West" was merely a necessary process of national expansion, others argue that it is a very significant region--the most culturally and ecologically diverse region in the country. Discussion of these major historical interpretations of the American West and examination of how people have understood this vast region as a cultural icon of national identity. Work through various definitions of the West and identify how political issues of the environment, international borderlands, and gender and race relations have significantly influenced the United States for many generations. Through lectures, readings, and discussion, examine Western history chronologically while also covering other major themes including federalism, the mythic West, tourism, ranching and agriculture, urban and suburban areas, film, and religion.

HIST 2452. Minnesota History. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)

Examination of the social, cultural, and political history of Minnesota with emphases on American Indian and European-American conflict, immigration and ethnicity, the development of political culture, and the changing nature of regional identity.

HIST 2551. Modern Japan. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)

The history of Japan from the foundation of the Tokugawa Shogunate until the present. Special attention to issues of gender, nationalism, and modernity.

HIST 2552. History of Modern China. (HIST; 4 cr. ; Student Option; Periodic Spring)

Study of the history of China from the foundation of the Qing dynasty in the 1600s until the present. Special attention to issues of gender, nationalism, and modernity.

HIST 2557. History of Southeast Asia.

(HIST; 4 cr. ; Student Option; Periodic Spring) A broad survey of Southeast Asia's civilization and its modern challenges. Emphasizes recent colonialism, nationalism, and postwar development.

HIST 2608. History of Cuba: From Colony to Revolutionary State. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)

A survey of the history of Cuba from Spanish colonization to the present, with emphasis on the 19th and 20th centuries. Topics include colonization, slavery, imperialism, nationalism, and the Cuban Revolution.

HIST 2609. History of Brazil: From Sugar to Sugar Cars. (HIST; 4 cr. ; Student Option; Fall Even Year)

Examination of Brazilian history from Portuguese colonization in the early 1500s to its current status as a growing world economic power. Topics include Portuguese colonial rule, independence and the creation of the Brazilian Empire in the nineteenth century, the end of the Brazilian monarchy and the emergence of the oligarchic republic, the rise of the populist state in the mid-twentieth century, military dictatorship during the Cold War, and the return to democracy and Brazil's rise to world-power status. Additional topics include the Amazon and environmental history, indigenous history, Afro-Brazilian history, the U.S.-Brazilian relationship from a historical perspective, Brazilian economic development, how Brazilians are coping with the socioeconomic changes in their society, and how they perceive their role in the world.

HIST 2704. Gender, Women, and Sexuality in Medieval Europe. (SS; 4 cr. ; Student Option; Spring Even Year)

Analysis of the history of European women and gender systems as constructed during the Middle Ages (c. 500-1500).

HIST 2708. Gender, Women, and Sexuality in Modern Europe. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)

Examination of the forces that have shaped the lives of European women since 1600 and analysis of how changes in the structures of power and authority--religious, political, social, familial--affected the choices available to them. Students engage critically with the question of what bringing gender to the forefront of the study of European history has to teach them. Students gain an understanding of many of the underpinnings of American society, which has been deeply affected by European patterns of thought about women and their place in the world.

HIST 3008. The Making of the Islamic World. (HDIV; 4 cr. ; Student Option; Fall Even Year)

Examines the origins, spread, and impact of Islamic civilization from the 6th through

15th centuries with particular emphasis upon political, religious, and intellectual developments.

HIST 3021. Gender and Sexuality in African History. (HDIV; 4 cr. ; Student Option; Periodic Spring)

Examination and discussion of pre-colonial, colonial, and post-colonial African history through the debates and trends in and between Western feminism, U.S. women of color feminism, Third World feminism, LGBT studies, queer theory, and the emerging interdisciplinary field of African queer studies. Also suitable for students interested in understanding past and present issues of gender and sexuality in Africa through the theories and conditions that animate black queer studies and the black queer diaspora. prereq: 1111 or GWSS 1101 or instr consent

HIST 3101. Renaissance and Reformation. (HIST; 4 cr. ; Student Option; Spring Even Year)

Examination of western European history and historiography between 1350 and 1600 with emphasis on cultural "renaissances" and religious "reformations."

HIST 3161. The Enlightenment. (HIST; 4 cr. ; Student Option; Spring Even Year)

The intellectual ferment of the Enlightenment has been given the credit and the blame for all things modern--from the concept of human rights and the democracies it has engendered to the subversion of those rights in the totalitarian regimes of the 20th century. Exploration of the ideas of the Enlightenment and their political context and attempt to answer the question of how such an important development in human history can be viewed in such contradictory ways.

HIST 3181. The Study of History. (HIST; 4 cr. ; Student Option; Every Spring)

Introduction to historical research methods and 20th-century historiography. How to evaluate and employ primary and secondary sources, to cite evidence, and to develop critical historical arguments in a research project. Exploration of key transformations within the field of history, surveying various schools of thought, and assessing the specific advantages and challenges of the approaches. Topics may include Freudian and Marxist interpretations, the Annales school, quantitative analysis, anthropological and sociological approaches, and gender and postcolonial theory. [Note: no credit for students who have received cr for Hist 2001] prereq: instr consent

HIST 3204. Nazi Germany. (HIST; 4 cr. ; Student Option; Fall Odd Year)

History of Nazi Germany. Social and political origins, Nazi rule in the 1930s, the "final solution," World War II, and Germany's attempt to assess this era in its history.

HIST 3207. The Crusades. (IP; 4 cr. ; Student Option; Spring Odd Year)

Explores the historical contexts and consequences of the European Crusades between the 11th century and early modern period, including the perspective of European

Jews, Turkish and Arabic Muslims, and Byzantine and Near Eastern Christians.

HIST 3209. Modern Germany. (HIST; 4 cr. ; Student Option; Spring Even Year)
Examination of German history from the development of German national ideas through unification and consolidation of the modern German state in 1871 and through its re-unification at the end of the 20th century. Examines one of the most fascinating and tumultuous periods in German and European history, why the attempt to understand the German past has occupied so many historians, and why the debates surrounding that attempt have been so contentious. Sources include writings by established historians of Germany, novels, films, and music.

HIST 3211. Modern France. (HIST; 4 cr. ; Student Option; Fall Even Year)
Examination of French culture and history from the Revolution (1789) to the present. The ways in which successive governments, from Napoleon's empire through the Fifth Republic, have come to terms with legacies of the Revolution such as national citizenship, individual rights, and the politicization of women.

HIST 3212. The French Revolution. (HIST; 4 cr. ; Student Option; Fall Even Year)
Examination of the causes, players, drama, complexity, and legacy of the French Revolution. Beginning with the changing social order and new political philosophies of the 18th century, the course follows not only the initial unfolding of revolution, terror, and counter-revolution, but also the rise of Napoleon and revolutionary wars. Later reverberations in the revolutions of 1848, the Commune of 1871, and global influences (such as the Haitian Revolution) also addressed. Throughout these events, the experiences of both prominent figures and ordinary participants (the "crowd") considered.

HIST 3213. Modern Britain. (HIST; 4 cr. ; Student Option; Periodic Spring)
Examination of the history of modern Britain and its empire since the 17th century. Topics include the growth of Britain as a world power through imperialism and industrialization, the challenges of shaping a modern polity, and the 20th-century shifts that reduced its global profile.

HIST 3214. History of Childhood. (HIST; 4 cr. ; Student Option; Periodic Fall)
Examination of changes in childhood and youth from the early modern era to the present. Geographic emphasis on Europe, although the course also allows for exploration of similar themes in other parts of the world. Considers key developments in both ideas about and experiences of children, such as the emergence of children's rights discourse. Other topics may include schooling, play, labor, family, sexuality, consumption, migration, welfare, imperialism, and war. Readings drawn from social, cultural, and political approaches to the history of childhood, as well as historical documents created by children themselves across contexts.

HIST 3303. Creation of the American Republic. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)
Examination of the history of the United States from the beginning of the Seven Years' War in 1754 to the end of the War of 1812. The origins of the nation and the political, cultural, and social changes that accompanied the birth and early years of the American Republic. Focus on the political and social history of the American Revolution. Other topics include women in revolutionary America, the retrenchment of slavery, indigenous people and early Indian policy, religion and revivalism, the constitutional crisis, and the early presidencies.

HIST 3304. Race, Class, and Gender in American History. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring)
The themes of race, class, and gender are explored in-depth throughout the semester. Students gain a new awareness about historiography and theories that highlight this growing subfield of American history. Prominent topics covered in lecture and readings include colonization, slavery, suffrage, immigration, sovereignty, labor, ghettoization, art, literature, culture, and the rise of self-determination. Study the intersection of race, class, and gender relations through multiple perspectives of region, ideology, political-economy, and religion.

HIST 3351. The U.S. Presidency Since 1900. (SS; 4 cr. ; Student Option; Fall Even Year)
History of the 20th-century U.S. presidency. Brief consideration of the Presidency before 1900, analysis of performance of presidents since 1900 in roles of chief executive, commander-in-chief, chief diplomat, and chief of state during an era of enlarged governmental functions at home and world power abroad.

HIST 3353. World War II. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)
Origins, political and military aspects of the war in Europe and Asia, domestic mobilization, the Holocaust and Atomic Bomb, aftermath.

HIST 3355. United States in Transition, 1877-1920. (HIST; 4 cr. ; Student Option; Spring Even Year)
Topics, themes, and problems in U.S. history, 1877 to 1920.

HIST 3356. Civil Rights Movement, 1954-1974. (E/CR; 4 cr. ; Student Option; Periodic Fall & Spring)
Background of the Civil Rights movement, emergence of the theory and practice of nonviolence, various Civil Rights groups, role of women, legislative and other accomplishments of the movement, its aftermath and influence.

HIST 3358. Civil War and Reconstruction. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)
Origin, context, and significance of the Civil War and Reconstruction.

HIST 3359. Native Strategies for Survival, 1880-1920. (HDIV; 4 cr. ; Student Option; Fall Odd Year)
Exploration of the events and policies that sought to eliminate American Indian

communities and cultures and the strategies that American Indians developed to survive. Students gain insight into a pivotal time for the "incorporation" of the United States and ongoing tensions between unity and diversity that characterize the nation's political economy and social structure. Paradoxes under scrutiny include the degree to which policies claiming to emancipate actually imprisoned and prisons became homelands.

HIST 3360. American Experience in World War II. (HIST; 4 cr. ; Student Option; Periodic Spring)
Seven former American Presidents were veterans of World War II and over 175,000 books have been published on this subject alone. Arguably this one event has commanded more attention by writers, filmmakers, and academics than any other modern historical event. For decades historians have also debated the significance of World War II. After the conclusion of the war, the worldwide devastation and loss of life had reached apocalyptic proportions and new military technologies, like the atom bomb, forever altered the American experience. Scientists and intellectuals, such as Albert Einstein, emerged as new celebrities. Literally every sector of American society and culture had been transformed by World War II. Investigate these questions and more throughout the semester. It is important to note that this course is not a strict military history of the European and Pacific campaigns. Instead, the purpose of this class is to challenge students to grapple with the historic origins and legacies of the war. prereq: jr or sr or instr consent

HIST 3361. An Environmental and Geographic History of the United States. (ENVT; 4 cr. ; Student Option; Periodic Fall & Spring)
A broad examination of how humans interacted with their natural world throughout American history. Combined emphasis on cultural ecology (the study of how various cultural groups shaped the American landscape) with political ecology (the role of the nation's political economy in driving environmental change). Possible topics include: the Columbian Exchange, European and American Indian conflict, Thoreau and the creation of an environmental ethic, the slaughter of the bison as an ecological tragedy, urbanization and environmental racism, conservation as a political movement and the development of environmental policy, eco-feminism, American religion and the environment, the politics of global climate change. [Note: no credit for students who have received cr for Hist 2361]

HIST 3402. Representations from the Field: American Indian Ethnography and Ethnohistory. (HDIV; 4 cr. ; Student Option; Periodic Fall)
Same as Anth 3402. An analysis of ethnographic and ethnohistoric materials focusing on specific American Indian cultures.

HIST 3403. American Indian Education: History and Representation. (E/CR; 4 cr. ; Student Option; Fall Even Year)

Same as NAIS 3403. Examination of indigenous education in the United States from pre-contact to the late 20th century. Topics include indigenous ways of teaching and learning, efforts to assimilate Native peoples through education, the movement toward educational self-determination within Native communities, and contemporary representations of boarding school experiences. Students also gain insight into the history of the Morris Indian School and its contemporary representation at UMM.

HIST 3453. The American Presidency, 1789-1900. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)
Growth and development of the U.S. presidency during its first century. Emphasis on selected presidencies such as those of George Washington, Thomas Jefferson, Andrew Jackson, James K. Polk, Abraham Lincoln, and William McKinley.

HIST 3455. American Immigration. (HDIV; 4 cr. ; Student Option; Periodic Spring)
The role of voluntary migration in U.S. history from the late 18th century to the present. Emphases on settlement, ethnicity, nativism, transnational issues, and immigration law. Possible topics include European immigrants and "whiteness," restriction of immigration from Asia, ethnicity and U.S. foreign and military policy, and the varieties of immigration, legal and undocumented, since 1965.

HIST 3456. History of Religion in America. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)
The history of religion in American life from the perspective of ordinary Americans. Religious diversity receives special emphasis. Topics may include New England witchcraft, the First and Second Great Awakenings, American Indian belief systems, nativism and Anti-Catholicism, religion and politics, immigrant religion and new fundamentalist movements.

HIST 3465. History of the American Family. (HIST; 4 cr. ; Student Option; Periodic Spring)
Examination of the history of the American family from the colonial period to the present. One focus is demographic and explores changes in family size and structure due to economic change and modernization. Also examined are altered relationships within families, as the nuclear family became more democratic and affectionate, as the position of women within American life changed, as people began to practice different methods of family limitation, and as childhood and adolescence were recognized as distinctive life course phases. Additional topics include the role of class and cultural differences in defining family systems, shifting gender and sexual norms, the rise of unrelated individuals, and the aging of the population, etc.

HIST 3466. History of Twentieth-Century Popular Culture of the United States. (HIST; 4 cr. ; Student Option; Periodic Spring)
Examination of the ways in which the many types of 20th century popular culture in the United States have had immense historical significance. Far from simply being "entertainment," pop culture examples such as

rock music, hit television shows, and Internet memes have affected American history. Topics may include the impact of radio, moral panics over sex and violence, entertainment as wartime propaganda, social networking, and popular culture as a satirical weapon.

HIST 3557. East Asia Since 1800. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)
Examination of the social, political, economic, technological, and cultural changes in East Asia [China, Japan, and Korea] since 1800.

HIST 3561. The Pacific War in East Asia. (HIST; 4 cr. ; Student Option; Periodic Fall)
Political, military, social, and cultural history of the Pacific war in East Asia. Exploration of different perspectives and wartime experiences in China, Japan, and the Japanese empire (including Korea). Emphasis on the impact of the war as a watershed period in the history of East Asia. Topics may include the Rape of Nanjing, the bombing of Hiroshima, the Manchurian Incident, and the creation of Manchukuo, collaboration, and resistance, wartime mobilization and propaganda, Zen nationalism, and comparisons with Nazi Germany and Vichy France. Films, memoirs, and fiction will augment academic texts.

HIST 3612. Social Revolution in 20th-Century Latin America. (HIST; 4 cr. ; Student Option; Periodic Fall)
Examination of social revolution in 20th-century Latin America. Particular attention paid to social revolution in Mexico, Bolivia, Cuba, and Nicaragua. Populism, democratic attempts at social revolution, and counterrevolution in other parts of Latin America also considered. Key issues include imperialism, capitalism, communism, nationalism, and the Cold War.

HIST 3613. U.S.-Latin American Relations in Historical Perspective. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)
Examination of the history of U.S.-Latin American relations from U.S independence to the present. Focuses on the political, economic, social, and cultural relationships between the two.

HIST 3614. Race and Ethnicity in Latin America. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring)
Explore issues of race and ethnicity in Latin America from a historical perspective. Covering the colonial and national periods, examine how ideas of race and ethnicity have intersected with political, economic, and socio-cultural developments in the region. Consider the ways in which race, class, and gender have intersected in Latin America.

HIST 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

HIST 4501. Senior Research Seminar in History. (4 cr. ; A-F only; Every Fall & Spring)
Advanced historical thematic analysis and guided research resulting in an original, substantial paper or project. prereq: 3181, instr consent

HIST 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Human Services (HMSV)

HMSV 3001. Theory and Practice of Human Services. (SS; 4 cr. ; Student Option; Every Spring)

Discusses Human Services' history and relevant theories. Students learn about the structure and dynamics of organizations, communities, and society as well as the nature of individuals and groups. The human conditions (e.g., aging, delinquency, crime, poverty, mental illness, physical illness, and developmental disabilities) that provide the focus for human service professionals are also discussed. [Note: no credit for students who have received cr for HMSV 2001] prereq: Psy 1051 or Soc 1101 or Anth 1111 or Pol 1201

HMSV 4896. Internship in the Human Services. (4 cr. ; S-N only; Every Fall, Spring & Summer)

A supervised educational experience providing field applications in the Human Services for the student's theoretical classroom learning. prereq: Psy 4102, approved internship form; Psy 4101 recommended.

Humanities (HUM)

HUM 1002. Norse Saga. (HUM; 4 cr. ; Student Option; Periodic Fall & Spring)
Study of medieval sagas, in translation, from Iceland and Norway, and the culture that produced them.

HUM 1006. From the Caesars to the Saints: Walking Ancient Rome. (HIST; 4 cr. ; Student Option; Periodic Summer)
While taking in the culture of modern-day Italy, students visit important ancient monuments in and around Rome as well as the city's museums. Students read ancient and modern authors, keep a daily journal, give an oral presentation about an ancient site, and write a final paper tying together the knowledge they gain from this program.

HUM 1021. Popular Culture and American Politics. (SS; 3 cr. ; Student Option; Every Fall & Spring)

This course is an introduction to American politics and popular culture since the 1940's, exploring the relationship between the two themes. It will especially cover political movements where pop culture plays an important role pushing social change, such as in the civil rights movement, 1960's counterculture, and feminism. The primary objectives of this course to analyze the popular arts as not just an entertainment source but as a force that is shaped by and subsequently shapes American society.

HUM 1051. Greek Drama. (HUM; 4 cr. ; Student Option; Periodic Spring)
Study of Greek drama.

HUM 1305. Career Preparation in World Languages.

(1 cr. [max 2 cr.] ; Student Option; Periodic Fall & Spring)

Students advance their understanding of the liberal arts, bilingual skills, and a global and interconnected labor market by developing a professional profile and associated materials in the target language and English including a curriculum vitae (CV), resume, and cover letters. Ideally completed in the junior year to allow ample time for career exploration. Can be repeated once but only one credit may count towards French major or minor.

HUM 1801. Talking about Love, War, Gods, and Politics with Greeks and Romans.

(1C; 2 cr. ; Student Option; Periodic Fall)

Read and discuss important literary dialogues (epic poetry, tragedy, history, and philosophy) from ancient Greece and Rome as a way to explore key topics of the ancient world, including how democracy works (or should work), individuals and their communities, what love is, gender relations, how we can know the divine, and others. prereq: new college student in their first semester of enrollment at UMM

HUM 1805. Myth: From the Page to the Stage.

(1C; 2 cr. ; Student Option; Periodic Fall & Spring)

Grab a thunderbolt and explore the rich tapestry of world mythologies by reading, researching, discussing, creating, and acting. Students familiarize themselves with important myths from various cultures around the world. Students use theatre techniques to creatively engage in classroom role-playing activities as well as projects such as a myth mask, future myth, and a myth collage. At the end of the semester, students perform a short original play focusing on one of the myths studied in class. prereq: new college student in their first semester of enrollment at UMM

HUM 1993. Directed Study.

(1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

HUM 2011. On War: History, Ethics, and Representations of Modern Warfare.

(HUM; 4 cr. ; Student Option; Periodic Fall)

Explores accounts of several 20th-century American wars. Includes a wide range of course materials (film, journalistic accounts, philosophical essays, and literary texts) and perspectives on war—from the generals to the "grunts" and nurses, from American and non-American perspectives, and from scholarship to oral narratives. prereq: Engl 1601 (or 1011) or equiv

HUM 2993. Directed Study.

(1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

HUM 3043. Thinking Economy and Desire: Introduction to Critical Theory.

(HUM; 4 cr. ; Student Option; Periodic Spring)

Same as Ger 3043, Phil 3043. Introduction to the classical canon of critical theory, with a special focus on the Frankfurt School of the early and mid-20th century, including films and works of literature as case studies for interpretation. prereq: soph or higher status or instr consent

HUM 3993. Directed Study.

(1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

HUM 4102. Linguistics for Students of Literature.

(HUM; 4 cr. ; Student Option; Periodic Spring)

Course offers an introduction to language-based approaches to literature. Directed at literature majors (in any language) to enhance close reading through the linguistic analysis of literary language. Topics will include syntax, phonetics, metaphor, speech act theory, sociolinguistics (non-standard dialects), and metrics/prosody. prereq: jr or sr status

HUM 4993. Directed Study.

(1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Interdisciplinary Studies (IS)**IS 1041. Health Sciences Terminology.**

(2 cr. ; Student Option; Every Fall & Summer)

A self-study course that has been designed to provide students with a working knowledge of the terminology utilized in the health sciences. There are no formal class sessions. Students take four tests during the term.

IS 1051. Introduction to College Learning Skills.

(4 cr. ; S-N or Audit; Every Summer)

Essential skills for success in higher education. Introduction to computing technology, writing, and math skills. Academic and social skills needed for transition from high school to college. [Note: counts toward the 60-cr general ed requirement] prereq: participation in Gateway Program or instr consent

IS 1061. Mastering Skills for College Success.

(2 cr. ; S-N only; Every Fall & Spring)

Practical assistance to develop efficient, effective 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. prereq: instr consent

IS 1071. Systematic Introduction to the Art and Science of Emergency Medical Care.

(4 cr. ; S-N only; Every Fall & Spring)

Introduction to emergency medical care. Develops skills and knowledge to respond appropriately to a medical emergency. (The Stevens County Ambulance Service sets and requires an independent fee.) prereq: registration with the Stevens County

Ambulance Services; arrangements must be made by contacting them at 320-589-7421

IS 1091. Ethical and Social Implications of Technology.

(E/CR; 2 cr. ; Student Option; Every Fall & Spring)

Description of appropriate technological advances. Historical development related to technology and its development cycle. Discussion of the ethical and social implications of technology.

IS 1802. Music, Education, and the Liberal Arts.

(1C; 2 cr. ; Student Option; Periodic Fall)

What is a liberal arts education, and how does music fit into this idea? How does one succeed in such an environment? Explore the liberal arts approach and the role of music in education. This course also helps students to develop skills that are crucial to success in a liberal arts college environment. prereq: new college student in their first semester of enrollment at UMM

IS 1803. Dangerous Minds: Images of Education in Popular Culture.

(1C; 4 cr. ; Student Option; Periodic Fall)

Are college students always drunk? Do faculty members routinely have affairs with students? Can marginalized students triumph over adversity in high school? Should a college education be free for anyone who wants to attend? Are sports overemphasized in schools? These are only a sampling of the questions the class will explore by putting a critical lens up to representations of education in popular culture. Through the use of books, film, television, and news stories, students determine if they are being properly represented in today's society or if college really is "Animal House." prereq: new college student in their first semester of enrollment at UMM

IS 1804. Community Engagement: From Volunteerism to Social Justice.

(1C; 4 cr. ; Student Option; Periodic Fall)

Introduction through readings and discussion to multiple frameworks for community engagement, ranging from meeting individual people's and agency's needs through direct volunteerism to engaging in research and direct action intended to create systematic change. In the process of studying these frameworks, students are exposed to a variety of controversies in the service-learning field. Students are also introduced to Stevens County through field trips to community agencies. Students complete a community engagement project that reflects their academic and professional goals and meets community needs. Projects can range from volunteering directly at an agency to planning a fundraiser or educational event with a partner to completing a manageable community-based research project. [Note: requires off-site meeting times to be arranged] prereq: new college student in their first semester of enrollment at UMM

IS 1806. Bottom Dwellers in an Ocean of Air.

(1C; 2 cr. ; Student Option; Fall Odd Year)

We live on the bottom of an ocean of a mix of gases and vapors which is kept in constant, chaotic motion by uneven heating and planetary rotation, thus evading our

control. We, as humans, are often on the defense or in a role of passive adaptation with regard to weather. Are human beings victims or actors on the stage of global atmospheric dynamics? Striving to assemble an answer to this question, students in the course: (1) mine human history for cases in which significant interaction between human society and climate was found; (2) study individual events in which history and weather were intertwined; (3) learn about palaeoclimate research; and (4) pay particular attention on how this interaction between society and atmosphere is shaped in the modern world. The physical principles of weather and climate are introduced as needed for meaningful discussion. prereq: new college student in their first semester of enrollment at UMM

IS 1808. Agents and Agency: Modeling Emergence in the Social Sciences. (IC; 2 cr. ; Student Option; Periodic Fall)

Agent-based modeling is a computer-based technique for investigating how complex systems can emerge from the behaviors of the people (or other agents) that form the system. Agency is the ability to act according to one's own will, rather than following social and cultural roles of behavior. Can aspects of human societies "emerge" from many simple interactions between agents, constantly repeated? Or are human choices responsible for the structure and attributes of human societies? Is there really a difference, or are these two ways of looking at the same phenomenon? Explore the potential and pitfalls of agent-based modeling as a technique for understanding human societies, through a mixture of readings, discussion, and the hands-on development of small-scale computer models. No previous technical or programming experience necessary. prereq: new college student in their first semester of enrollment at UMM

IS 1810. Global Flashpoints. (IC; 4 cr. ; Student Option; Periodic Fall)

Focus on information literacy by engaging with a select range of unfolding world events. Students are mutually responsible for providing insight and context into these events. The course promotes global citizenship while teaching information literacy skills. prereq: new college student in their first semester of enrollment at UMM

IS 1811. Beyond Shushing: Libraries in the 21st Century. (IC; 2 cr. ; Student Option; Periodic Fall)

Through readings, discussion, writing, and a service learning project, this class explores the role of libraries and literacy in the 21st century, focusing on the cultural, intellectual, and economic value of literacy. [Note: off campus meetings required] prereq: new college student in their first semester of enrollment at UMM

IS 1812. As We Beg, Borrow, and Steal: Sampling, Quoting, and Appropriation in the Digital Age. (IC; 2 cr. ; Student Option; Periodic Fall)

Explore the history of borrowing, quoting, sampling, and appropriation in the creation of

cultural artifacts such as visual arts, music, writing, film, and scientific research, as well as the impact of digital technologies on these trends today. Students create new artifacts using appropriation techniques to both illustrate and comment on these issues. prereq: new college student in their first semester of enrollment at UMM

IS 1814. Big Ideas in Science. (IC; 2 cr. ; Student Option; Periodic Fall)

Explore big ideas in science, including the major theories that are the foundations of our current understanding of the universe. Delve into Atomic Theory, Plate Tectonics, Periodic Law, Evolution, and the Big Bang Theory. prereq: new college student in their first semester of enrollment at UMM

IS 1816. Why We Eat What We Eat. (IC; 2 cr. ; Student Option; Periodic Fall)

Explores the biological, historical, and cultural origins of eating patterns in the United States and the wider world and the health and environmental consequences of those eating patterns. Students document and reflect upon their own eating patterns and culinary traditions. Current controversies in food production and nutrition are examined. [Note: one evening meeting required] prereq: new college student in their first semester of enrollment at UMM

IS 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

IS 2001H. Honors: Traditions in Human Thought. (HUM; 2 cr. ; Student Option; Every Fall)

A study of a selection of significant works from history, literature, philosophy, science, and religion across continents from the earliest writings to the present day. Critical reading, writing, and discussion in an interdisciplinary context are emphasized. prereq: participation in the Honors Program or instr consent

IS 2023. Fine and Performing Arts of London. (FA; 2 cr. [max 6 cr.] ; Student Option; Periodic Summer)

A 14-day arts and culture tour of London. Admission to major museums and theatres highlights the diversity of London's arts and cultural traditions. Includes tours of the city: Buckingham Palace, Westminster, St. Paul's Cathedral, Abbey Road, Carnaby Street, and Portobello Road. Provides tickets for a variety of theatrical performances: Shakespeare's Globe Theatre, the National Theatre, and the West End. Museum entry covers: the British Museum, National Portrait Gallery, Hayward Gallery, Tate Modern, Victoria and Albert Museum, and Tate Britain.

IS 2024. Linking the Global with the Local: Development in Nepal. (IP; 6 cr. ; Student Option; Periodic Summer)

Introduction to the study of international development as present in the country of Nepal. Throughout this course, students explore and discuss power relations and

systems of inequality within the context of global, national, and local social development efforts. Specifically, the course explores the historical construction of terms such as "social development" and "sustainable development." Students gain insight into the impact of international and national development efforts on a macro-level (e.g., social institutions such as the United Nations and the Government of Nepal) and on a micro-level (e.g., local community development groups). Through these activities, students recognize the diversity of people's and communities' experiences and participation/activism in these efforts as shaped by gender, race, ethnicity, caste, social class, region, and religion. Students engage in critical thinking, writing, reflection, and dialogue through both written and oral assignments, as well as cooperative group work throughout the course.

IS 2035. Aging in Greece: Comparative Cultural Practices and Social Policy. (IP; 4 cr. ; Student Option; Periodic Spring)

International service-learning course in Athens and the island of Ikaria that explores cross-cultural differences between Greece and the United States in the meaning and experience of aging, as well as in the social and institutional supports for the aging population. Focus on the role of the community and public sector in promoting optimal aging. Students spend two hours per day in the classroom and 4-6 hours per day at a nursing home.

IS 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

IS 3053. Irish Texts and Contexts. (ENVT; 4 cr. ; Student Option; Periodic Summer)

This study abroad course explores the intimate relationship between Irish literature and the spaces in which it developed, from the geographical features that gave prehistoric Irish myths their shape to the large estates that produced poets like William Butler Yeats. The course involves three weeks of travel to many different locations throughout Ireland.

IS 3110. Rural Community Field Project: Center for Small Towns. (SS; 1-6 cr. ; S-N only; Periodic Fall & Spring)

An educational experience in a rural learning environment that focuses on rural issues of community life, demography, culture, environment, and policy. A collaborative effort between Center for Small Towns and a public rural entity provides a structured environment in which civic engagement objectives are achieved and grounded in a practical setting. Students gain a valuable understanding about the historical social structures of rural society and witness these structures firsthand. [Note: meets the SS general education requirement if taken for 2 or more cr] prereq: instr consent

IS 3111H. Honors: The End of the World as We've Known It: The Apocalypse Then and Now. (SS; 2 cr. ; Student Option; Periodic Spring)

Exploration of the occasions and representations of apocalyptic views, focusing on the historical, political, and psychological implications. Antecedents and effects of end-of-the-world prophecies are explored through the use of popular culture (e.g. music, science fiction, other media), writings from across cultural and religious frames of reference, and various historical, political, and psychological resources. prereq: participation in Honors Program or instr consent

IS 3123. Living With Intention: Vocation, Community, and Social Change. (E/CR; 4 cr. ; Student Option; Periodic Summer)
"Vocation is the place where our deep gladness meets the world's deep need," philosopher and storyteller Frederick Buechner wrote. Through career assessments, readings, reflective writing, service-learning, and a final cumulative project, this course provides a context for exploring the change individuals might make in their communities through work and civic engagement.

IS 3203H. Honors: A Cross-Section of the Enlightenment. (HIST; 2 cr. ; Student Option; Periodic Fall & Spring)
A cross-section of the cultural and intellectual history of the 18th century. Figures to be studied may include Descartes, Newton, Locke, Hume, Hobbes, Rousseau, Voltaire, Lavoisier, d'Holbach, and Blake. prereq: participation in Honors Program or instr consent

IS 3204H. Honors: Ecological Health and the Sustainability of Common-Property Resources. (ENVT; 2 cr. ; Student Option; Periodic Fall & Spring)
Exploration of "sustainability" from the perspective of economics and ecology. Examples might include ocean fisheries, the rain forest, the introduction of alien species, and the global climate. prereq: participation in Honors Program or instr consent

IS 3206H. Honors: Introduction to Game Theory. (M/SR; 2 cr. ; Student Option; Periodic Fall & Spring)
Introduction to the formal theory of strategic interaction and to the intuitions behind the theory. Applications to a selection of problems in the natural and social sciences, such as biological evolution, tacit collusion in pricing, strategic behavior in international relations, and strategy in legislative voting. [Note: credit will not be granted if credit has been received for Econ 3014] prereq: participation in the Honors Program, high school higher algebra or instr consent

IS 3209H. Honors: Apocalypse Now? The Science and Policy of Preparing for a Catastrophe. (ENVT; 2 cr. ; Student Option; Periodic Fall & Spring)
Popular visions, policy response, and scientific underpinnings of potentially catastrophic societal problems past and present. Do we worry about the right things? How do scientists, politicians, and purveyors of popular culture assess which threats warrant attention? (two 50-min lect/disc plus multiple evening film screenings) prereq: participation in Honors Program or instr consent

IS 3211H. Honors: Republic or Empire? The American 1890s. (HIST; 2 cr. ; Student Option; Periodic Fall & Spring)
The 1890s are often seen as a cultural watershed for the United States. Depression, political movements, and a "splendid little war" against Spain and the Philippines represent only the surface of a decade which altered aspects of race, class, gender, and literary sensibility. prereq: participation in the Honors Program or instr consent

IS 3212H. Honors: Global Encounters and the Making of the Contemporary World, 1450 to the Present. (HDIV; 2-4 cr. ; Student Option; Periodic Spring)
An exploration of the initial interaction among the indigenous people of Africa and the Americas with the people of Europe. Parallel immediate and long-term effects of these initial encounters are identified and discussed. prereq: high school higher algebra, participation in Honors Program or instr consent

IS 3214H. Honors: Evolution and Culture of Human Aggression. (HUM; 2 cr. ; Student Option; Periodic Fall)
Exploration of aggression in medieval literature and culture and theorization about the adaptiveness of aggression. Group and individual aggression expressed by humans living under current conditions is explored from a cultural and evolutionary perspective. prereq: participation in Honors Program or instr consent

IS 3215H. Honors: Sagas before the Fall: Culture, Climate, and Collapse in Medieval Iceland. (ENVT; 2 cr. ; Student Option; Periodic Fall & Spring)
Exploration of the literary and physical record of society in Viking-age Iceland from its settlement during the Medieval Warm Period, through centuries of environmental degradation and changing religion, to the onset of the Little Ice Age and the end of the Icelandic free state. prereq: participation in Honors Program or instr consent

IS 3216H. Honors: Perspectives on Disability in Contemporary American Life. (HDIV; 2 cr. ; Student Option; Periodic Fall & Spring)
Introduction to the interdisciplinary field of disability studies, which favors a social rather than medical approach to understanding difference. History and struggle for civil rights, identity issues, contemporary controversies, and exploring the frontiers of one's own interest in disability by means of a service learning project. prereq: participation in Honors Program or instr consent

IS 3217H. Honors: The Trial of Galileo. (HIST; 2 cr. ; Student Option; Periodic Spring)
The dispute between Galileo and the Inquisition produced one of history's most notorious trials, an enduring symbol of the struggle between science and religion. Study of the complicated history behind the myth by re-enacting the trial and learning about the theology, science, and cultural politics of this tumultuous period. prereq: participation in Honors Program or instr consent

IS 3234H. Honors: Intersections of Art and Science. (FA; 2 cr. ; Student Option; Periodic Spring)
Explores the intersection of scientific discovery and aesthetic innovation, especially the ways in which scientists and artists have influenced one another's work. Examines the ways in which these different pursuits value notions of creativity. prereq: participation in Honors Program or instr consent

IS 3235H. Honors: Politics and Film. (HUM; 2 cr. ; Student Option; Periodic Spring)
Explores age-old questions of political science and philosophy--what is justice, what does citizenship mean, what is power, how do we relate to the "other"--through the lens of film. Examines American and foreign films and a variety of filmmakers to analyze effects of different cinematic and narrative techniques on our interpretations. prereq: participation in Honors Program or instr consent

IS 3236H. Honors: Representations of Writers and Artists. (HUM; 2 cr. ; Student Option; Periodic Fall)
An interdisciplinary approach is used in exploring the varied ways writers and artists are represented in books, television, film, and other media, comparing these representations with the lives and experiences of contemporary working writers and artists. prereq: participation in the Honors Program or instr consent

IS 3237H. Honors: The Power of Place: An Interdisciplinary Approach to Where We Live. (ENVT; 2 cr. ; Student Option; Periodic Spring)
Goes beyond the image and myth of Lake Wobegon in examining the past and present of West Central Minnesota. An intensely interdisciplinary focus on environmental, social, political, and economic change and how modern global forces play out in this specific setting. Community leaders and experts play an active role in lecture and discussion. prereq: participation in the Honors Program or instr consent

IS 3238H. Honors: In Search of Nietzsche. (IP; 4 cr. ; Student Option; Periodic Fall)
In this interdisciplinary course, read some books by and novels about Nietzsche in order to discover who this remarkable man was. Authors to be discussed: Nietzsche, D.H. Lawrence, Richard Wright, Milan Kundera, Nicholas Mosley, and Irvin D. Yalom. prereq: participation in Honors Program or instr consent

IS 3239H. Honors: The Anatomy of Development and the "Common Good": Sardar Sarovar Dam in Gurjurat, India. (SS; 2 cr. ; Student Option; Periodic Summer)
In the Global South, the unspoken basis of development projects is that they represent an attempt to serve the "common good." This assumption masks a torrent of disagreement and conflict about whose common good is served and how a particular project in question (e.g., dams, irrigation, introduction of new farming techniques) "develops" the nation. prereq: participation in the Honors Program or instr consent

IS 3240H. Honors: Proud Decade or Dark Age? The American 1950s. (HIST; 2 cr. ; Student Option; Periodic Fall & Spring)
Many old enough to remember the American 1950s look back on them with nostalgia. Some do not. This seminar studies several aspects of the decade: the Cold War at home and abroad, American society, literature, and popular culture. Student presentations focus on biographical research. prereq: participation in Honors Program or instr consent

IS 3241H. Honors: Worldviews. (SCI; 4 cr. ; Student Option; Periodic Fall & Spring)
The Copernican Revolution, culminating in Newton's System of the World, and modern cosmology beginning with the work of Einstein, Hubble, Friedmann, Lemaître, and Gamow, culminating in the contemporary theory of the universe's accelerated expansion. prereq: participation in the Honors Program or instr consent

IS 3242H. Honors: Two Cosmological Poets: Dante and Lucretius. (IP; 2 cr. ; Student Option; Periodic Fall)
Explore, compare, and contrast the cosmological poems "On the Nature of Things" (De Rerum Natura, DRN) of Titus Lucretius Carus (ca. 99-55 BCE) and "The Divine Comedy" (Commedia) of Dante Alighieri (1265-1321 CE). The two poets diverge on almost every aspect of cosmological outlook and notion of the moral life and right living. prereq: participation in the Honors Program or instr consent

IS 3244H. Honors: Fascism, the Resistance, and Their Legacy in Contemporary Italy. (IP; 2 cr. ; Student Option; Periodic Fall & Spring)
Study of Italian Fascism and the Resistance and the continued significance these two phenomena have for contemporary Italian identity. Primary texts include historical documents together with works of literature and film. Students have the opportunity to research the topic of resistance to oppressive regimes in other national contexts. prereq: participation in Honors Program or instr consent

IS 3245H. Honors: Archaeology Mythbusting. (SS; 2 cr. ; Student Option; Periodic Spring)
This honors class explores the world of pseudoarchaeology and archaeological fraud, from Atlantis to aliens. Discuss why myths and pseudoscience are so prevalent in popular representations of the past, and whose interests are served by them. Students engage in scientific outreach through the media of their choice to spread the word about archaeological truth and fiction. prereq: participation in the Honors program or instr consent

IS 3247H. Honors: Heroes of Ancient Greece and Rome. (HUM; 2 cr. ; Student Option; Periodic Fall)
Explore several types of heroes found in ancient Greek and Roman mythology and literature. Discuss such questions as: What makes a character a hero? What kinds of real-world issues did literary heroes help Greeks and Romans think about? Were they meant to be emulated? How might they be relevant

to the modern world? prereq: participation in Honors Program or instr consent

IS 3248H. Honors: Art and History of the Crusades. (FA; 2 cr. ; Student Option; Periodic Fall)
The Crusades mark a crucial turning point in the Christian West's interaction with the Holy Land that still has immense repercussions to this day. The focus of this co-taught honors course is the multi-layered intersections between the history of the Crusades and the "Western" kingdoms established in the eastern Mediterranean (c. 1099-1291 CE) and the art and architecture produced there. prereq: participation in the Honors Program or instr consent

IS 3249H. Honors: Literature Through Opera. (FA; 2 cr. ; Student Option; Periodic Fall)
Opera is often a musical staging of a preexisting story from literature or theater. While it combines music, drama, and visuals like film, opera is fundamentally different in that the audience already knows the story on which the opera is based. What do composers and librettists hope to add to their audience's understanding of a work they already know by setting it to music? Explore this cultural question through close examination of works of literature and the operas on which they are based. prereq: participation in Honors Program or instr consent

IS 3250H. Honors: Moral Sentimentalism. (HUM; 4 cr. ; A-F only; Periodic Spring)
An examination of the foundations of morality. Classical and contemporary readings are juxtaposed with emerging interdisciplinary research on topics such as empathy, altruism, game theory, psychopathy, and disgust. prereq: participation in the Honors Program or instr consent

IS 3251H. Honors: Chariots and Gladiators: Ancient Greek and Roman Athletics. (HIST; 2 cr. ; Student Option; Periodic Spring)
Explore aspects of Greek and Roman sport by reading ancient accounts and modern scholarship. Discuss questions such as: how were athletic events linked to religion? What role did women have at these events? How were victors honored? What happened at a gladiator show? Who organized games? How do ancient competitions influence modern athletics? prereq: participation in Honors Program or instr consent

IS 3710. Peer Tutoring in College. (1 cr. [max 3 cr.]; S-N only; Every Fall)
Tutor students in selected courses.

IS 3720. Tutoring Writing Across the Disciplines. (1-2 cr. [max 6 cr.]; S-N only; Every Fall & Spring)
Tutor student writers at the Writing Room; meet regularly with other tutors for ongoing training in peer writing tutoring. prereq: Engl 1601 (or 1011) or equiv, soph standing, instr consent, coreq Engl 3005 for students in their first sem at the Writing Room

IS 3796. Interdisciplinary Internship in the Helping Professions. (1-16 cr. [max 32 cr.]; S-N only; Every Fall, Spring & Summer)

One-semester educational experience providing field applications in the helping professions (social work, counseling, casework, child protection services, educational settings, human resource counseling, and the like) for the student's theoretical classroom learning experiences. Prereq-Psy 4102, approved internship form; Psy 4101 recommended.

IS 3800. Practicum in Social Sciences. (1-2 cr. [max 4 cr.]; S-N only; Every Fall & Spring)
Supervised experience of selected learning activities such as discussion group leader, lab assistant, research assistant, or other teaching-related activities.

IS 3810. Practicum in the Humanities. (1-2 cr. [max 4 cr.]; S-N only; Every Fall & Spring)
Supervised experience of selected learning activities such as discussion group leader, test review leader, research assistant, or other teaching-related activities.

IS 3893. Prior Learning Directed Study. (1-4 cr. [max 10 cr.]; Student Option; Every Fall & Spring)
Individualized learning project combining prior learning with faculty-directed new learning, awarding academic credit for both. (When content is discipline-related, discipline designation will appear on transcript and credit may count toward appropriate general education requirement category.)

IS 3896. Prior Learning Internship. (1-16 cr. [max 32 cr.]; S-N only; Every Fall & Spring)
An educational experience in a work environment providing field application for the student's theoretical classroom learning experiences. The prior learning internship, such as in social service or business settings, occurred prior to the student's matriculation. The prior learning is documented and combined with faculty-directed new learning, with credit awarded for both.

IS 3991H. Honors Co-Curricular Independent Study. (1-2 cr. ; A-F only; Every Fall & Spring)
Co-curricular honors credits may be earned by writing a paper that explores a co-curricular experience such as study abroad, off-campus internship, national student exchange, service-learning, or directed research. Students pursuing this option must seek pre-approval. Projects are directed and assessed by the Honors Director.

IS 3993. Directed Study. (1-5 cr. [max 10 cr.]; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

IS 3996. Interdisciplinary Internship. (1-16 cr. [max 32 cr.]; S-N only; Every Fall, Spring & Summer)
One-semester educational experience in a work environment providing field applications for the student's theoretical classroom learning experiences.

IS 4993. Directed Study. (1-5 cr. [max 10 cr.]; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

IS 4994H. Honors Capstone Project. (; 2 cr. ; Student Option; Every Fall & Spring)

A substantial scholarly or creative interdisciplinary work designed by the student working cooperatively with a project adviser. Upon completion, the project is defended before a panel of faculty from different disciplines. Successful completion of the honors capstone project is one of the requirements for graduating from UMM "with honors."

Italian (ITAL)

ITAL 1001. Beginning Italian I. (4 cr. ; Student Option; Every Fall)

Introduction to Italian as it is presently spoken and written. Basic sounds, structures, and vocabulary of Italian. Understanding, reading, and writing the language and communicating in Italian about everyday situations. Relationship between culture and language.

ITAL 1002. Beginning Italian II. (FL; 4 cr. ; Student Option; Every Spring)

Continuation of 1001. prereq: 1001 or placement or instr consent

ITAL 1104. Major Works of Italian Literature in Translation from the Middle Ages to the Present. (HUM; 4 cr. ; Student Option; Periodic Spring)

Survey of Italian literature from the Middle Ages to the present. Attention given to major works of narrative, poetry, and drama of various periods. Emphasis on ground-breaking works that constituted a challenge to prevailing literary and cultural values. This course is conducted in English; all texts will be read in English translation.

ITAL 1105. Italian Cinema. (IP; 4 cr. ; Student Option; Periodic Spring)

Study of Italian cinema from the silent era to the present, focusing on significant genres and directors, as well as on critical approaches to film studies. Taught in English; all films have English subtitles.

ITAL 1311. Modern Italy through Literature and Film. (HUM; 4 cr. ; Student Option; Periodic Spring)

The political, social, and cultural transformations of Italy from 19th-century unification to contemporary issues of immigration and multiculturalism as reflected in literature and film. Topics include forging a national identity; Fascism, the Resistance and post-war period; the "southern question"; the "economic miracle"; current cultural issues.

ITAL 1331. The Eternal City: The Language and Culture of Rome I. (FL; 4 cr. ; Student Option; Periodic Summer)

Beginning course for UMM study abroad in Rome, Italy. Four weeks of Italian language together with the art and literature of Rome. Emphasis on works of art, literature, and film belonging to several periods and addressing the history and character of the city. Excursions

to relevant sites in and near Rome. No previous experience in Italian required.

ITAL 1801. Rome: The City in Literature and Film. (IC; 2 cr. ; Student Option; Periodic Fall)

Study of representations of the city of Rome in significant works of Italian literature and film. Topics include the rhetorical construction of national and cultural identities, the individual's relationship to fictional and lived space, the city as stage for major cultural and political preoccupations of contemporary Italy. Conducted in English. prereq: new college student in their first semester of enrollment at UMM

ITAL 1802. Italian Cultural Landscapes: Migration and the Environment in Literature and Film. (IC; 2 cr. ; Student Option; Periodic Fall)

The study of depictions of migration in works of Italian literature and film, with emphasis on the interactions between humans and the natural and constructed spaces they inhabit. Topics include internal migration, diasporic communities within Italy, and contemporary migration to Italy and Europe. Conducted in English. prereq: new college student in their first semester of enrollment at UMM

ITAL 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ITAL 2001. Intermediate Italian I. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)

Continued development of listening, reading, writing, and speaking skills; review of the fundamental elements of the Italian language. Emphasis on authentic cultural and literary texts appropriate to this level. prereq: 1002 or instr consent

ITAL 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ITAL 3331. The Eternal City: The Language and Culture of Rome II. (IP; 4 cr. ; Student Option; Periodic Summer)

Advanced course for UMM study abroad in Rome, Italy. Four weeks of Italian language together with the art and literature of Rome. Emphasis on works of art, literature, and film belonging to several periods and addressing the history and character of the city. Excursions to relevant sites in and near Rome. Prereq-1302 or equiv.

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

ITAL 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a

faculty member for academic credit in areas not covered in the regular curriculum.

Language (LANG)

LANG 1061. Writing in the American University I. (3 cr. ; Student Option; Every Fall & Spring)

Writing course for non-native speakers of English at the advanced level, developing competency in standard written English with a focus on development of paragraphs, exploration of the writing process, and experience with various rhetorical styles of essays in preparation for the demands of classroom writing.

LANG 1062. Reading in the American University. (2 cr. [max 4 cr.] ; S-N only; Every Fall & Spring)

For non-native speakers of English. Course focuses on developing and reinforcing essential reading skills including vocabulary strategies/word studies; identifying elements of the text to support comprehension; critical thinking and analysis; and more micro-skills such as predicting, skimming, scanning and inferring. prereq: non-native speaker of English, instr consent

LANG 1063. Academic Culture and Oral Skills in the American University. (2 cr. [max 4 cr.] ; S-N only; Every Fall & Spring)

For non-native speakers of English. Designed to assist international students with the transition from the social/educational systems in their own cultures to the social/educational systems in the United States. Primary focus on oral skills; coursework focuses on class participation, discussion, note-taking, and critical thinking. prereq: non-native speaker of English, instr consent

LANG 1064. Preparing for the American Liberal Arts Classroom. (3 cr. ; S-N only; Every Summer)

Prepares international students for norms and rigors of English-language, liberal arts college classroom. Includes preparation in language/academic skills of reading, writing, oral skills; exposure to disciplines that compose liberal arts; developing familiarity with cultural norms of a U.S. classroom; contextualization of topics through field trips. prereq: non-native speaker of English; admission to UMM, instr consent

LANG 1071. Writing in the American University II. (3 cr. ; Student Option; Every Fall & Spring)

Writing course for non-native speakers of English at the advanced level, mastering competency in standard written English. Builds on prior work in Lang 1061, continuing work on essay components, strong support and basic writing fluency. prereq: 1061, instr consent

Language Education Methods (LANE)

LANE 4123. Methods of Teaching Foreign Language K-12. (4 cr. ; A-F only; Every Fall)

Objectives, curricula, special methods, materials, and evaluation appropriate for

teaching foreign language in K-12. prereq: admission to the SeEd or EIEd teacher education program; coreq SeEd 4102, SeEd 4103, SeEd 4104, SeEd 4105 or prereq EIEd 3202, EIEd 3212

Latin (LAT)

LAT 1001. Beginning Latin I. (4 cr. ; Student Option; Every Fall)

Study of Latin vocabulary and structures in order to attain basic reading and writing competence; practice in oral recitations and compositions. Introduction to ancient Roman history and culture.

LAT 1002. Beginning Latin II. (FL; 4 cr. ; Student Option; Every Spring)

Continuation of 1001. prereq: 1001 or placement or instr consent

LAT 1993. Directed Study. (1-5 cr. [max 50 cr.] ; Student Option; Every Fall, Spring & Summer)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

LAT 2001. Intermediate Latin I. (IP; 4 cr. ; Student Option; Every Summer)

Continued development of listening, reading, writing, and speaking skills; review of the fundamental elements of the Latin language. Emphasis on authentic cultural and literary texts appropriate to this level. prereq: 1002 or instr consent

LAT 2993. Directed Study. (1-5 cr. [max 50 cr.] ; Student Option; Periodic Fall, Spring & Summer)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

LAT 3993. Directed Study. (1-5 cr. [max 50 cr.] ; Student Option; Periodic Fall, Spring & Summer)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

LAT 4993. Directed Study. (1-5 cr. [max 50 cr.] ; Student Option; Periodic Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Latin American Area Studies (LAAS)

LAAS 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

LAAS 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a

faculty member for academic credit in areas not covered in the regular curriculum.

LAAS 3100. Contemporary Latin America.

(1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Opportunity for LAAS majors to read about and discuss in historical and cultural contexts the more important contemporary developments in Latin America. [Note: to be repeated each sem a student is in residence; only 4 cr may apply to LAAS major] prereq: LAAS major

LAAS 3201. Bibliographical Tools and Journals in Latin American Area Studies. (2 cr. ; Student Option; Periodic Fall & Spring)

For the student new to the major. Introduction to the standard bibliographical tools and journals in Latin American area studies. prereq: LAAS major

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

LAAS 4901. Senior Capstone in Latin American Area Studies. (2-4 cr. ; A-F only; Periodic Fall & Spring)

A capstone experience for LAAS majors. Individual reading and development of an original research paper in consultation with the LAAS coordinator. With approval of the LAAS coordinator and another faculty member, a capstone experience in a different discipline that contains primarily Latin American content may be wholly or partially substituted for LAAS 4901, but requires completion of four total credits. prereq: 3201, sr LAAS major, instr consent

LAAS 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Management (MGMT)

MGMT 1011. Fundamentals of Personal Finance. (SS; 2 cr. ; Student Option; Periodic Spring)

An application-based personal finance course to help students with lifetime financial planning and decision making. Focus on personal responsibility with respect to understanding financial instruments and their functions including: stocks, bonds, money markets, mutual funds, and derivatives. Also learn about savings, retirement, and social insurance vehicles including social security, Medicare, defined contribution, and defined benefit plans along with various individual retirement accounts. A way of thinking about personal finance that incorporates knowledge of current financial institutions, structures, and markets; time value of money; risk analysis; and available budgeting tools.

MGMT 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

MGMT 2101. Principles of Accounting I. (4 cr. ; Student Option; Every Fall)

An introductory course in accounting principles and practices. Students develop an understanding of both the conceptual and procedural framework of accounting processes. Emphasis is placed on the preparation and communication of accounting information and the financial statements for proprietorships and partnerships.

MGMT 2102. Principles of Accounting II. (2 cr. ; Student Option; Every Spring)

A continuation of Principles of Accounting I. Students develop an understanding of the issues unique to corporations and organizational financing. Cash flow statements and performance analysis are also emphasized. prereq: 2101

MGMT 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

MGMT 3101. Financial Management. (4 cr. ; Student Option; Every Fall)

Fundamental theories of financial management, their applications, and their limitations in solving real business problems. Emphasis on financial analysis, valuation of future cash flows, capital budgeting, risk and return, cost of capital. prereq: 2102, Econ 1111, Econ 1112, Stat 1601

MGMT 3102. Financial Institutions. (2 cr. ; Student Option; Periodic Spring)

An introduction to the functioning and management of financial institutions such as the banking industry, mutual fund industry, insurance companies, pension funds, investment banks, and venture capital firms. prereq: 2101, Econ 1111, Econ 1112

MGMT 3123. Managerial Economics. (4 cr. ; Student Option; Every Spring)

Development of the basic concepts of the microeconomic theories of consumer behavior, the firm, and market structure, in application to managerial decision-making contexts in the operation and control of business and non-profit organizations. [Note: no credit for students who have received credit for Econ 3201] prereq: 2101, Econ 1111, Math 1101 or Math 1021, Stat 1601 or Stat 2601 or instr consent

MGMT 3133. Managerial Accounting. (4 cr. ; Student Option; Periodic Fall & Spring)

Managerial accounting is designed to help managers assess needed information to carry out three essential functions in an organization: planning operations, controlling activities, and making decisions. The emphasis of this course is placed on cost behaviors, various product costing methods, cost-volume-profit relationships, budgeting and control through standard costs, and other quantitative techniques used by management. prereq: 2102

MGMT 3134. Cooperative Business Model.

(2 cr. ; Student Option; Spring Odd Year)
Same as Econ 3134. In the northern plains of the United States, cooperative businesses, including consumer, producer, and worker cooperatives, have made significant contributions to economic growth and development. Identify the unique economic, legal, and organizational characteristics of these firms and their role in the economy. Special attention is given to the potential role of cooperative business organizations in community development. prereq: Econ 1111 or instr consent

MGMT 3141. Business Law: The Legal Environment of Business.

(2 cr. ; Student Option; Periodic Fall & Spring)
Introduction to the legal environment in which business operates. Covers the sources of regulatory authority, including U.S. constitutional authority, judicial authority, and state and local regulatory systems; ethical business decision-making; tortious acts in the business world, intellectual property, and an introduction to contract law. prereq: 2101 or instr consent

MGMT 3142. Business Law: Sales Law, Commercial Paper, and Forms of Business.

(2 cr. ; Student Option; Periodic Fall & Spring)
Covers sales law under the Uniform Commercial Code; negotiable instruments (i.e., the law of commercial paper); and principles of agency law. Provides an introduction to a wide variety of business organizational forms with in-depth emphasis on partnerships, limited partnerships, limited liability corporations, corporate law, and securities law and regulation. This class complements MGMT 3141, and may be taken with or without having first taken 3141. prereq: 2101 or instr consent

MGMT 3151. Human Resources**Management I.** (E/CR; 2 cr. ; Student Option; Every Spring)

An introduction to the functional areas of human resource management through the use of case studies. Topics include legal issues, strategic and sustainability planning, recruitment, evaluation, compensation, and benefits. prereq: 2101 or instr consent

MGMT 3152. Human Resources**Management II.** (HDIV; 2 cr. ; Student Option; Every Fall)

Topics in human resource management: evaluating employee performance, training and safety, sustainability and "lean manufacturing," labor relations, and international human resource management. prereq: 3151 or instr consent

MGMT 3161. Labor Management Relations I. (E/CR; 2 cr. ; Student Option; Periodic Fall & Spring)

Historical development of labor relations and the legal framework governing collective bargaining. Labor relations law reform. Case studies from labor relations law. prereq: Econ 1111 or instr consent

MGMT 3162. Labor Management Relations II. (2 cr. ; Student Option; Periodic Spring)

Issues in labor-management negotiation, grievances, wages and economic security plans, public policies toward collective bargaining. Case studies from labor arbitration. prereq: 3161 or instr consent

MGMT 3201. Marketing Principles and Strategy. (4 cr. ; Student Option; Periodic Spring)

Basic factors affecting policy and strategy issues in marketing. Economic, legal, behavioral, environmental, competitive, and technological factors as they affect product, pricing, promotion, and marketing-channel decisions. prereq: 2102, Stat 1601 or instr consent

MGMT 3221. Management and Organization Theory. (4 cr. ; Student Option; Periodic Fall & Spring)

Theory, research, and practice of management. Planning, organizing, leading, controlling. Emphasizes goals, policies, procedures. Factors and human relationships necessary to achieve organizational success. Organizational structure/culture. Changing environment in which businesses operate. prereq: 2101, Econ 1111 or instr consent

MGMT 3501. Applied Deterministic Modeling for Management Science. (2 cr. ; Student Option; Every Spring)

Same as Math 3501. Formulations of real-world problems as Linear Programming or Integer Linear Programming models; graphical solutions of some LP-models. Linear Programming: the Simplex method, intuitive ideas behind the Simplex method. Using software to solve LP problems; interpreting optimal solutions; sensitivity analysis; duality. Network diagram representation; critical path method (CPM-PERT); transportation problem. prereq: 2102, Math 1101 or Stat 1601 or Stat 2601 or instr consent

MGMT 3502. Applied Probabilistic Modeling for Management Science. (2 cr. ; Student Option; Every Spring)

Same as Math 3502. Short review of probability and statistics; mean and variance of a data set; discrete and continuous random variables (especially the exponential distribution and the Poisson distribution). Decision and game theory. Decision trees, types of decision criteria. Queueing models, birth-and-death processes; Markovian or Poisson arrivals and exponential service times; M/M/k and M/M/8 queues; Statistical Quality Control; inventory control system. prereq: 2102, Math 1101 or Stat 1601 or Stat 2601 or instr consent

MGMT 3503. Consumer Behavior. (SS; 4 cr. ; Student Option; Every Spring)

Same as Psy 3503. Psychological basis for understanding consumers. Some of the topics include consumer behavior, consumer cognitive processes, and consumer judgments and decisions. prereq: Stat 1601 or Stat 2601 or instr consent

MGMT 3513. Negotiation. (4 cr. ; Student Option; Periodic Spring)

Same as Psy 3513. Examines the theoretical and applied aspects of negotiation. Topics include negotiation theory, strategy, skills

and tactics, communication processes, global negotiation, and ethics. Use of negotiation simulations. prereq: 3221 or Psy 3501 or Psy/Mgmt 3701

MGMT 3601. Transnational Enterprise. (IP; 4 cr. ; Student Option; Every Spring)

Development and transformation of business enterprise within the global economy emerging from time and motion studies, mergers, "corporate revolution," Fordism through to multi-plant manufacturing beyond national boundaries. Includes the basic impact of structural, institutional, and organizational change upon the dynamics of the firm and industry in the contemporary hyper-competitive, technology-driven, fast-paced, global environment. prereq: 2101, Econ 1111, Econ 1112 or instr consent

MGMT 3701. Organizational Behavior. (SS; 4 cr. ; Student Option; Periodic Fall & Spring)
Same as Psy 3701. Uses the theories and research of the behavioral sciences to understand how organizations function at the individual, group, and organizational levels. Topics include stress in the workplace; group dynamics; power, leadership, and attribution theory. prereq: Stat 1601 or Stat 2601, jr or sr

MGMT 3703. Health Care Markets and Institutions. (4 cr. ; Student Option; Periodic Spring)

The institutional details and market structures of the health care industry are studied through the lens of economic analysis, providing a context for managerial decision making. Topics include the roles of patients, physicians, and hospitals (both for-profit and non-profit), the effect of insurance on the supply of and demand for health care, and the role of the pharmaceutical industry. Market imperfections and government regulatory intervention are discussed. prereq: 2101, Econ 1111, Stat 1601 or Stat 2601, or instr consent

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

MGMT 4101. Investment and Portfolio Analysis. (4 cr. ; Student Option; Every Spring)

The institutional environment of investment, techniques used to price financial products, and how to design a portfolio of many assets. prereq: 2101, 2102, 3101

MGMT 4201. The Economics of Corporate Strategy I. (2 cr. ; Student Option; Periodic Fall & Spring)

Setting the horizontal boundaries (e.g., which lines of business) and vertical boundaries (whether to make or buy inputs and outputs) of the firm, considered as strategic decisions. The different types of competition associated with distinct market structures. prereq: 3123 or Econ 3201, Math 1021 or Math 1101, or instr consent

MGMT 4202. The Economics of Corporate Strategy II. (2 cr. ; Student Option; Periodic Fall & Spring)

Tools for analyzing business strategies: credible strategic commitments, pricing rivalries, entry and exit, Porter's five forces framework, and the relationship between value creation and strategic market positioning. prereq: 4201

MGMT 4501. Globalization and Business Strategy. (2 cr. ; Student Option; Periodic Fall & Spring)

Review of the impact of increasing globalization of the corporate and economic environment; application of strategic methods to new business conditions. prereq: 3601 or instr consent

MGMT 4502. Technological Change, Labor Market, and Skill Formation. (2 cr. ; Student Option; Periodic Fall & Spring)

The change of technology in relation to the formation of skills and transformation of regional labor markets throughout the world. The intimate relationship between "skilling" and "deskilling" of labor and the transformation of technology. prereq: 3601 or instr consent

MGMT 4505. International Managerial Finance. (2 cr. ; Student Option; Periodic Spring)

An introduction to the international dimensions of corporate financing, investment, and risk management decisions. Foreign exchange markets, international financial systems, foreign exchange rate determination, measuring/managing currency risk, multinational capital budgeting, cost of capital in emerging economies, international taxation policies, and transfer pricing. prereq: 3101 or instr consent

MGMT 4896. Internship. (1-4 cr. ; S-N only; Every Fall & Spring)

Supervised educational experience and field application relevant to student's major. Written analysis appropriate to the application is required. [Note: 2 cr may be applied to major or minor] prereq: 2102

MGMT 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Math Education Methods (MTHE)

MTHE 4121. Methods of Teaching Mathematics in the Middle and Secondary School. (4 cr. ; A-F only; Every Fall)

Objectives, curricula, special methods, materials, and evaluation appropriate for teaching mathematics in the middle and secondary school. prereq: admission to the secondary teacher education program or elementary education program, coreq SeEd 4102, SeEd 4103 or prereq ELED 3202, ELED 3212

Mathematics (MATH)

MATH 901. Basic Algebra. (0 cr. [max 4 cr.] ; Student Option; Every Fall)

Sets, absolute values, linear equations and inequalities, functions and graphs, arithmetic

of complex numbers, quadratics, radicals, exponents and logarithms, and linear systems of equations. [Note: 0 cr toward graduation, 4 cr toward financial aid]

MATH 1001. Excursions in Mathematics. (M/SR; 4 cr. ; Student Option; Every Fall & Spring)

Introduction to the breadth and nature of mathematics and the power of abstract reasoning, with applications to topics that are relevant to the modern world, such as management science, statistics, voting, fair division of assets, symmetry and patterns of growth. prereq: 2 yrs high school math

MATH 1012. PreCalculus I: Functions. (4 cr. ; Student Option; Every Fall & Spring)

Linear and quadratic functions, power functions with modeling; polynomial functions of higher degree with modeling; real zeros of polynomial functions; rational functions; solving equations in one variable; solving systems of equations; exponential and logarithmic functions, and the graphs of these functions. prereq: Math 0901 or placement

MATH 1013. PreCalculus II: Trigonometry. (M/SR; 2 cr. ; Student Option; Every Fall & Spring)

Angles and their measures; trigonometric functions; the circular functions of trigonometry; graphs of sine, cosine, tangent, cosecant, secant, and cotangent functions; algebra of trigonometric functions; inverse trigonometric functions; solving problems with trigonometry; analytic trigonometry; fundamental trig identities; proving trigonometric identities; sum and difference identities; multiple-angle identities; the Law of Sines; the Law of Cosines. prereq: Math 0901 or placement

MATH 1021. Survey of Calculus. (M/SR; 4 cr. ; Student Option; Every Spring)

Short course for students in social sciences, biological sciences, and other areas requiring a minimal amount of calculus. Topics include basic concepts of functions, derivatives and integrals, exponential and logarithmic functions, maxima and minima, partial derivatives; applications. prereq: 1012 or placement; credit will not be granted for Math 1021 if a grade of C- or higher has previously been received for Math 1101

MATH 1101. Calculus I. (M/SR; 5 cr. ; Student Option; Every Fall & Spring)

Limits and continuity; the concepts, properties, and some techniques of differentiation, antidifferentiation, and definite integration and their connection by the Fundamental Theorem. Partial differentiation. Some applications. Students learn the basics of a computer algebra system. prereq: 1012, 1013 or placement

MATH 1102. Calculus II. (M/SR; 5 cr. ; Student Option; Every Fall & Spring)

Techniques of integration. Further applications involving mathematical modeling and solution of simple differential equations. Taylor's Theorem. Limits of sequences. Use and theory of convergence of power series. Students use a computer algebra system. prereq: 1101

MATH 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

MATH 2101. Calculus III. (M/SR; 4 cr. ; Student Option; Every Fall & Spring)

Multivariable and vector calculus. Three-dimensional analytic geometry; partial differentiation; multiple integration; gradient, divergence, and curl; line and surface integrals; divergence theorem; Green and Stokes theorems; applications. prereq: 1102 or instr consent

MATH 2202. Mathematical Perspectives. (M/SR; 4 cr. ; Student Option; Every Spring)

Introduction to the methodology and subject matter of modern mathematics. Logic, sets, functions, relations, cardinality, and induction. Introductory number theory. Roots of complex polynomials. Other selected topics. prereq: 1101

MATH 2211. History of Mathematics. (4 cr. ; Student Option; Fall Even Year)

Historical development of various areas in mathematics and important figures in mathematics from ancient to modern times. prereq: 1101 or higher or instr consent

MATH 2212. Introduction to Knot Theory. (M/SR; 4 cr. ; Student Option; Periodic Fall)

Introduction to the mathematical study of knots. Presentation, tabulation, and invariants of knots. Additional selected topics from low-dimensional topology. prereq: 1101 or higher or instr consent

MATH 2401. Differential Equations. (M/SR; 4 cr. ; Student Option; Every Fall)

First-order and second-order differential equations with methods of solution and applications, Laplace transforms, systems of equations, series solutions, existence and uniqueness theorems, the qualitative theory of differential equations. prereq: 1102 or instr consent

MATH 2501. Probability and Stochastic Processes. (M/SR; 4 cr. ; Student Option; Every Fall)

Same as Stat 2501. Probability theory; set theory, axiomatic foundations, conditional probability and independence, Bayes' rule, random variables. Transformations and expectations; expected values, moments, and moment generating functions. Common families of distributions; discrete and continuous distributions. Multiple random variables; joint and marginal distributions, conditional distributions and independence, covariance and correlation, multivariate distributions. Properties of random sample and central limit theorem. Markov chains, Poisson processes, birth and death processes, and queuing theory. prereq: 1101 or instr consent

MATH 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

MATH 3111. Linear Algebra. (4 cr. ; Student Option; Every Fall & Spring)

Math majors are highly encouraged to take this course in their second year. Matrix algebra, systems of linear equations, finite dimensional vector spaces, linear transformations, determinants, inner-product spaces, characteristic values and polynomials, eigenspaces, minimal polynomials, diagonalization of matrices, related topics; applications. [Note: no credit for students who have received cr for Math 2111] prereq: 1102 or instr consent

MATH 3211. Geometry. (M/SR; 4 cr. ; Student Option; Fall Odd Year)

Synthetic approach to Euclidean and non-Euclidean geometries. Selected topics from affine, hyperbolic, spherical, projective geometries. Possible comparisons of analytic and synthetic approaches. May include other related topics or use of computer software for geometry. prereq: 1102 or higher or instr consent

MATH 3221. Real Analysis I. (4 cr. ; Student Option; Every Fall)

Introduction to real analysis. The main topics of single-variable calculus—convergence, continuity, differentiation, and series as they are applied and extended in advanced settings with emphasis on precise statements and rigorous proofs. Structure of the real numbers, open and closed sets. Integration, metric spaces, and other topics and applications as time allows. prereq: 1102, 2202 or instr consent

MATH 3231. Abstract Algebra I. (4 cr. ; Student Option; Every Spring)

Systematic study of groups and rings, making use of linear algebra. Groups as codifying symmetry throughout mathematics and its applications. The Euclidean algorithm and its consequences, both for integers and polynomials. Other selected topics and applications. prereq: 2111, 2202 or instr consent

MATH 3401. Operations Research. (4 cr. ; Student Option; Every Spring)

Topics include, but not limited to, linear and integer linear programming formulations, sensitivity analysis and duality, network models and applications. prereq: 1101 or higher or instr consent

MATH 3411. Discrete and Combinatorial Mathematics. (4 cr. ; Student Option; Every Fall)

Propositional logic; equivalence relations; recurrence equations; structures and properties of undirected and directed graphs; applications of the aforementioned topics. prereq: 1102 or higher or instr consent

MATH 3501. Applied Deterministic Modeling for Management Science. (2 cr. ; Student Option; Every Spring)

Same as Mgmt 3501. Formulations of real-world problems as Linear Programming or Integer Linear Programming models; graphical solutions of some LP models. Linear Programming: the Simplex method, intuitive ideas behind the Simplex method. Using software to solve LP problems; interpreting

optimal solutions; sensitivity analysis; duality. Network diagram representation; critical path method (CPM-PERT); transportation problem. prereq: 1101 or Stat 1601 or Stat 2601 or Stat 2611, Mgmt 2102 or instr consent

MATH 3502. Applied Probabilistic Modeling for Management Science. (2 cr. ; Student Option; Every Spring)

Same as Mgmt 3502. Short review of probability and statistics; mean and variance of a data set; discrete and continuous random variables (especially the exponential distribution and the Poisson distribution). Decision and game theory. Decision trees, types of decision criteria. Queueing models, birth-and-death processes; Markovian or Poisson arrivals and exponential service times; M/M/k and M/M/8 queues; Statistical Quality Control; inventory control system. prereq: 1101 or Stat 1601 or Stat 2601 or Stat 2611, Mgmt 2102 or instr consent

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

MATH 4201. Complex Analysis. (2 cr. ; Student Option; Periodic Fall & Spring)

Differentiable and analytic functions of a complex variable. Contour integral theorems. Laurent expansions. Other topics optional. prereq: 3221 or instr consent

MATH 4211. Real Analysis II. (2 cr. ; Student Option; Periodic Fall & Spring)

Differentiation of functions of several variables. The extension of integration to other forms of integrals. Introduction to measure theory. Other optional topics. prereq: 3221 or instr consent

MATH 4221. Topology. (2 cr. ; Student Option; Periodic Fall & Spring)

Selected topics from point set topology and/or algebraic topology. prereq: 2202 or instr consent

MATH 4231. Abstract Algebra II. (2 cr. ; Student Option; Periodic Fall & Spring)

Selected topics from the theory of finite groups, Galois theory of fields, and/or the theory of rings. prereq: 3231 or instr consent

MATH 4241. Number Theory. (2 cr. ; Student Option; Periodic Fall & Spring)

Selected topics from modular congruences, theory of primes, classical Diophantine equations, and the connections with algebraic curves. prereq: 2202 or instr consent

MATH 4252. Differential Geometry. (2 cr. ; Student Option; Periodic Fall & Spring)

Geometry of curves and surfaces. Frames, curvature, torsion, orientation, differential forms, topological properties of surfaces. The notion of differentiable manifold. Selected applications. prereq: instr consent

MATH 4253. Combinatorics. (2 cr. ; Student Option; Periodic Fall & Spring)

Selected topics from graph theory, the theory of ordered sets, and/or enumerative combinatorics. prereq: instr consent

MATH 4401. Numerical Methods with Applications in Mathematical Modeling. (4 cr. ; Student Option; Periodic Fall & Spring)

Finite differences; interpolation; numerical integration; numerical solutions of differential, algebraic, and transcendental equations; continuous mathematical models. prereq: 2111, 2401 or instr consent

MATH 4452. Mathematical Modeling. (4 cr. ; Student Option; Periodic Fall & Spring)

Mathematical topics include, but are not limited to, differential and difference equations, discrete and continuous dynamical systems, predator-prey models, discrete and continuous optimization models, probabilistic models, stochastic and Poisson processes, and queueing models. Applications are drawn from different areas in the sciences and social sciences. prereq: instr consent

MATH 4901. Senior Seminar. (2 cr. ; A-F only; Every Fall)

This is a full-year course, required for all mathematics majors in their senior year. Students must attend year round and present one of the seminars. prereq: sr math major or instr consent; full year course begins fall sem

MATH 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Multi-Inst Cross Registration (MULT)

MULT 1. Multi-Institution Cross Registration. (0 cr. ; No Grade Associated;)

Music (MUS)

MUS 100. Concert Attendance. (0 cr. ; S-N only; Every Fall & Spring)

To be taken by all music majors and minors; involves attending a set number of music performance offerings during the semester, as a participant, audience member, and usher or stage manager. prereq: major or minor

MUS 1041. Introduction to Music. (FA; 4 cr. ; Student Option; Every Fall)

Survey emphasizing development of an intelligent understanding and appreciation of music. For non-music majors.

MUS 1042. Fundamentals of Music. (FA; 4 cr. ; Student Option; Spring Even Year)

The rudiments of music including note and rhythmic reading, scales, chords, beginning chord progressions, and practical keyboard work in the piano lab.

MUS 1043. American Jazz Styles. (FA; 4 cr. ; Student Option; Periodic Fall & Spring)

Development and analysis of the New Orleans dixieland, ragtime, stride, boogie-woogie, Chicago dixieland, swing, bop, cool, funky, progressive, third-stream, free form, and fusion jazz styles. Introductory course to help non-music majors become familiar with and appreciate this art form.

MUS 1044. Class Piano for the Non-Music Major. (ART/P; 1 cr. ; Student Option; Every Fall & Spring)

Introduction to piano performance for students with no previous piano training. Students will learn basic keyboard skills including note reading, fingering, and counting. Study beginning piano technique and learn to perform elementary-level solos and ensembles. [Note: special fee required]

MUS 1045. Class Guitar. (ART/P; 1 cr. ; Student Option; Every Fall & Spring)

Introduction to guitar performance for students with no previous guitar experience. Students learn basic guitar skills, study beginning guitar technique, and learn to perform music. This class is not for students who have played guitar before. [Note: special fee required]

MUS 1049. Introduction to American Popular Music. (HUM; 4 cr. ; Student Option; Spring Odd Year)

Survey of popular musical styles in America from the early 20th century to today.

MUS 1050. Accompanying. (ART/P; 1 cr. [max 8 cr.] ; S-N only; Every Fall & Spring)

Students who accompany private lessons and recitalists may receive credit. Accompanying assignments are made through consultation with the piano faculty. prereq: instr consent

MUS 1061. Introduction to World Music. (IP; 4 cr. ; Student Option; Every Fall)

Survey of primarily non-Western music cultures, emphasizing the development of an appreciation for the music and an understanding of its significance in its culture of origin. For non-music majors.

MUS 1062. Instrumental Music In The United Kingdom. (ART/P; 2 cr. [max 4 cr.] ; A-F only; Periodic Summer)

Perform and work alongside some of the United Kingdom's finest musicians and experience the British music scene. Visit the cities of London, Manchester, and Cardiff. Perform a series of concerts as part of UMM Symphonic Winds and Jazz Ensemble. Take part in scheduled classes with internationally renowned musicians and teachers at a leading British conservatory.

MUS 1070. Instrumental Chamber Ensemble. (ART/P; 1 cr. [max 8 cr.] ; S-N only; Every Fall & Spring)

Performance of instrumental chamber music. Groups are formed according to the interests of students and availability of materials. prereq: instr consent

MUS 1080. Jazz Combo. (ART/P; 1 cr. [max 8 cr.] ; S-N only; Every Fall & Spring)

Performance of instrumental jazz music with emphasis on improvisation. prereq: instr consent

MUS 1081. Jazz Improvisation. (ART/P; 2 cr. ; Student Option; Periodic Spring)

Introduction to the art of jazz improvisation for instrumentalists and vocalists. Topics, including practice techniques, jazz theory, jazz harmony, and improvisational techniques, are discussed through solo analysis, transcriptions, listening

assignments, live performances, and instructor demonstration. prereq: instr consent

MUS 1090. Vocal Chamber Ensemble. (ART/P; 1 cr. [max 8 cr.] ; S-N only; Every Fall & Spring)

Performance of vocal ensemble music especially written for smaller groups. prereq: instr consent

MUS 1111. Functional Keyboard for the Music Major I. (ART/P; 1 cr. ; Student Option; Every Fall)

Beginning instruction for music majors and minors whose principal performing medium is voice or non-keyboard instrument; skill development in sight reading, technique, harmonization, simple literature. [Note: special fee required] prereq: coreq 1101, instr consent

MUS 1112. Functional Keyboard for the Music Major II. (ART/P; 1 cr. ; Student Option; Every Spring)

Continued beginning instruction begun in Mus 1111 for music majors and minors whose principal performing medium is voice or non-keyboard instrument; includes sight reading, technique, harmonization, transposition, improvisation, simple literature. [Note: special fee required] prereq: 1111, coreq 1102, instr consent

MUS 1151. Foundations of Music Theory I: Rhythm and Pitch. (M/SR; 2 cr. ; Student Option; Every Fall)

Notation; rhythm reading and identification; scales, modes, keys, and basic chords; simple, compound, and complex meters. prereq: coreq 1153, 1155, concurrent enrollment in piano classes/lessons until piano proficiency is passed for maj/min

MUS 1152. Foundations of Music Theory II: Line. (FA; 2 cr. ; Student Option; Every Spring)

Study of melody and line; one-, two-, and four-part writing and counterpoint; phrase structure; interaction of line with harmony; analysis and identification. prereq: 1151, coreq 1154, 1156, concurrent enrollment in piano classes/lessons until piano proficiency is passed for maj/min

MUS 1153. Foundations of Musicianship I. (1 cr. ; Student Option; Every Fall)

Introduction to sight-singing, rhythmic and pitch dictation and transcription, and aural error detection. prereq: coreq 1151, 1155

MUS 1154. Foundations of Musicianship II. (1 cr. ; Student Option; Every Spring)

Sight-singing of melodies; melodic dictation and transcription; aural error detection. prereq: 1153, coreq 1152, 1156, concurrent enrollment in piano classes/lessons until piano proficiency is passed for maj/min

MUS 1155. Foundations in Music History I: Ancient to 1750. (HIST; 2 cr. ; Student Option; Every Fall)

A chronological survey of Western musical development from the earliest notated examples to the end of the Baroque period. Emphasis is placed on specific works and composers as examples of larger musical and cultural trends. This is the first of two courses intended to provide a historical framework for

further musical study. prereq: coreq 1151, 1153

MUS 1156. Foundations in Music History II: 1750 to Contemporary. (FA; 2 cr. ; Student Option; Every Spring)

A chronological survey of Western musical development from the Classical period through the current day. Emphasis is placed on specific works and composers as examples of larger musical and cultural trends. This is the second of two courses intended to provide a historical framework for further musical study. prereq: 1155, coreq 1152, 1154

MUS 1200. Individual Performance Studies: Piano. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in piano is open to all students. It is recommended that music majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1201. Individual Performance Studies: Piano Accompanying. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in piano accompanying is open to all students. It is recommended that music majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1202. Individual Performance Study: Organ. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in organ is open to all students. It is recommended that music majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1203. Individual Performance Study: Harpsichord. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in harpsichord is open to all students. It is recommended that music majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note:

should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1218. Individual Performance Study:

Tuba. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)
Private instruction in tuba is open to all students. It is recommended that music majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1219. Individual Performance Study:

Percussion. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)
Private instruction in percussion is open to all students. It is recommended that music majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1221. Individual Performance Study:

Guitar. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)
Private instruction in guitar is open to all students. It is recommended that music majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1222. Individual Performance Study:

Electric Bass. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)
Private instruction in electric bass is open to all students. It is recommended that music majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1223. Individual Performance Studies:

Composition. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)
Private instruction in composition is open to all students. It is recommended that music

majors fulfill their requirement of 7 credits in successive enrollments in order to maintain continuous emphasis in the major performance area. All music majors and other students who anticipate applying for the jury exam should enroll under the A-F grading only. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 1300. UMM Symphonic Winds. (ART/P;

1 cr. [max 8 cr.] ; S-N only; Every Fall & Spring)
A select ensemble of wind, brass, percussion, double bass, and piano instrumentation which performs traditional and contemporary literature of the highest quality. A program fee is attached to this course in fall semester only to cover the expenses of the annual off-campus weekend retreat. [Note: special fee required for fall semester]

MUS 1301. Chamber Winds. (ART/P; 1 cr.

[max 8 cr.] ; S-N only; Every Fall & Spring)
A select group that promotes the advancement of wind music of artistic and historical significance through one-on-a-part performances in a directed chamber setting. prereq: instr consent

MUS 1310. University Choir. (ART/P; 1 cr.

[max 8 cr.] ; S-N only; Every Fall & Spring)
Preparation of choral works for at least one public concert each semester and other special events. Emphasis on basic choral singing techniques.

MUS 1320. Concert Choir. (ART/P; 1 cr. [max

8 cr.] ; S-N only; Every Fall & Spring)
Preparation of choral works from all major periods of music literature with emphasis on concert performance. Several public concerts and appearances scheduled each semester in addition to a spring concert tour. prereq: instr consent

MUS 1321. Chamber Singers. (ART/P; 1 cr.

[max 8 cr.] ; S-N only; Every Fall & Spring)
A select ensemble of vocalists performing repertoire in a variety of styles. Several public concerts and appearances scheduled each semester. prereq: instr consent

MUS 1330. Jazz Ensemble. (ART/P; 1 cr.

[max 8 cr.] ; S-N only; Every Fall & Spring)
Rehearsals and concerts cover the literature for this medium.

MUS 1331. Brass Ensemble. (ART/P; 1 cr.

[max 8 cr.] ; S-N only; Every Fall & Spring)
A small directed ensemble for brass (and occasionally percussion) players, performing standard brass literature in various styles and from all historical periods. prereq: instr consent

MUS 1340. Orchestra. (ART/P; 1 cr. [max 8

cr.] ; S-N only; Every Fall & Spring)
The study and preparation of standard orchestral works for performance at several public concerts and appearances each semester in addition to a concert tour. The study of basic orchestral procedure.

MUS 1360. Concert Choir Tour. (0.5 cr. [max

2 cr.] ; S-N only; Every Spring)
Participation in the spring concert tours undertaken by the UMM Concert Choir. [Note:

a program fee is attached to this course to cover the expenses of the concert tour] prereq: coreq 1320, instr consent

MUS 1370. Chamber Orchestra. (ART/P; 1

cr. [max 8 cr.] ; S-N only; Every Fall & Spring)
The study and preparation of standard string orchestral works for performance at several public concerts and appearances each semester. Wind and percussion players need special permission to enroll. The study of basic orchestral procedure.

MUS 1401. English, Italian, German, and

French Diction for Singers. (ART/P; 1 cr. ; A-F or Audit; Spring Odd Year)

The sounds and symbols of the International Phonetic Alphabet, rules for correct English, Italian, German, and French lyric diction. Transactions of German Lieder, French Melodie, Italian Arias, and English Songs into International Phonetic Alphabet. German, French, Italian, and English songs performed in class for critique.

MUS 1411. Vocal Performance Workshop.

(ART/P; 1 cr. ; Student Option; Periodic Spring)
Practical introduction to vocal performance. Students become familiar with a number of operas and musical comedies and perform selections emphasizing ensemble work. prereq: instr consent

MUS 1801. Introduction to American

Popular Music. (IC; 4 cr. ; Student Option; Periodic Fall)

Survey of popular musical styles in America from the early 20th century to today. An emphasis on classroom discussion and activities, and written assignments designed to encourage critical analysis of American popular music and its social contexts. prereq: new college student in their first semester of enrollment at UMM

MUS 2045. Intermediate Class Guitar. (ART/

P; 1 cr. ; Student Option; Every Fall & Spring)
Focusing on the middle ground where popular and classical guitar meet, reading skills, bar and 'color' chords, and advanced right hand technique are applied to both popular and classical music. Students write and perform original songs, learn personal favorites, and advance through carefully selected classical etudes. [Note: special fee required] prereq: 1045 or instr consent

MUS 2101. Core Studies II: Music Theory III.

(FA; 4 cr. ; Student Option; Every Fall)
Modulatory techniques; chromatic harmony of the Classical and Romantic Periods; borrowed chords, Neapolitan and augmented sixths; ninth, eleventh, and thirteenth chords; altered dominants and chromatic mediants; harmonic and formal analysis of scores including binary, ternary, variation, sonata, and rondo forms. prereq: 1102, major or minor or instr consent, concurrent enrollment in piano class/lessons until piano proficiency is passed for majors and minors

MUS 2102. Core Studies II: Music Theory IV.

(FA; 4 cr. ; Student Option; Every Spring)
Model, pentatonic, whole-tone, and octatonic collections; analysis of scores including nonfunctional harmony; pitch class set,

twelve-tone and other 20th- and 21st-century techniques. prereq: 2101, major or minor or instr consent, concurrent enrollment in piano class/lessons until piano proficiency is passed for majors and minors

MUS 2111. Functional Keyboard for the Music Major III. (ART/P; 1 cr. ; Student Option; Every Fall)

Elementary to early intermediate instruction for music majors and minors whose principal performing medium is voice or non-keyboard instrument; continued skill development begun in MUS 1112; introduction of easy solo and ensemble literature. [Note: special fee required] prereq: 1112, coreq 2101, instr consent

MUS 2112. Functional Keyboard for the Music Major IV. (ART/P; 1 cr. ; Student Option; Every Spring)

Intermediate instruction for music majors and minors whose principal performing medium is voice or non-keyboard instrument; continued skill development begun in MUS 2111; introduction of intermediate solo and ensemble literature. [Note: special fee required] prereq: 2111, coreq 2102, instr consent

MUS 2151. Intermediate Music Theory: Form. (2 cr. ; Student Option; Every Fall)

Periodicity; analysis and score study of pieces in binary, rounded binary, ternary, variation, sonata, rondo, and sonata-rondo forms. prereq: 1152, music major or minor or instr consent

MUS 2152. Intermediate Music Theory: Harmony. (2 cr. ; Student Option; Every Fall)

Further exploration of triads, seventh chords, and harmonic function; secondary-function chords; modal mixture; modulation; Neapolitan and augmented-6th chords; upper extensions; altered dominants and chromatic mediants. prereq: 1152, music major or minor or instr consent

MUS 2301. Instrumental Techniques--Woodwind. (1 cr. ; Student Option; Periodic Fall)

Practical study to develop elementary skills as well as a basic teaching knowledge and understanding of performance problems of the woodwind instruments. prereq: major or minor or instr consent

MUS 2302. Instrumental Techniques--Brass. (1 cr. ; Student Option; Periodic Spring)

Practical study to develop elementary skills as well as a basic teaching knowledge and understanding of performance problems of the brass instruments. prereq: major or minor or instr consent

MUS 2303. Instrumental Techniques--Strings. (1 cr. ; Student Option; Periodic Fall)

Practical study to develop elementary skills as well as a basic teaching knowledge and understanding of performance problems of the string instruments. prereq: major or minor or instr consent

MUS 2304. Vocal Techniques. (1 cr. ; Student Option; Spring Even Year)

Practical study to develop elementary skills as well as a basic teaching knowledge and understanding of performance problems of the voice. prereq: major or minor or instr consent

MUS 2305. Instrumental Techniques--Percussion. (1 cr. ; Student Option; Periodic Spring)

Practical study to develop elementary skills as well as a basic teaching knowledge and understanding of performance problems of the percussion instruments. prereq: major or minor or instr consent

MUS 2401. Piano from Bach to Jazz. (FA; 2 cr. ; Student Option; Spring Odd Year)

Introduction to numerous seminal works from the piano literature, to composers who have written for keyboard instruments over the past three hundred years, and to performers who have propelled this music into the public, placing all of these works and people into historical, cultural, artistic, aesthetic, and social contexts. This hybrid course utilizes online instruction to deliver technical content and class time to focus on listening, writing, and discussion activities in addition to lecture components. Some evening film screenings and evening/weekend concerts may be required.

MUS 2402. Art Song Repertoire. (FA; 2 cr. ; Student Option; Spring Odd Year)

A survey of song repertoire from the 17th century to the present, including songs from the German, French, Italian, American, and Spanish traditions. The fusion of music and poetry are studied as well as interpretation and signature musical characteristics.

MUS 2403. Survey of Choral Literature. (FA; 2 cr. ; Student Option; Fall Even Year)

A broad survey of choral repertoire from Gregorian chant to present-day compositions. Students develop a comprehensive knowledge of composers and literature discussed in the course through in-depth listening and analysis.

MUS 2404. The Orchestra and its Literature from the 1700s through Today. (FA; 2 cr. ; Student Option; Spring Even Year)

A study of the orchestra as a cultural institution. Examine important and influential repertoire, with an emphasis on the symphony, as well as examples of ensembles to understand the role of the orchestra in Western culture.

MUS 2405. Survey of Instrumental Wind Literature. (FA; 2 cr. ; Student Option; Fall Odd Year)

A survey of standard and educational wind ensemble and wind chamber music literature from all historical periods and styles. Students develop a comprehensive knowledge of the composers and literature discussed in the course through detailed listening, score study, discussion, and evaluation.

MUS 2406. Jazz Style and Repertoire. (FA; 2 cr. ; Student Option; Spring Even Year)

This course addresses the stylistic component of jazz performance through study and analysis of seminal recordings throughout all eras of jazz history.

MUS 3051. Piano Pedagogy I. (ART/P; 2 cr. ; Student Option; Fall Even Year)

This course is a study, demonstration, and discussion about the various elements of piano teaching methods, techniques, and materials for elementary and early intermediate levels.

This includes analysis of various piano courses and piano literature, discussion of technical regimes, ideas for private and group lessons, and planning for the practical business aspect of teaching. Recommended for piano majors. prereq: 1200 or instr consent

MUS 3052. Piano Pedagogy II. (ART/P; 2 cr. ; Student Option; Fall Odd Year)

This course covers much intermediate literature from each of the four major periods of music with practical ideas to put into immediate use by current teachers. Piano literature to motivate and retain students as well as the study of performance practices as they relate to each musical style are emphasized. prereq: 1200 or instr consent

MUS 3061. Guitar Pedagogy. (ART/P; 2 cr. ; Student Option; Every Fall & Spring)

Discussions and readings on guitar pedagogy, private and group lessons, instructing young students, practice methods and business issues associated with self-employment in teaching music. Instruction of beginners in a one-on-one situation and classroom presentation of lessons. prereq: 1221 or instr consent

MUS 3101. Core Studies III: Medieval, Renaissance, and Baroque Music. (HIST; 4 cr. ; Student Option; Fall Odd Year)

Historical development of Western music and representative literature of the various periods and styles. prereq: 1102, major or minor or instr consent

MUS 3102. Core Studies III: Classical, Romantic, and 20th-Century Music. (FA; 4 cr. ; Student Option; Spring Even Year)

Historical development of Western music and representative literature of the various periods and styles. prereq: 1102, major or minor or instr consent

MUS 3107. Music in 20th-Century America. (FA; 2 cr. ; Student Option; Spring Odd Year)

A study of select American musical styles in the 20th century. Art, traditional, and popular musical styles are considered, as well as how these styles intersect. Examples are discussed in terms of musical elements as well as cultural and social contexts. prereq: 1101 or equiv or instr consent

MUS 3108. Intellectual Foundations of Western Music. (HUM; 2 cr. ; Student Option; Fall Even Year)

Exploration of source readings and analytical projects showing the intellectual foundations of Western music from antiquity through the Middle Ages. prereq: 1101 or equiv or instr consent

MUS 3109. Analysis of Popular Music. (HUM; 2 cr. ; Student Option; Spring Odd Year)

Development of analytical techniques to examine popular music from Tin Pan Alley to the present. prereq: 1101 or equiv or instr consent

MUS 3110. History of Music Theory: From the Renaissance to the Baroque. (2 cr. ; Student Option; Fall Odd Year)

Study of source documents and analytical projects covering the history of Western music

theory from the 15th century to approximately 1750. prereq: 2151, 2152

MUS 3111. History of Music Theory: Rameau to Riemann. (2 cr. ; Student Option; Fall Odd Year)

Study of source documents and analytical projects covering the history of Western music theory from 1750 to 1900. prereq: 2151, 2152

MUS 3112. Analysis of Pre-Tonal Music. (2 cr. ; Student Option; Spring Even Year)

Analysis of melodic, harmonic, and rhythmic structure of Western music written between 900 and 1600 CE; topics covered may include polyphony, modality, cadences, isorhythm, and formal considerations. prereq: 2151, 2152

MUS 3113. Analysis of Post-Tonal Music. (2 cr. ; Student Option; Spring Odd Year)

Analysis of melodic, harmonic, and rhythmic structure of music since 1900 CE; topics covered may include free atonality, twelve-tone music, serialism, minimalism, neo-Classicism, neo-Romanticism, the New Complexity, post-modernism and collage-based works, and popular influences. prereq: 2151, 2152

MUS 3114. Musical Borrowing. (FA; 2 cr. ; Student Option; Fall Odd Year)

Examination of multiple ways that musical traditions or works borrow from each other through techniques such as arrangement, transcription, quotation, adaptation, sampling, etc. Consider how changing the context for these musical references can change intention and meaning for the artist/listener. prereq: ability to read music and identify basic scales and chords

MUS 3115. Gender and Sexuality in Music. (FA; 2 cr. ; Student Option; Fall Even Year)

Explores both representation of and discourse on gender and sexuality through music. Course content includes examples from both cultivated and vernacular traditions. prereq: ability to read music and identify basic scales and chords

MUS 3116. Music and Identity. (FA; 2 cr. ; Student Option; Spring Even Year)

Explore how music is used in various contexts to shape and express elements of identity. Consider expressions of cultural, racial, social, and other modes of identity. prereq: ability to read music and identify basic scales and chords

MUS 3117. Music in Film. (FA; 2 cr. ; Student Option; Fall Even Year)

Examines how music is used in film. Consider how music is used in narrative and representative ways, as well as how the role of music in film has changed over time. prereq: ability to read music and identify basic scales and chords

MUS 3118. Music and Politics. (FA; 2 cr. ; Student Option; Spring Even Year)

Examines how music is used in political contexts, and how artists express political ideas through music, both reflecting and shaping contemporary ideas. prereq: ability to read music and identify basic scales and chords

MUS 3161. Introduction to World Music. (IP; 4 cr. ; Student Option; Every Fall)

Survey of primarily non-Western music cultures, emphasizing the development of an appreciation for the music and an understanding of its significance in its culture of origin. For music majors. [Note: non-music majors or minors should register for 1061]

MUS 3200. Advanced Individual

Performance Study: Piano. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in piano for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3201. Advanced Individual

Performance Study: Piano Accompanying. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in piano accompanying for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3202. Advanced Individual

Performance Study: Organ. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in organ for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3203. Advanced Individual

Performance Study: Harpsichord. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in harpsichord for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for unexcused absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3204. Advanced Individual

Performance Study: Voice. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in voice for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3205. Advanced Individual

Performance Study: Violin. (ART/P; 1 cr.

[max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in violin for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3206. Advanced Individual

Performance Study: Viola. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in viola for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3207. Advanced Individual

Performance Study: Cello. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in cello for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3208. Advanced Individual

Performance Study: Double Bass. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in double bass for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3209. Advanced Individual

Performance Study: Flute. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in flute for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3210. Advanced Individual

Performance Study: Oboe. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in oboe for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3211. Advanced Individual

Performance Study: Clarinet. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in clarinet for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3212. Advanced Individual

Performance Study: Saxophone. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in saxophone for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3213. Advanced Individual

Performance Study: Bassoon. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in bassoon for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3214. Advanced Individual

Performance Study: Trumpet. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in trumpet for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3215. Advanced Individual

Performance Study: French Horn. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in french horn for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3216. Advanced Individual

Performance Study: Trombone. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in trombone for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up

sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3217. Advanced Individual

Performance Study: Euphonium. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in euphonium for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3218. Advanced Individual

Performance Study: Tuba. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in tuba for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3219. Advanced Individual

Performance Study: Percussion. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in percussion for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3221. Advanced Individual

Performance Study: Guitar. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in guitar for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3222. Advanced Individual

Performance Study: Electric Bass. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in electric bass for music students at an advanced level of performance. A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3223. Advanced Individual

Performance Studies: Composition. (ART/P; 1 cr. [max 8 cr.] ; Student Option; Every Fall & Spring)

Private instruction in composition for music students at an advanced level of performance.

A jury examination is required for advanced performance study. Note: Applied music instructors are not expected to make up sessions for absences from scheduled lessons. [Note: special fee required] prereq: instr consent

MUS 3311. Conducting Techniques. (2 cr. ; Student Option; Every Fall)

Development of basic ensemble conducting skills. prereq: major or minor or instr consent

MUS 3321. Instrumental Conducting and Materials. (2 cr. ; Student Option; Every Spring)

Specialization of instrumental conducting and a survey of ensemble materials for various levels of ability and maturity. prereq: 3311, major or minor or instr consent

MUS 3331. Choral Conducting and

Materials. (2 cr. ; Student Option; Every Spring)

Specialization of choral conducting and a survey of ensemble materials for various levels of ability and maturity. prereq: 3311, major or minor or instr consent

MUS 3351. Instrumental Arranging. (ART/P; 2 cr. ; A-F only; Periodic Spring)

Theoretical study of orchestral and band instruments and special problems of scoring and arranging for small and large instrumental ensembles. prereq: 1102

MUS 3352. Choral Arranging. (ART/P; 2 cr. ; A-F only; Periodic Spring)

Practical study of arranging for vocal ensembles and for vocal ensembles with instruments; exercises dealing with special problems and limitations of different age and ability groups. prereq: 1102

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

MUS 4101. Form and Analysis. (4 cr. ; Student Option; Fall Even Year)

Analysis of musical forms, including harmonic and melodic structure of the phrase, the binary principle, the ternary principle, sonata allegro, rondo, and later alterations of the forms. prereq: 2102, major or minor or instr consent

MUS 4102. Counterpoint. (4 cr. ; Student Option; Fall Odd Year)

Contrapuntal techniques of the 18th century with references to earlier 16th century species counterpoint. prereq: 2102 or instr consent

MUS 4103. Seminar: Topics in Music History. (4 cr. ; Student Option; Spring Even Year)

A small, discussion-oriented seminar emphasizing a multi-faceted approach to an advanced musical topic. Topics vary each semester the course is offered and are determined by the instructor. Student work culminates in a semester-long research project and presentation. prereq: 1102, major or minor or instr consent

MUS 4110. Seminar: Advanced Music Theory and Analysis. (4 cr. [max 8 cr.] ; Student Option; Fall Odd Year)

A discussion-oriented seminar on an advanced aspect or aspects of music theory and analysis. Repertoire and techniques vary each semester the course is offered and are determined by the instructor. Student work culminates in a semester-long research project and presentation. prereq: 2102, major or minor or instr consent

MUS 4901. Senior Project and Portfolio. (1 cr. ; S-N only; Every Fall & Spring)

Culminating activity that allows a graduating student to demonstrate competence as a musician. Projects may take the form of a solo recital, lecture-recital, research paper, chamber music recital, or other major study. Project should be determined in the student's junior year and approved by the music faculty. Majors taking Mus 3200 through 3223 normally satisfy this requirement with a senior recital. prereq: major, instr consent

Music Education Methods (MUSE)**MUSE 4123. Methods of Teaching Music K-12.** (4 cr. ; A-F only; Every Fall)

Objectives, curricula, special methods, materials, and evaluation appropriate for teaching music in K-12. prereq: admission to the secondary teacher education program, coreq SeEd 4102, SeEd 4103, SeEd 4104, SeEd 4105

Native Amer and Indigenous Std (NAIS)**NAIS 1001. Beginning Dakota Language I.** (4 cr. ; Student Option; Every Fall)

An introduction to speaking, writing, and reading Dakota language and an overview of Dakota culture.

NAIS 1002. Beginning Dakota Language II. (FL; 4 cr. ; Student Option; Every Spring)

A continuation of 1001 with greater emphasis on conversation and culture. prereq: 1001 or instr consent

NAIS 1011. Beginning Anishinaabe Language I. (4 cr. ; Student Option; Every Fall)

An introduction to speaking, writing, and reading Anishinaabe language and an overview of Anishinaabe culture.

NAIS 1012. Beginning Anishinaabe Language II. (FL; 4 cr. ; Student Option; Every Spring)

A continuation of 1011 with greater emphasis on conversation and culture. prereq: 1011

NAIS 1101. Introduction to Native American and Indigenous Studies. (HDIV; 4 cr. ; Student Option; Every Fall)

An introduction to Native American and indigenous histories and literature, and to other expressive cultures. An interdisciplinary course emphasizing sovereignty, effects of government policies, and diversity of Native American and indigenous societies.

NAIS 1801. American Indian Song and Dance. (IC; 2 cr. ; Student Option; Periodic Fall)

An academic and active exploration of song and dance traditions from American Indian tribes. prereq: new college student in the first semester of enrollment at UMM

NAIS 1803. Native America in the 20th Century. (IC; 4 cr. ; Student Option; Periodic Fall)

Explore and critically analyze popular representations of Native people as separate from modern American society. Readings and assignments address how indigenous communities have confounded non-Native expectations through participation in wage labor, migration, athletics, and popular media during the long 20th century. prereq: new college student in their first semester of enrollment at UMM

NAIS 2011. Intermediate Anishinaabe Language I. (HUM; 4 cr. ; Student Option; Periodic Fall)

Review of the essential structural patterns of the Anishinaabe language; continued development of oral, aural, reading, and writing skills based on cultural and literary texts appropriate to this level. prereq: 1012 or placement or instr consent

NAIS 2012. Intermediate Anishinaabe Language II. (HUM; 4 cr. ; Student Option; Periodic Spring)

Review of the essential structural patterns of the Anishinaabe language; continued development of oral, aural, reading, and writing skills based on cultural and literary texts appropriate to this level. prereq: 2011 or placement or instr consent

NAIS 2212. Indian Residential Schools: Their History and Legacy. (E/CR; 2 cr. ; Student Option; Periodic Summer)

Study of the general history of Indian residential schools and their on-going legacy. Students produce public resource materials on Indian residential schools experiences including the Morris Industrial School. Course includes field work.

NAIS 2252. Comparative Indigenous History: Beyond Native America. (HIST; 4 cr. ; Student Option; Periodic Fall)

Same as Hist 2252. Explore indigenous experiences with settler colonialism in the United States, Canada, Australia, New Zealand, and sub-Saharan Africa. With special attention to issues of race, labor, gender, education, and movements for decolonization, place the indigenous histories of Morris and Minnesota within a global context. [Note: no credit for students who have received credit for Amln 1701 or Hist 1701]

NAIS 2801. Anishinaabe Song and Dance: An Exploration of Song and Dance, Traditions and Practices. (HDIV; 4 cr. ; Student Option; Spring Even Year)

Exploration of the language and culture of Anishinaabe song and dance traditions in historical and contemporary times. Learn the deeper meaning and different styles of the ceremonial practices of the Anishinaabe

people, which include learning how to make hand drums and studying traditional dance societies and belief systems. prereq: 1011 or instr consent

NAIS 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall, Spring & Summer)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

NAIS 3403. American Indian Education: History and Representation. (E/CR; 4 cr. ; Student Option; Fall Even Year)

Same as Hist 3403. Examination of indigenous education in the United States from pre-contact to the late 20th century. Topics include indigenous ways of teaching and learning, efforts to assimilate Native peoples through education, the movement toward educational self-determination within Native communities, and contemporary representations of boarding school experiences. Students also gain insight into the history of the Morris Indian School and its contemporary representation at UMM.

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

NAIS 4901. Senior Project in Native American and Indigenous Studies. (4 cr. ; Student Option; Every Fall)

A culminating research project in Native American and Indigenous Studies. prereq: 1101, NAIS major, instr consent

Off-Campus Study (OCS)

OCS 400. Other College Study. (; 0 cr. ; S-N or Audit; Every Fall & Spring)
Other college study

OCS 3000. Non-Sponsored Off-Campus Study. (0-20 cr. [max 40 cr.] ; S-N only; Every Fall, Spring & Summer)

A registration mechanism for students pursuing a unique off-campus study experience through either other educational institutions or through private non-cred granting agencies. Limited to students whose study is approved by U of MN faculty who certify likely departmental credit for successfully completed study as specified by agreement forms signed by both student and faculty. prereq: dept consent

OCS 3500. National Student Exchange: Plan A Off-Campus Study. (0 cr. ; S-N only; Every Fall & Spring)

U of M students pay in-state (resident) tuition and fees at their host NSE campus. Students placed on Plan A are not billed tuition by the U of M and are exempt from paying most student services and university fees to the U of M. prereq: dept consent

OCS 3550. National Student Exchange: Plan B Off-Campus Study. (0 cr. ; S-N only; Every Fall & Spring)

U of M students pay their normal tuition and fees to the U of M. Minnesota residents pay full-time resident-rate tuition and fees, and reciprocity students pay full-time reciprocity-rate tuition and fees. prereq: dept consent

Philosophy (PHIL)

PHIL 1004. Introduction to Western

Philosophy. (1 cr. ; Student Option; Every Fall & Spring)

What is the good life for human beings? What happens after we die? What is the relation between our minds and bodies? Does God exist? In this course, we will examine classic works in philosophy that address these big questions. Authors include: Plato, Aristotle, Epictetus, and Lucretius.

PHIL 1101. Introduction to Philosophy.

(HUM; 4 cr. ; Student Option; Periodic Fall & Spring)

An introduction to fundamental philosophical problems in areas such as metaphysics (what exists?), epistemology (what can we know? and how can we know it?), and ethics (what actions are moral and immoral? and what is the good life?), with an emphasis on developing the reading, writing, and analytical skills required for philosophical investigation.

PHIL 1801. THINK: An Introduction to Philosophy.

(IC; 4 cr. ; Student Option; Periodic Fall)

How should we live our lives? What happens after death? What is the relationship between the mind and body? Does God exist? Why do bad things happen to good people? Examine classical works in philosophy that address these big questions about human nature and its place in the universe. Authors include: Plato, Aristotle, Epictetus, Lucretius, Sextus Empiricus, Descartes, and Hume. Work on the development of philosophical writing, reading, and speaking skills. prereq: new college student in their first semester of enrollment at UMM

PHIL 1802. Philosophy and Pop Culture.

(IC; 4 cr. ; Student Option; Periodic Fall)

An introduction to traditional issues in philosophy through the lens of characters presented in various pop cultural media. prereq: new college student in their first semester of enrollment at UMM

PHIL 1803. How To Think About Weird

Things. (IC; 4 cr. ; Student Option; Periodic Fall)

A course designed to build basic critical thinking skills. Answer questions like: What makes a method of inquiry rational? What, if anything, distinguishes "scientific reasoning" from other sorts of reasoning? More generally, what distinguishes good from bad reasoning? What is truth--is it relative? prereq: new college student in their first semester of enrollment at UMM

PHIL 1804. The Meaning of Life.

(IC; 4 cr. ; Student Option; Periodic Fall)

Introduces incoming students to college through a variety of philosophical readings on the topic of whether there is any meaning of

life and, if so, what it is. prereq: new college student in their first semester of enrollment at UMM

PHIL 1993. Directed Study.

(1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PHIL 2101. Introduction to Symbolic Logic.

(M/SR; 4 cr. ; Student Option; Every Fall)

An introduction to formal or deductive logic, including basic concepts of logical argumentation; Aristotelian logic; and symbolic translations, truth tables, and theory of deduction. Samples from political speeches, philosophical essays as well as original LSAT questions are analyzed.

PHIL 2111. Introductory Ethics.

(HUM; 4 cr. ; Student Option; Every Spring)

An introduction to philosophical accounts of what makes right acts right and wrong acts wrong, issues involving the concept of goodness, and arguments or debates about moral responsibility.

PHIL 2112. Professional Ethics.

(E/CR; 4 cr. ; Student Option; Every Fall)

A critical examination of moral issues that arise in a person's professional life. Possible topics include affirmative action, autonomy in the workplace, ethical issues in advertising, corporate responsibility, coercive wage offers, distributive justice, and sexual harassment. Issues concerning race, gender, and women are included in selected modules.

PHIL 2113. International and Biomedical Ethics.

(HUM; 4 cr. ; Student Option; Periodic Spring) A general survey of topics in international and biomedical ethics. Topics may include: nuclear deterrence, humanitarian intervention, just war theory, famine relief, global justice, abortion, euthanasia, doctor-patient relationships, clinical trials, animal experimentation, and genetic engineering.

PHIL 2114. Environmental Ethics.

(ENVT; 4 cr. ; Student Option; Spring Even Year) Survey of fundamental theoretical debates in environmental ethics. General moral approaches are canvassed, as are the major positions in environmental ethics: anthropocentrism, sentientism, biocentric individualism, holism. Specific topics include: speciesism, the environmentalism-animal liberation debate, and the predation problem.

PHIL 2121. Philosophy of Religion.

(HUM; 4 cr. ; Student Option; Periodic Spring) A selection of main philosophical issues concerning religion such as the notion of a divinity, the attempts to prove or refute the existence of a divine being, the relationship between faith and reason, the link between religion and morality, the knowledge of a divinity.

PHIL 2141. Analytic Feminism.

(HUM; 4 cr. ; Student Option; Periodic Spring) Applies an analytical approach to issues discussed in feminist writings. A mixture of

lecture and discussion. Requirements include essay exams, papers, attendance, service-learning projects with related reflective journals, and class participation.

PHIL 2151. Philosophy of Mind.

(HUM; 4 cr. ; Student Option; Periodic Fall & Spring) An introduction to several problems in the philosophy of mind, such as the mind/body problem, consciousness, and psychological explanation.

PHIL 2161. Philosophy and Film.

(HUM; 4 cr. ; Student Option; Every Spring) Addresses some traditional aesthetic questions about the status of film as well as examining film to be a form of philosophy. Also, the role of film as social commentary is discussed.

PHIL 2162. Ethics of Love and Sex.

(HUM; 4 cr. ; Student Option; Periodic Summer) Survey of fundamental theoretical debates about the ethics of love and sex. Topics include: competing accounts of erotic love, the moral status of various sexual and romantic orientations, pornography, consensual incest, prostitution and sex tourism, BDSM/kink, and mediated sex (sex tapes, underage sexting, and tell-all memoirs).

PHIL 2993. Directed Study.

(1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PHIL 3043. Thinking Economy and Desire: Introduction to Critical Theory.

(HUM; 4 cr. ; Student Option; Periodic Spring) Same as Hum 3043. Introduction to the classical canon of critical theory, with a special focus on the Frankfurt School of the early and mid-20th century, including films and works of literature as case studies for interpretation. prereq: soph or higher status or instr consent

PHIL 3101. Metaphysics.

(HUM; 4 cr. ; Student Option; Spring Even Year) Explores fundamental metaphysical issues such as the nature of reality, the notion of personal identity, the relationship between language, thought, minds, and the world. Philosophical works of both classic and contemporary philosophers such as Plato, Aristotle, Quine, Putnam, and Kripke are discussed. prereq: 1101 or 2101 or 2111 or instr consent

PHIL 3112. Free Will.

(HUM; 4 cr. ; Student Option; Periodic Spring) Explores ancient and contemporary debates surrounding the nature of free will, its plausibility given prevailing theories of physics and mind, and its value. Possible topics include the relevance of free will to autonomy, moral responsibility, and living meaningfully. prereq: 1101 or 2101 or 2111 or instr consent

PHIL 3121. Political Philosophy.

(SS; 4 cr. ; Student Option; Fall Even Year) Explores fundamental issues in political philosophy (e.g., political authority; distributive justice; nature, origin, and justification of the state; natural and civil rights) by, among

other things, an examination of the works of philosophers such as Plato, Hobbes, Mill, and Rawls. prereq: 1101 or 2101 or 2111 or instr consent

PHIL 3131. Philosophy of Law. (SS; 4 cr. ; Student Option; Spring Even Year)
Critical examination of theoretical and practical normative issues in the philosophy of law, especially questions regarding the justification of punishment.

PHIL 3141. The Theory of Knowledge. (HUM; 4 cr. ; Student Option; Fall Even Year)
Explores historical and contemporary views on the limits, justification, and nature of human knowledge. Topics include experiential versus a priori knowledge, the nature of belief, skepticism, and different theories of justification. prereq: 1101 or 2101 or 2111 or instr consent

PHIL 3151. History of Ancient Philosophy. (HIST; 4 cr. ; Student Option; Fall Even Year)
Explores the views of philosophers such as Plato, Aristotle, Epicurus, and the Stoics. Possible topics include ancient views on the nature and possibility of knowledge, the relationship of the soul to the body, and what the good life is for a human being. prereq: 1101 or 2101 or 2111 or instr consent

PHIL 3162. The Scottish Enlightenment: Markets, Minds, and Morals. (IP; 4 cr. ; Student Option; Periodic Summer)
Same as Hist 3162. Study of the philosophy and history of the Scottish Enlightenment. Focus on its original setting through analysis and discussion of primary texts and scholarly interpretations, guest lectures, and small-group discussions with recognized experts in the study of the Scottish Enlightenment. Includes visits to historically significant cities and sites. prereq: dept consent

PHIL 3171. History of Modern Philosophy. (HIST; 4 cr. ; Student Option; Spring Even Year)
Explores views of philosophers such as Descartes, Leibniz, Berkeley, Hume, and Kant. Possible topics include the relationship of the mind to the body, and whether and how it is possible to have knowledge of the external world. prereq: 1101 or 2101 or 2111 or instr consent

PHIL 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PHIL 4000. History of Philosophy Seminar. (HIST; 4 cr. [max 8 cr.] ; Student Option; Every Fall)
Intensive investigation of a particular philosophical problem, area, or work of a philosopher. Topics vary. prereq: 1101 or 2101 or 2111 or instr consent

PHIL 4002. Existentialism. (HIST; 4 cr. ; Student Option; Periodic Fall & Spring)
Examination of some prominent thinkers often classified as "existentialists": Kierkegaard,

Dostoevsky, Nietzsche, Sartre, and Camus. Topics include what human freedom is, what makes a life authentic (or inauthentic), what role passion and choice should play in acquiring our beliefs and values, and what difference (if any) God's existence or non-existence makes on the significance of our lives. prereq: any 1xxx or 2xxx or instr consent

PHIL 4100. Moral Issues and Theories. (HUM; 4 cr. [max 8 cr.] ; Student Option; Fall Even Year)

Intensive investigation of a particular problem, area, issue, or theory in moral philosophy. Possible topics include moral responsibility, autonomy, weakness of will, and self-deception. Topics vary. prereq: 2111 or instr consent

PHIL 4111. Ethical Theory. (HUM; 4 cr. ; Student Option; Spring Even Year)
This course in metaethics focuses on the nature of moral obligation. Topics include: Can moral obligations change with the passage of time? Are genuine moral dilemmas possible? Does "ought" imply "can"? Is moral obligation overriding? Is there a genuine distinction between "subjective" and "objective" moral obligation? prereq: 2111 or instr consent

PHIL 4121. Philosophy of Language. (HUM; 4 cr. ; Student Option; Spring Odd Year)
Traditional and contemporary discussions of philosophical problems such as the nature of language, its relationships to the world, to human thought, and to truth; the nature of logical reasoning; metalogical problems. Readings from philosophers such as Frege, Russell, Quine, Putnam, Goodman, Wittgenstein, and Kripke. prereq: 2101 or instr consent

PHIL 4130. Contemporary Issues in Philosophy. (HUM; 4 cr. [max 8 cr.] ; Student Option; Fall Odd Year)

Exposure to, and critical examination of, philosophical issues of special contemporary interest. Topics may include the nature of analytic philosophy and its relationship to other philosophical traditions such as continental or feminist philosophy, the debate on realism and anti-realism, the notion of objectivity. prereq: 1101 or 2101 or 2111 or instr consent

PHIL 4131. Personal Identity, Proper Names, and Essences. (HUM; 4 cr. ; Student Option; Periodic Fall & Spring)

A seminar primarily devoted to the discussion of readings, i.e., Naming and Necessity by Saul Kripke and Reasons and Persons by Derek Parfit. Questions such as: How do proper names function? Are there essential features of persons or objects? What makes each of us the same particular individual over time? prereq: 1101 or 2101 or 2111 or instr consent

PHIL 4901. Senior Philosophical Defense. (2 cr. ; A-F only; Every Fall & Spring)
Writing and defending a senior philosophical thesis is the culminating experience for UMM philosophy majors. Majors develop a piece of their philosophical writing, producing multiple drafts in response to comments from a variety of philosophical viewpoints, and then orally defend their thesis. prereq: phil major

PHIL 4902. Advanced Seminar in History of Philosophy. (HUM; 4 cr. ; A-F only; Periodic Spring)

Advanced seminar on selected topics in the History of Philosophy. Students read and discuss primary source material on a topic of common interest. Additionally, each student investigates a related topic in greater depth, writes a paper, and gives a public presentation. prereq: 1101 or 2101 or 2111, sr status, instr consent

PHIL 4903. Advanced Seminar in Metaphysics and Epistemology. (HUM; 4 cr. ; A-F only; Periodic Spring)

Advanced seminar on selected topics in the Metaphysics and Epistemology. Students read and discuss primary source material on a topic of common interest. In addition, each student investigates a related topic in greater depth, writes a paper, and gives a public presentation. prereq: 1101 or 2101 or 2111, sr status, instr consent

PHIL 4904. Advanced Seminar in Value Theory. (HUM; 4 cr. ; A-F only; Periodic Spring)

Advanced seminar on selected topics in Value Theory. Students read and discuss primary source material on a topic of common interest. In addition, each student investigates a related topic in greater depth, writes a paper, and gives a public presentation. prereq: 1101 or 2101 or 2111, sr status, instr consent

PHIL 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Physics (PHYS)

PHYS 1005. Journal Club. (1 cr. [max 4 cr.] ; S-N only; Every Fall)
Students learn about a wide variety of current topics in physics by reading and discussing recent journal articles.

PHYS 1052. The Solar System. (SCI-L; 5 cr. ; Student Option; Every Fall)
History of astronomy; motions of celestial objects; gravity and electromagnetic radiation; the Earth and Moon; the planets and their moons; meteors and asteroids; the Sun; telescopes and other astronomical instruments. Stars and constellations of the fall sky. Night viewing sessions required. (4 hrs lect, 2 hrs lab)[Note: no cr for students who have received cr for Phys 1051]

PHYS 1053. Introduction to Stars, Galaxies, and Cosmology. (SCI; 4 cr. ; Student Option; Every Spring)
Gravity and electromagnetic radiation; nuclear physics; stellar properties; stellar evolution; galaxies; quasars; and cosmology. Stars and constellations of the winter sky. Night viewing sessions required. (4 hrs lect)

PHYS 1063. Physics of Weather. (ENVT; 4 cr. ; Student Option; Fall Even Year)
Structure and dynamics of the atmosphere, global energy balance, various atmospheric

phenomena from the global scale to the local scale including global wind systems, cyclones, fronts and air masses, thunderstorms, tornadoes, past and present climate, weather forecasting, problems concerning the interaction between civilization and the atmosphere. Some observation and field work required.

PHYS 1091. Principles of Physics I. (SCI-L; 5 cr. ; Student Option; Every Fall)
Introduction to physics without the use of calculus. Vectors, kinematics, Newton's laws of motion, work and energy, momentum, torque, fluids, thermal physics, laws of thermodynamics, oscillations and waves. (4 hrs lect, 2 hrs lab) prereq: high school higher algebra

PHYS 1092. Principles of Physics II. (SCI-L; 5 cr. ; Student Option; Every Spring)
Coulomb's law, electric fields, electric potential, capacitance, electric current, resistance, DC circuits, magnetism, induction, reflection and refraction of light, mirrors and lenses, interference and diffraction, optical instruments, radioactivity (4 hrs lect, 2 hrs lab) prereq: 1091

PHYS 1101. General Physics I. (SCI-L; 5 cr. ; Student Option; Every Spring)
Vectors, kinematics, laws of motion, circular motion, work-energy theorem, conservation principles, rotational motion, gravitation, simple harmonic oscillations, wave phenomena, fluid mechanics, thermal properties of matter, kinetic theory, laws of thermodynamics. (4 hrs lect and rec, 2 hrs lab) prereq: Math 1101 or instr consent

PHYS 1102. General Physics II. (SCI-L; 5 cr. ; Student Option; Every Fall)
Coulomb's law, electric field, Gauss's law, electric potential, capacitance, dielectrics, current, resistance, circuits, magnetic field, Ampere's law, inductance, Faraday's law, AC circuits, Maxwell's equations, electromagnetic waves, nature of light, reflection, refraction, optical instruments, interference, diffraction. (4 hrs lect and rec, 2 hrs lab) prereq: 1101, Math 1102 or instr consent

PHYS 1801. Energy Science. (IC; 2 cr. ; Student Option; Periodic Fall)
A scientific and quantitative look at the production and consumption of energy. Examination of the scientific foundations of numerous sources of energy and evaluation of the potential for each to satisfy the world's appetite for energy. prereq: new college student in their first semester of enrollment at UMM

PHYS 1802. Projects in Physics and Engineering. (IC; 2 cr. ; Student Option; Periodic Fall)
Possible projects include high altitude balloon flights, meteor imaging, skylight studies, cosmic ray measurements, determination of wave propagation in granular media, and analysis of radio astronomical observations. Equipment development and computerized data acquisition and analysis included. Research into the engineering and scientific background of the projects required. (1 hr lect, 2 hrs lab)

PHYS 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PHYS 2101. Modern Physics. (SCI-L; 4 cr. ; Student Option; Every Spring)
Special relativity, quantum nature of matter and radiation, Bohr-Sommerfeld atom, atomic spectra, uncertainty principle, Schrodinger equation, hydrogen atom, electron spin, Pauli principle, and periodic table. (3 hrs lect, 3 hrs lab) prereq: 1102, Math 2401 or instr consent

PHYS 2201. Circuits and Electronic Devices. (SCI-L; 4 cr. ; Student Option; Spring Odd Year)
A hands-on practical course in electronics. Analog electronics including AC and DC circuit analysis, passive circuit elements, pn junctions, transistors, and op-amp circuits. Digital electronics including combinational logic, sequential logic, and microprocessors. (3 hrs lect, 3 hrs lab) prereq: 1102 or instr consent

PHYS 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PHYS 3003. Computer Modeling of Materials. (SCI; 2 cr. ; Student Option; Fall Even Year)
Focus on the description of materials as assemblies of microscopic particles, covering aspects of molecular dynamics simulations in various statistical ensembles. Skills in scientific programming, visualization and parallel programming are developed through a semester-long project in which students develop a series of molecular dynamics modules. prereq: 1102

PHYS 3004. Atmospheric Physics. (ENVT; 4 cr. ; Student Option; Fall Odd Year)
Introduction to atmospheric physics with an emphasis on thermodynamics. Atmospheric thermodynamics including gas laws, phase transitions, laws of thermodynamics, two-component systems, atmospheric stability; radiative transfer including atmospheric optics and remote sensing; some aspects of atmospheric chemistry such as aerosols, chemical cycles, trace gases; cloud microphysics including nucleation and growth; and atmospheric dynamics including equations of motion for fluid flow; applications to weather systems. (4 hrs lect) [Note: no credit for students who have received cr for Phys 2301] prereq: 1092 or 1102, Math 1102

PHYS 3101. Classical Mechanics. (SCI; 4 cr. ; Student Option; Fall Even Year)
Kinematics and dynamics of a particle, oscillations, central-force motion, systems of particles, rigid-body rotations, gravitation, non-inertial coordinate systems, Lagrangian and Hamiltonian formulations, dynamics of rigid bodies. (4 hrs lect) prereq: 2101, Math 2101 or instr consent

PHYS 3151. Solid State Physics. (2 cr. ; Student Option; Fall Odd Year)
An introduction to crystal lattices, Bravais lattices, electronic band structure in metals and semi-metals, cohesive energy of solids, phonon structure, magnetic properties. prereq: 2101, Math 2101

PHYS 3152. Particle and Nuclear Physics. (2 cr. ; Student Option; Spring Even Year)
Leptons, baryons, quarks, the weak interaction, the strong interaction, the Standard Model, Feynman diagrams, nuclear stability, the shell model, decay modes, nuclear reactions. prereq: 2101, Math 2101

PHYS 3153. Cosmology. (2 cr. ; Student Option; Spring Even Year)
The geometry of the universe, cosmological models, observational parameters, the age of the universe, dark matter, the cosmic microwave background, nucleosynthesis, inflation, dark energy. prereq: 2101

PHYS 3301. Optics. (4 cr. ; Student Option; Spring Even Year)
Light as a wave phenomenon, electromagnetic nature of light, Huygens' principle, interference, diffraction--Fraunhofer and Fresnel, polarization, dispersion, absorption and scattering. (4 hrs lect, lab TBA) [Note: no credit for students who have received cr for Phys 2401] prereq: 1102

PHYS 3401. Experimental Physics. (SCI-L; 4 cr. ; Student Option; Fall Even Year)
An introduction to modern experimental methods. (3 hrs lect, 3 hrs lab) prereq: 2101

PHYS 3501. Statistical Physics. (SCI; 4 cr. ; Student Option; Spring Odd Year)
Probability distributions, statistical ensembles, statistical thermodynamics, ideal gases, quantum statistics, kinetic theory of transport phenomena. (4 hrs lect) prereq: 2101

PHYS 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PHYS 4101. Electromagnetism. (4 cr. ; Student Option; Fall Odd Year)
Vector calculus, electrostatics, Laplace and Poisson equations, dielectrics, magnetostatics, magnetic properties of matter, electromagnetic induction, Maxwell's equations, electrodynamics, electromagnetic waves. (4 hrs lect) prereq: 2101, Math 2101 or instr consent

PHYS 4201. Quantum Mechanics. (4 cr. ; Student Option; Every Spring)
Uncertainty principle, Schroedinger equation, commutation relations, momentum space wave functions, Dirac notation, applications to problems in one dimension and the hydrogen atom, angular momentum. (4 hrs lect) prereq: 2101, Math 2101

PHYS 4901. Senior Thesis I. (1 cr. ; Student Option; Every Fall)
Capstone experience in physics. Students work with recent journal articles in physics, practice

technical writing, and identify a thesis topic.
prereq: sr

PHYS 4902. Senior Thesis II. (1 cr. ; Student Option; Every Spring)

Students develop and present their senior theses orally and in writing. prereq: 4901

PHYS 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Political Science (POL)

POL 1011. Introduction to Contemporary American Political Thought. (1 cr. ; Student Option; Periodic Summer)

This course surveys main themes and controversies in U.S. political thought through examination of the 2016 presidential election. In particular, we will explore candidates' presentations of concepts such as liberalism, democracy, liberty, and rights as they seek support from political parties and voters.

POL 1101. Introduction to Political Theory. (E/CR; 4 cr. ; Student Option; Every Spring)

An introduction to key political concepts, questions, and ideologies through the writings of major thinkers of Western political theory and examination of contemporary debates about political life.

POL 1201. American Government and Politics. (E/CR; 4 cr. ; Student Option; Every Fall & Spring)

Analysis of principles, organization, procedures, and powers of government in the United States. The federal system, national constitution, civil and political rights, party system; nature, structure, powers, and procedures of legislative, executive, and judicial departments of the national government.

POL 1202. Law and Society: Introduction to Public Law. (SS; 4 cr. ; Student Option; Spring Odd Year)

Law is a significant part of modern-day society and culture, especially in the United States. Examine the adversarial system of law and the various actors and institutions that influence and shape it in this country. In particular, look at where legal authority comes from and its limits in modern society. Explore the ways in which law acts to restrict and empower individuals and groups in society. This introductory level course is intended as a survey of the concept of public law both for students interested in taking upper-level courses dealing with legal and constitutional questions and for students simply interested in a greater understanding of why and how law matters in 21st-century society. It is taught using lectures mixed with some in-class activities and simulations.

POL 1401. World Politics. (IP; 4 cr. ; Student Option; Every Fall)

The contemporary international system, including nationalism, international political

economy, foreign policy formulation, and global concerns such as the environment and conflict. North/South debate, definitions of power, the new world order, regional vs. global conflicts, and avenues of cooperation.

POL 1811. War and Terrorism. (IC; 2 cr. ; Student Option; Periodic Fall)

An in-depth look into war and terrorism from 1914 to the present. Why do nations go to war? Why do people resort to terrorism? How do we prevent war/terrorism and preserve peace? Grapple with these questions and by the end of the term, acquire a rich, sophisticated understanding of war/terrorism and independent, critical thinking skills on international conflicts as a whole. prereq: new college student in their first semester of enrollment at UMM

POL 1812. Political, Social, and Military Conflict in American Film. (IC; 4 cr. ; Student Option; Periodic Fall)

An initial exploration of how motion pictures portray political, social, and military conflict in different periods of U.S. history. Students examine the images and messages of various kinds of political conflict as projected in American film and connect these portrayals to both the historical and social context of the times and to Hollywood's commercial objectives and elite biases. Specific topics include America's political founding and "civilizing" of the West, the civil rights movement and the struggle for LGBT rights, the politicized justice system, political leadership and corruption, war as heroic and tragic struggle, and dystopian political visions of America's future. prereq: new college student in their first semester of enrollment at UMM

POL 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

POL 2001. Political Science Research Methods. (SS; 4 cr. ; Student Option; Every Fall)

Students conceive and develop research questions and hypotheses; collect and critically review published research on their topic; analyze empirical evidence using statistical software; and write clearly, forcefully, and logically about their research. Examination of the philosophy and critiques of social-science methods. prereq: any 1xxx-level UMM Pol course, major or minor or instr consent

POL 2221. The American Judicial Process. (SS; 2 cr. ; Student Option; Spring Even Year)

A half-semester course examining the common law system as broadly practiced in the United States, including types of legal recourse, the structures of state and federal judicial systems, how judges are selected, and the various influences on their decisions.

POL 2222. The U.S. Supreme Court. (SS; 2 cr. ; Student Option; Spring Even Year)

A half-semester course specifically looking at the role of the Supreme Court in U.S. politics

with an emphasis on its historical development, how it interacts with the other federal branches, and the decision-making process of the justices on the Court.

POL 2234. Race, Class and Power: Social Movements in U.S. Politics. (HDIV; 2 cr. ; Student Option; Spring Odd Year)

Using a case study approach, this half-semester course examines a variety of social movements from across U.S. history. Addresses questions such as why social movements arise, how they succeed or fail, and how the American political system adapts to their influence.

POL 2235. Race, Class and Power: Interest Groups in U.S. Politics. (HDIV; 2 cr. ; Student Option; Spring Odd Year)

A half-semester course focusing on the growth and importance of interest groups in U.S. politics by looking at different types of interest groups, the tactics they use to try to influence the political system, how successful they are at doing so, and whether this system works for the public good.

POL 2261. States: Laboratories of American Democracy. (E/CR; 2 cr. ; Student Option; Spring Odd Year)

Examination of the ways American democracy functions in the states. Analysis of principles, organizations, procedures, and functions of state government in the United States, with particular emphasis on comparing state politics and policy outcomes. [Note: no credit for students who have received credit for Pol 3261] prereq: 1201 or instr consent

POL 2262. Power and Politics in American Cities and Communities. (E/CR; 2 cr. ; Student Option; Spring Odd Year)

Explores the nature of political power and institutions in urban, suburban, and rural communities, along with cultural and economic forces. Analyzes political and policy trends in metropolitan regions and rural areas. Includes relevant experiential or service projects in surrounding communities.

POL 2301. Anarchy and Utopia. (HUM; 2 cr. ; Student Option; Fall Odd Year)

An analytical survey of anarchist thought and utopian ideals that are used to challenge modern political and social systems. The course draws from scholarly work as well as fiction, films, and mixed media sources.

POL 2302. Gandhi and the Politics of Resistance. (SS; 2 cr. ; Student Option; Fall Odd Year)

A study of Gandhi's theory and practice of satyagraha and swaraj as forms of nonviolent political resistance and human realization. Places Gandhi within the historical and theoretical context of Indian political thought and colonialism and examines the influence of Gandhi's politics of resistance on international political theory.

POL 2354. Political Ethics. (E/CR; 4 cr. ; Student Option; Fall Even Year)

Examination of the strengths, weaknesses, and implications of moral arguments in political decision making. Ethical frameworks drawn

from theoretical readings are applied to a range of contemporary U.S. case studies such as state use of violence, interrogation in times of war, governmental secrecy and deceit, official disobedience, health-care access, welfare reform, and environmental regulation and protection. [Note: no credit for students who have received credit for Pol 3354]

POL 2401. U.S. Foreign Policy. (IP; 4 cr. ; Student Option; Fall Even Year)
American diplomatic history. Institutions and processes of American foreign policy. Major factors to be considered and levels of analysis that allow for the examination and dissection of foreign policy decisions. [Note: no credit for students who have received credit for Pol 3401]

POL 2411. Model United Nations. (IP; 4 cr. ; Student Option; Spring Even Year)
Students examine the nature and functions of the United Nations and hone their negotiating skills through a series of mock UN conferences. In a mock conference, each student represents a country (President of the United States, Prime Minister of Great Britain, etc.), study issues, and engage in negotiations. The issues (or topics) for conferences include peace and security, social justice, economic well-being, nuclear proliferation, environment, and human rights. The concentration on the UN is justified on the grounds of the UN's high profile in the international system and the fact that it is the most prominent of the IGOs (International Governmental Organizations). Through the use of mock UN conferences, students gain understanding of the UN, acquire negotiating skills, and appreciate the complexities involved.

POL 2461. Diplomatic Negotiation. (IP; 4 cr. ; Student Option; Periodic Summer)
Discusses negotiation strategies and tactics and examines negotiation skills through a series of simulated negotiations and mock conferences. Diplomacy, negotiation styles, negotiation simulations, and mock conferences. [Note: no credit for students who have received credit for Pol 3461]

POL 2501. East Asian Society and Politics. (SS; 4 cr. ; Student Option; Fall Odd Year)
Examination of governments, political and leadership changes, and economic developments in China, Japan, and Korea. Modernization, democratization, political pluralism, revolution, authoritarianism, and civil-military relations. [Note: no credit for students who have received credit for Pol 3501]

POL 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

POL 3201. Legislative Process. (SS; 4 cr. ; Student Option; Periodic Fall & Spring)
The internal organization of Congress and state legislatures, with emphasis on how rules and organizational changes affect the policy process. Topics include the evolution of the modern Congress and state legislatures, the committee system, the role of party leadership,

and competing theories of congressional organization and behavior. prereq: 1201 or instr consent

POL 3211. The American Presidency. (SS; 4 cr. ; Student Option; Periodic Fall & Spring)
Traces the development of the American presidency over time. Major theories of presidential behavior and success are examined, as well as the literature on presidential popularity and executive/congressional relations. prereq: 1201 or instr consent

POL 3231. Constitutional Law: Civil Liberties and Civil Rights. (HDIV; 4 cr. ; Student Option; Fall Even Year)
Case-based examination of major Supreme Court opinions primarily dealing with the Bill of Rights and including topics such as freedom of religion, speech and the press, rights of the accused, and struggles over the right to privacy and how to guarantee civil rights protections. [Note: this course is one part of a two-part set of courses covering Constitutional Law; these courses may be taken in any order] prereq: 1201 or instr consent

POL 3232. Constitutional Law: Governmental Powers and Constraints. (SS; 4 cr. ; Student Option; Fall Odd Year)
Case-based examination of major Supreme Court opinions dealing with separation of powers, checks and balances, and issues of federalism. Specific topics include the importance of due process, the Contract Clause, the power to tax and spend, the Commerce Clause, and the struggle to define national and state powers. [Note: this course is one part of a two-part set of courses covering Constitutional Law; these courses may be taken in any order] prereq: 1201 or instr consent

POL 3251. Political Participation and Voting Behavior. (SS; 4 cr. ; Student Option; Fall Even Year)
Examination of factors which influence political behavior such as voting, protesting, attending political rallies, and working in campaigns in the U.S. context. Specific attention is paid to voting demographics, recent elections, change in behavior over time, and the various ways in which citizens are engaged or not with the political system. Included is a strong practical focus on mid-term or presidential elections occurring at the same time as the course is offered. [Note: no credit for students who have received credit for Pol 4251] prereq: 1201 or instr consent

POL 3263. Political Psychology. (SS; 4 cr. ; Student Option; Spring Even Year)
Examines the intersection of political science and psychology research, particularly on topics such as personality, emotions, and cognition. Explores the various roles of individuals and groups in political decision-making, emphasizing the connections between how we think and learn and how we structure society and make political choices. prereq: 1201; Psy 1051 or instr consent recommended

POL 3266. Media and Politics. (SS; 4 cr. ; Student Option; Fall Odd Year)

Examination of the relationships between mass media, government, and public in American democracy. Focus on the role of informed citizenry in theories of U.S. democracy, role of media in informing the U.S. citizenry, and the methods by which this occurs or fails to. Specific attention is given to the ways media influences public opinion, the effects of media, such as framing, agenda setting, and priming, and relationship of media, public opinion, and elites in politics. [Note: no credit for students who have received credit for Pol 4266] prereq: 1201 or instr consent

POL 3272. Making Environmental Public Policy. (ENVT; 4 cr. ; Student Option; Spring Odd Year)
Exploration of the domestic and international politics of environmental and energy policy making. Focus on theoretical frameworks for policy making and political behaviors surrounding development of environmental and energy policies. Includes the applications of political dynamics and principles to specific areas of environmental and energy policy. Emphasis also given to politics of policy implementation. prereq: 1101 or 1201 or 1401

POL 3302. Islamic Political Thought. (SS; 2 cr. ; Student Option; Fall Even Year)
Examination of classical and contemporary perspectives on Islam and politics that draws from a diverse range of Muslim and non-Muslim political thinkers and scholars. Particular attention given to the global discourse on Islam and democracy. prereq: 1101 or instr consent

POL 3303. Gender, Sexuality, and Political Theory. (SS; 2 cr. ; Student Option; Fall Even Year)
Examination of the politics of sex, gender, and sexuality through study of contemporary critical analyses within political theory. prereq: 1101 or instr consent

POL 3351. Ancient and Medieval Political Thought. (HUM; 4 cr. ; Student Option; Spring Even Year)
A survey of Western social and political thought from 5th century BCE through the 15th century. prereq: 1101 or instr consent

POL 3352. Modern Political Thought. (HUM; 4 cr. ; Student Option; Spring Odd Year)
A survey of Western social and political thought from the 16th through the 19th centuries. prereq: 1101 or instr consent

POL 3355. Environmental Political Theory. (ENVT; 4 cr. ; Student Option; Fall Odd Year)
An examination of political understandings of the relationship between humans and the natural environment. Topics include Western and non-Western perspectives on the natural environment, technological optimism and survivalism, the tragedy of the commons, environmental direct action movements, the environmental justice movement, and theories of green democracy and citizenship. Readings cover a variety of political perspectives and ideologies including neoconservatism, libertarianism, ecoanarchism, ecosocialism, ecofeminism, social ecology, deep ecology, and postmodernism.

POL 3411. International Law. (E/CR; 4 cr. ; Student Option; Spring Odd Year)
Relations of international law to individuals, states, the international community, jurisdictional problems, survey of principles developed by diplomatic agents and consuls, treaties, arbitration, treatment of aliens, pacific settlement. War, military occupation, war crimes, neutrality. prereq: 1401 or instr consent

POL 3451. Comparative Foreign Policy. (; 4 cr. ; Student Option; Spring Even Year)
Comparative examination of foreign policies of the United States, China, and Russia. Topics include Sino-American relations, Sino-Russia relations, China's rise, Russia's resurgence, global war on terrorism, and nuclear proliferation. [Note: no credit for students who have received credit for Pol 4451] prereq: 1401 or instr consent

POL 3453. Russian Politics and Foreign Policy. (IP; 4 cr. ; Student Option; Periodic Spring)
Domestic and foreign policies of Russia and the former Soviet Union from the Bolshevik Revolution to the present. Nature of the Soviet empire, Russian Federalism, democratic and market reforms, and Russian foreign relations. prereq: 1401 or instr consent

POL 3475. International Human Rights. (4 cr. ; Student Option; Spring Even Year)
Explores the historical and philosophical development of concepts of human rights and the contemporary international political and legal frameworks to address rights. Analyzes contemporary concerns about political, economic, and social rights, as well as specific human rights topics like human trafficking and war crimes. Compares American, European, Asian, and Developing World conceptions and critiques of human rights. prereq: 1401 or instr consent

POL 3504. Latin American Politics. (4 cr. ; Student Option; Periodic Fall)
A comparative examination of central issues and components of Latin American political life, with a particular focus on economic development, political development of democratic regimes, political violence and human rights, and the region's role in the world. Countries analyzed may include Argentina, Brazil, Chile, Colombia, El Salvador, Mexico, Peru, and Cuba. prereq: 1401 or instr consent

POL 3514. Pyramids and Politics on the Nile. (IP; 4 cr. ; Student Option; Periodic Summer)
Four-week study-abroad course on Egyptian political history with an emphasis on the environmental challenges of the Nile River Valley. Guided excursions, guest speakers, and individual exploration at significant political, historical, and cultural sites in the Cairo area and along the Nile Valley from Aswan to Alexandria. prereq: instr consent

POL 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

POL 3996. Field Study in Political Science. (1-16 cr. ; Student Option; Every Fall & Spring)
Field study of governmental organization; internship with legislature, a state or local administrative office, lobbying group, or other position involving direct experience with government, governmental officials, or political organizations and environment. [Note: max of 4 cr may be applied to the major or minor]

POL 4205. Seminar in American Politics. (4 cr. ; A-F only; Periodic Fall & Spring)
The course includes class meetings based on scholarly readings, student-led critical discussion, as well as time devoted to independent research leading to a substantive research paper. prereq: 1201, 2001 or instr consent

POL 4305. Seminar in Political Theory. (4 cr. ; Student Option; Fall Odd Year)
The course includes class meetings based on scholarly readings, student-led critical discussion, as well as time devoted to independent research leading to a substantive research paper. prereq: 1101, 2001 or instr consent

POL 4405. Seminar in Comparative Politics and International Relations. (4 cr. ; Student Option; Spring Odd Year)
The course includes class meetings based on scholarly readings, student-led critical discussion, as well as time devoted to independent research leading to a substantive research paper. prereq: 1401, 2001 or instr consent

POL 4905. Senior Research Seminar in Political Science. (2 cr. ; Student Option; Every Fall & Spring)
Guided research in political science. Requires the refinement and expansion of a research paper students previously completed in a 4000-level political science course. The end result of this revision and expansion is an original, significant research paper of a substantial length. Also requires that the student make an oral presentation of the final work to the discipline faculty and graduating seniors. With faculty approval, the student may produce such a paper based on a research paper previously completed in a 3000-level political science course. prereq: 2001, Stat 1601 or Stat 2601, at least one Pol 4XXX course

POL 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Psychology (PSY)

PSY 1051. Introduction to Psychology. (SS; 4 cr. ; Student Option; Every Fall & Spring)
An introduction to the science of mind and behavior. Topics include history of psychology, research methods, biological bases for behavior, life span development, sensation and perception, learning, cognitive and social processes, personality, psychopathology, and applications of psychology.

PSY 1807. Drugged Society: Humanity's Long-term Relationship with Mind-altering Substances. (IC; 2 cr. ; Student Option; Periodic Fall)
Mind-altering substances have been part of the human experience since before written history. This seminar/discussion-based course explores the many ways drugs and drug trade have impacted human societies and cultures. Examples of topics include the role of drug trade in European colonization, the connections between drugs and religion and spirituality, development of legal restrictions, the influence of drugs on arts and literature, and the like. This interdisciplinary course requires active classroom participation and the completion of a research project and presentation with both individual and group components. prereq: new college student in their first semester of enrollment at UMM

PSY 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PSY 2001. Research Methods in Psychology. (SS; 4 cr. ; Student Option; Every Fall & Spring)
Design, analysis, and interpretation of research in psychology. Instruction on different research techniques and ethics in research. Students conduct, analyze, and evaluate empirical research and gain experience preparing APA-style research reports. Includes laboratory/discussion sessions. prereq: 1051, Stat 1601 or Stat 2601, or instr consent

PSY 2411. Introduction to Lifespan Developmental Psychology. (SS; 4 cr. ; Student Option; Every Fall)
An introduction to theory, data, and research approaches in development from the prenatal period through childhood, adolescence, adulthood, and aging until the cessation of life. Includes physical, perceptual, cognitive, language, moral, personality, socio-emotional, family, and career development and changes over time, as well as issues of death, dying, and bereavement. Includes a multicultural focus. prereq: 1051

PSY 2581. Drugs and Human Behavior. (SS; 2 cr. ; Student Option; Every Spring)
Survey of psychoactive drugs, their effects on mind and behavior, and prevention and treatment of drug abuse. [Note: no credit for students who have received credit for Psy 1081] prereq: 1051 or instr consent

PSY 2612. Environmental Psychology. (ENVT; 4 cr. ; Student Option; Periodic Spring)
Environmental psychology is the study of the relationship between humans and natural and built environments. Traditionally, the emphasis in environmental psychology has been on how human behavior, feelings, and well being are impacted by the environment. Currently, there is an increased emphasis on how humans impact natural environments. This course examines the theories guiding research in this field and reviews the research

as it applies to topics such as the effects of weather and climate on behavior, urban and rural environments, crowding, and personal space. prereq: 1051

PSY 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PSY 3101. Learning Theory and Behavior Modification. (4 cr. ; Student Option; Every Fall)
Major theories of learning and their importance for understanding human and nonhuman behavior. Classical and operant conditioning, generalization, discrimination, stimulus control, animal cognition. Behavior modification theories and techniques and their application to clinical populations. Lab projects demonstrate learning and behavior modification theories, concepts, and techniques and illustrate research methods and theory testing. Includes lab. prereq: 2001 or instr consent

PSY 3111. Sensation and Perception. (4 cr. ; Student Option; Every Fall)
Empirical study of sensory processes and perceptual organization with emphasis on vision and audition. Anatomy and physiology of sense organs, psychophysics, signal detection theory, attention, speech perception, and perceptual-motor coordination. Includes lab. prereq: 2001 or instr consent

PSY 3112. Cognition. (4 cr. ; Student Option; Every Spring)
Empirical study of memory, language behaviors, representation of knowledge, judgment, decision making, problem solving, and creative thinking. Includes lab. prereq: 2001 or instr consent

PSY 3201. Comparative Psychology. (SCI-L; 4 cr. ; Student Option; Every Spring)
Comparison of the causations of human and non-human animal behavior from both an evolutionary and biological point of view. The contributions of evolutionary selection pressures, genetics, environment, learning, and culture on the expression of behavior in a wide variety of species, through topics such as adaptation, fitness, altruism, social behavior, parental care, reproductive behavior, mating systems, and aggression. Focus on explaining modern human behavior as informed by non-human behavior. Includes lab component. prereq: [1051, 2001] or Biol 2111

PSY 3211. Biological Psychology. (SCI-L; 5 cr. ; Student Option; Every Fall)
Brain organization and function; an emphasis on an understanding of the neural processes that underlie human and nonhuman behavior. Incorporates information from psychology, neuroscience, endocrinology, physiology, chemistry, neurology, and zoology to investigate the physiological bases of behavior. Topics include sensory processes, drugs and addiction, biological rhythms, sexual differentiation, reproduction, methods in neuroscience, neuropsychological disorders, and clinical assessment. Lab projects focus on

neuroanatomical organization and function of the brain. (4 hrs lect, 1 hr lab) prereq: [1051, 2001] or Biol 1101 or Biol 1111

PSY 3221. Behavioral Biology of Women. (SCI; 4 cr. ; Student Option; Every Spring)
Exploration of proximate and ultimate influences on female behavior in human and nonhuman species. Topics include sexual differentiation, gender differences in cognition, biological basis of sexual orientation, female sexual selection, dominance, and other topics of interest to students. Readings consist of primary journal articles. prereq: (3201 or 3211) or Biol 2111 or instr consent

PSY 3261. Human Sexuality. (4 cr. ; Student Option; Every Fall)
Survey of aspects of human sexuality, including intimacy and communication; male and female anatomy, physiology, and response; development of sexual differentiation, gender identity, gender role, and gender orientation; varieties of sexual expression; pregnancy and child birth; contraception and disease prevention; sexual coercion and abuse; sexual dysfunctions and their treatment. [Note: no credit for students who have received cr for Psy 1071] prereq: 1051, 2001

PSY 3302. Personality. (4 cr. ; Student Option; Every Spring)
Nature of personality constructs and theories. Conscious vs. nonconscious processes; emotion and motivation; nature and measurement of personal traits; their dimensional structure, stability, development, and heritability. prereq: 1051 or instr consent

PSY 3313. Psychopathology. (4 cr. ; Student Option; Every Spring)
Psychological disorders and their treatment, including anxiety, personality, mood, schizophrenia, eating, substance and other recognized disorders of adults. prereq: 1051 or instr consent

PSY 3401. Developmental Psychology I: Child Psychology. (4 cr. ; Student Option; Every Fall)
Theory, data, and research in development from conception to middle childhood. Prenatal and physical development as well as perceptual, cognitive, personality, and social development. Language acquisition and Piaget's theory of cognitive development. prereq: 1051 or instr consent

PSY 3402. Developmental Psychology II: Adolescence and Emerging Adulthood. (4 cr. ; Student Option; Every Spring)
Theory, data, and research in adolescent development with emphasis on physical, cognitive, and social development. prereq: 1051 or instr consent

PSY 3403. Developmental Psychology III: Adulthood and Aging. (E/CR; 4 cr. ; Student Option; Every Fall)
An overview of current concepts, theories, and methods in the study of adult development and aging. prereq: 1051 or instr consent

PSY 3404. Culture and Human Development. (HDIV; 4 cr. ; Student Option; Every Spring)

Examination of the role of culture in human development through current research and examples from around the world. Learn about similarities and cultural differences in human development, and the regularities that explain these variations. Topics include the concept of culture in developmental psychology, diversity in child rearing practices, enculturation, gender roles, schooling, development in multicultural contexts, and the influence of technology and cultural change on development. Students learn to think culturally about their own development and see how it applies to their future careers. prereq: 1051

PSY 3501. Social Psychology. (4 cr. ; Student Option; Every Fall)
Theories and research in the study of interpersonal behavior. Topics include aggression, prejudice, altruism, persuasion, group dynamics, and social influence. prereq: 1051 or Soc 1101 or instr consent

PSY 3503. Consumer Behavior. (SS; 4 cr. ; Student Option; Every Spring)
Same as Mgmt 3503. Psychological basis for understanding consumers. Some of the topics include consumer behavior, consumer cognitive processes, and consumer judgments and decisions. prereq: Stat 1601 or Stat 2601 or instr consent

PSY 3504. Educational Psychology. (4 cr. ; Student Option; Periodic Spring)
Discussion of psychological principles/theories in relation to learning in academic settings. Topics may include: a consideration of developmental and social issues that are likely to impact the learner; a discussion of individual differences in learning; an examination of different theoretical approaches to learning applied specifically to educational settings; an analysis of factors related to student motivation and behavior; and a discussion of issues related to testing and measurement in academic settings. prereq: 1051

PSY 3513. Negotiation. (4 cr. ; Student Option; Periodic Spring)
Same as Mgmt 3513. Examines the theoretical and applied aspects of negotiation. Topics include negotiation theory, strategy, skills and tactics, communication processes, global negotiation, and ethics. Use of negotiation simulations. prereq: 3501 or Mgmt 3221 or Psy/Mgmt 3701

PSY 3521. Health Psychology. (4 cr. ; Student Option; Every Spring)
Health implications of interactions among behavioral, environmental, and physiological states. Physiological bases of behavior and health; stress and coping; behavioral antecedents of disease; psychoneuro-immunology; disease prevention and health promotion. prereq: 1051

PSY 3542. Multicultural Psychology. (HDIV; 4 cr. ; Student Option; Every Fall)
Theoretical and methodological approaches to multicultural psychology. Multicultural psychology is the systematic study of behavior, cognition, and affect settings where people of different backgrounds interact. Exploration of these interactions both within

and outside of the United States. Topics may include worldviews, communication styles, acculturation, prejudice, white privilege, identity development, physical and mental health, and multicultural competencies. prereq: 1051

PSY 3611. History and Philosophy of Psychology. (HIST; 4 cr. ; Student Option; Spring Odd Year)

Historical roots and comparative features of major theoretical systems in psychology, including scientific methodology, research interests, and techniques. Movements within psychology that are discussed include: structuralism, functionalism, behaviorism, Gestaltism, psychoanalytic, and existential movements and their modern syntheses, as well as other topics of interest to students. prereq: 1051 or instr consent

PSY 3701. Organizational Behavior. (SS; 4 cr. ; Student Option; Periodic Fall)

Same as Mgmt 3701. Uses the theories and research of the behavioral sciences to understand how organizations function at the individual, group, and organizational levels. Topics include stress in the workplace; group dynamics; power, leadership, and attribution theory. prereq: Stat 1601 or Stat 2601, jr or sr

PSY 3800. Research Practicum. (1-12 cr. ; S-N only; Every Fall & Spring)

Research activity carried out under the supervision of a psychology faculty member.

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

PSY 4101. Helping Relationships. (4 cr. ; Student Option; Every Fall)

Approaches to counseling and psychotherapy. Theories of helping relationships. Acquisition of helping skills, including attending behavior, reflection of feeling, paraphrasing, confrontation, and summarization. Major humanistic, cognitive, and behavioral approaches. Didactic instruction, observation of counseling and psychotherapeutic techniques, and practical experiences. prereq: 8 cr 3xxx or 4xxx Psy or Soc or Anth courses or instr consent

PSY 4102. Intro to Prof Conduct, Legal Constraints, Ethics in Human Services. (E/CR; 2 cr. ; Student Option; Every Fall & Spring)

Concepts of professional ethics in human services professions; ethically relevant legal mandates and constraints on professional practice; practical problems in the application of ethical principles. [Note: no credit for students who have received credit for IS 4101] prereq: jr, 8 cr 3xxx or 4xxx Psy or Soc or Anth courses or instr consent

PSY 4301. Clinical Assessment and Therapeutic Interventions. (4 cr. ; Student Option; Every Spring)

Evaluation of psychological assessments and interventions from different perspectives. Topic examples: structured and unstructured assessments; career counseling and assessment; motivational interviewing; family

and couples therapy; interpersonal therapy; group therapy; and solution-focused therapy. prereq: 3313 or 3314 or 4101

PSY 4770. Empirical Investigations in Psychology I. (2 cr. ; A-F only; Every Fall)

This class provides students with an opportunity to conduct their own research. Students work independently or in groups. Students review an area of psychology, generate a hypothesis, design a study and obtain IRB approval. prereq: 2001, instr consent; no credit for 4770 until 4772 is completed

PSY 4771. Independent Research in Psychology. (1-6 cr. [max 12 cr.] ; A-F only; Every Fall & Spring)

Supervised independent research by a student in any area of psychology. A research proposal may be required by a faculty member prior to approval to enroll in the course. The student is required to write an APA style research paper or give a public presentation. prereq: 2001, instr consent

PSY 4772. Empirical Investigations in Psychology II. (2 cr. ; A-F only; Every Spring)

Based on previous work in 4770, students collect and analyze data, submit and present their research to the Undergraduate Research Symposium or other instructor approved venue, and write an APA style research paper. prereq: 4770, instr consent

PSY 4896. Field Experiences in Psychology. (1-4 cr. ; S-N only; Every Fall & Spring)

Individually arranged, supervised observation of and assistance with activities of professional psychologists in schools, clinics, hospitals, and other field settings. Prereq-Normally requires 4101, 4102, other courses appropriate to field experience. [Note: only 4 cr may be applied to the BA or the Psy major]

PSY 4910. Advanced Seminar in Learning or Cognitive Psychology. (4 cr. ; A-F only; Every Spring)

Advanced seminar on selected topics in the area of Learning or Cognitive Psychology. Members of the seminar read and discuss primary source material on a topic of common interest. In addition, each student investigates a related topic in greater depth. The student writes a paper and gives a public presentation based on the in-depth investigation. prereq: 2001, 3101 or 3111 or 3112, sr status, instr consent

PSY 4920. Advanced Seminar in Biological or Comparative Psychology. (4 cr. ; A-F only; Every Spring)

Advanced seminar on selected topics in the area of Biological and Comparative Psychology. Members of the seminar read and discuss primary source material on a topic of common interest. In addition, each student investigates a related topic in greater depth. The student writes a paper and gives a public presentation based on the in-depth investigation. prereq: 2001, 3201 or 3211, sr status, instr consent

PSY 4930. Advanced Seminar in Personality or Clinical Psychology. (4 cr. ; A-F only; Every Fall)

Advanced seminar on selected topics in the area of Personality or Clinical Psychology. Members of the seminar read and discuss primary source material on a topic of common interest. In addition, each student investigates a related topic in greater depth. The student writes a paper and gives a public presentation based on the in-depth investigation. prereq: 2001, 3302 or 3313 or 3314, sr status, instr consent

PSY 4940. Advanced Seminar in Developmental Psychology. (4 cr. ; A-F only; Every Fall)

Advanced seminar on selected topics in the area of Developmental Psychology. Members of the seminar read and discuss primary source material on a topic of common interest. In addition, each student investigates a related topic in greater depth. The student writes a paper and gives a public presentation based on the in-depth investigation. prereq: 2001, 3401 or 3402 or 3403, sr status, instr consent

PSY 4950. Advanced Seminar in Social Psychology. (4 cr. ; A-F only; Every Spring)

Advanced seminar on selected topics in the area of Social Psychology. Members of the seminar read and discuss primary source material on a topic of common interest. In addition, each student investigates a related topic in greater depth. The student writes a paper and gives a public presentation based on the in-depth investigation. prereq: 2001, 3501, sr status, instr consent

PSY 4960. Advanced Seminar in Health Psychology. (4 cr. ; A-F only; Every Fall)

Advanced seminar on selected topics in the area of Health Psychology. Members of the seminar read and discuss primary source material on a topic of common interest. In addition, each student investigates a related topic in greater depth. The student writes a paper and gives a public presentation based on the in-depth investigation. prereq: 2001, 3521 (or 3201 and 3211), sr status, instr consent

PSY 4970. Advanced Seminar in Psychology. (4 cr. ; A-F only; Every Fall & Spring)

Advanced seminar on selected topics in the area of Psychology. Members of the seminar read and discuss primary source material on a topic selected by the instructor. In addition, each student investigates a related topic in greater depth. The student writes a paper and gives a public presentation based on the in-depth investigation. prereq: 2001, one or more courses from 3 of the 5 psy major cores, sr status, instr consent

PSY 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Science Education Methods (SCIE)

SCIE 4121. Methods of Teaching Science in the Middle and Secondary School. (4 cr. ; A-F only; Every Fall)

Objectives, curricula, special methods, materials, and evaluation appropriate for teaching science in the middle and secondary school. prereq: admission to the secondary teacher education program or elementary education program, coreq SeEd 4102, SeEd 4103 or prereq ELED 3202, ELED 3212

Secondary Education (SEED)

SEED 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

SEED 4102. Teaching and Learning Strategies. (2 cr. ; A-F only; Every Fall)
Provides greater depth in previously taught concepts and skills, including teaching and learning strategies for middle and secondary classrooms, planning for lesson and unit instruction and assessment, learning theory, use of technology in the classroom, discipline, and classroom management. prereq: admission to the secondary teacher education program; coreq 4103, 4104, 4105, methods

SEED 4103. Practicum Experience in the Middle and Secondary School. (4 cr. ; S-N only; Every Fall)
Field experience in the middle and secondary school. prereq: admission to the secondary teacher education program; coreq 4102, 4104, 4105, methods

SEED 4104. Teaching Diverse Learners. (HDIV; 2 cr. ; A-F only; Every Fall)
Study of teaching/learning in diverse settings. Topics include learning styles; multicultural education; race, gender, sexual orientation, culture, and class; effects of inequity on schooling; preventing and responding to prejudice and discrimination; and intercultural communication. prereq: admission to the secondary teacher education program; coreq 4102, 4103, 4105, methods

SEED 4105. Reading and Literacy in the Content Areas. (2 cr. ; A-F only; Every Fall)
Study of how teachers in the various academic disciplines can support reading and literacy in their classrooms and use reading and literacy to enhance learning in the disciplines. Topics include theory and instructional strategies in the areas of reading comprehension, fluency, and vocabulary development. prereq: admission to the secondary teacher education program; coreq 4102, 4103, 4104, methods

SEED 4115. Advanced Content Reading. (HUM; 2 cr. ; A-F only; Every Fall & Spring)
Study of how teachers in the various academic disciplines can support reading and literacy in their classrooms and use reading and literacy to enhance learning in the disciplines. Topics include subject-specific theories, strategies, and projects. prereq: 4105

SEED 4201. Directed Student Teaching in the Middle and Secondary School. (HDIV; 12 cr. ; S-N only; Every Spring)
Students teach for a period of 10 to 12 weeks demonstrating application of approaches

to teaching and learning in the middle and secondary grades under the guidance of a cooperating teacher and University supervisor. [Note: special fee required] prereq: 4102, 4103, 4104, 4105, methods, CMR 1042 or CMR 1052, passing scores on basic skills exams or instr consent

SEED 4202. Directed Student Teaching in the Middle and Secondary School. (1-16 cr. ; S-N only; Every Fall & Spring)
For students who need alternative or additional student teaching experience. Students demonstrate application of approaches to teaching and learning in middle and secondary grades under the guidance of a cooperating teacher and University supervisor. [Note: special fee required] prereq: passing scores on basic skills exams or instr consent

SEED 4204. Directed Global Student Teaching at the Middle and Secondary Level. (IP; 1-16 cr. ; Student Option; Every Fall, Spring & Summer)
Students complete Global Student Teaching demonstrating application of approaches to teaching and learning in the middle and secondary grades under the guidance of a cooperating teacher and University supervisor. [Note: special fee required] prereq: 4102, 4103, 4104, 4105, methods, CMR 1042 or CMR 1052, passing scores on basic skills exams or instr consent

SEED 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Social Science Educ Methods (SSCE)

SSCE 4121. Methods of Teaching Social Science in the Middle and Secondary School. (4 cr. ; A-F only; Every Fall)
Objectives, curricula, special methods, materials, and evaluation appropriate for teaching social science in the middle and secondary school. prereq: admission to the secondary teacher education program or elementary education program, coreq SeEd 4102, SeEd 4103 or prereq ELED 3202, ELED 3212

Sociology (SOC)

SOC 1101. Introductory Sociology. (SS; 4 cr. ; Student Option; Every Fall & Spring)
Introduction to the field of sociology, the exploration of societies, and how societies operate. Sociology broadens social insights, fosters critical thinking, guides analytical thinking, and develops writing skills. By actively thinking about issues facing societies today, students learn to examine life situations and the influence of societies and groups on people's lives, careers, hopes, fears, and personalities. Emphasis on how society is stratified: how organizations and institutions influence the way people think, talk, feel, and

act and how different groups (e.g., racial and ethnic) and divisions (e.g., gender and social class) within society have different access to power and privilege. People live their lives in relation to social and physical environments; sociologists study these environments and their effects on people's experiences and behavior.

SOC 1811. Global Sociology: Migration, Economic Globalization, Class, and Gender Inequality. (IC; 2 cr. ; Student Option; Periodic Fall)

Examination of the global impact of migration on both societies receiving immigrants and societies from which people emigrate, the effect of economic globalization, class and gender inequality. A major goal of the course is to provide students with a systematic way of making sense of a rapidly changing and complex world. Learn from sociological perspectives what it means to live in an interdependent world. prereq: new college student in their first semester of enrollment at UMM

SOC 1812. Human Rights in the Age of Globalization. (IC; 2 cr. ; Student Option; Periodic Spring)

Exploration of the relationship between globalization and human rights. Globalization as the driving force of capitalism has produced both positive and negative impacts on human rights. Optimists argue that integration into the global world of the free market will foster democracy and human rights, while critics challenge this optimism. Explores these contradictory views and processes. The course is interdisciplinary and integrates perspectives and concepts from different academic fields. prereq: new college student in their first semester of enrollment at UMM

SOC 1813. Political Economy of "Natural" Disaster. (IC; 2 cr. ; Student Option; Periodic Fall)

Examine the political economy of natural disasters through a survey of events drawn from around the world. Disasters can be viewed from multiple social perspectives (economic, political, ecological, and personal) and each of these carries implicit and explicit political judgments about how the environment should be managed. The following events offer rich documentation (academic and popular media) about the impact of governmental decisions prior to and in the aftermath of each event: famine-South Asian famine of 1770s, earthquake-Haiti 2010, deforestation/erosion-Nepal 1970s, hurricane-Katrina 2005, flood-Johnstown Flood of 1889, tsunami-South Asian tsunami of 2004. prereq: new college student in their first semester of enrollment at UMM

SOC 1814. Water Unites, Water Divides: Sharing Water in the 21st Century. (IC; 2 cr. ; Student Option; Periodic Fall)

With the effects of climate change and the world's population increasing, demands for water have also intensified. Survey of water conflicts around the world with a view to assess how nations can better manage available water within and across borders. prereq: new college student in their first semester of enrollment at UMM

SOC 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) Individualized on- or off-campus research project or other learning activity not covered in the regular Sociology curriculum. Topic determined by the student and instructor.

SOC 2101. Systems of Oppression. (HDIV; 4 cr. ; Student Option; Every Fall) Patterns of group dominance, exploitation, and hate in the United States and globally. Emphasis on sexism, racism, and classism with some attention to other systems of oppression such as heterosexism and ageism. prereq: 1101 or Anth 1111 or instr consent

SOC 2201. Sociology of Food. (HDIV; 4 cr. ; Student Option; Spring Odd Year) Introduces students to the sociological study of food and society. Examines the complexities of food, health, and power relations as well as the intersections of food with race, class, gender, and sexuality. Explores patterns of consumption and embodiment. Applies a sociological lens to food in relation to globalization, systems of inequality, and social change. prereq: 1101 or instr consent

SOC 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) Individualized on- or off-campus research project or other learning activity not covered in the regular Sociology curriculum. Topic determined by the student and instructor.

SOC 3103. Research Methodology in Sociology. (4 cr. ; Student Option; Every Fall) An introduction to research procedures used in sociology. Developing a research design and applying it to a concrete problem. Questions of validity and reliability examined in the context of research projects developed by the students. prereq: 1101

SOC 3111. Sociology of Modernization. (IP; 4 cr. ; Student Option; Every Spring) Process of modernization in non-Western societies. Social, economic, and political impact of modernization from different theoretical perspectives. Assessment of those theoretical perspectives as a means to understand dynamics of change in Third World countries. prereq: 1101 or Anth 1111 or instr consent

SOC 3112. Sociology of the Environment and Social Development. (ENVT; 4 cr. ; Student Option; Fall Odd Year) Introduces students to the sociological study of the environment and social development. Examines the impact of international environmental and development efforts on individuals at the local level. Focuses on grassroots environmental activism and social development work. Explores and discusses power relations and systems of inequality within the context of environmental and social development efforts. prereq: 1101 or instr consent

SOC 3121. Sociology of Gender and Sexuality. (HDIV; 4 cr. ; Student Option; Every Fall) Introduces students to the sociological study of gender and sexuality. Focuses on gender difference and gender inequality. Analyzes the

changing roles, opportunities, and expectations of women and men as their societies (and subsequently, gender relations and power) undergo change in today's world. Following a theoretical overview, examines how gender and sexuality affect everyday experiences. prereq: 1101 or Anth 1111 or instr consent

SOC 3122. Sociology of Childhoods. (HDIV; 4 cr. ; Student Option; Spring Odd Year) Introduces students to the sociological study of childhoods. Examines the interaction between societies and their youngest members-how societies shape children's lives through social institutions such as families, education, and the state. Takes a close look at children's access to privileges and resources as determined by children's experiences of race, gender, class, nationality, and sexual orientation. prereq: 1101 or instr consent

SOC 3123. Sociology of Aging. (HDIV; 4 cr. ; Student Option; Every Spring) An introduction to sociology of aging. Examination of the major theories of social aging as well as the historical and cross-cultural variations in aging and differences by race, ethnicity, gender, and social class. prereq: 1101

SOC 3124. Sociology of Law. (4 cr. ; Student Option; Every Spring) Explore the emergence and function of law through the lens of social theories. The course assumes law is embodied in the social structure of society; hence, it is the product of social interaction. Based on this assumption, it examines the role of law in maintaining and reproducing social order, class, race, and gender inequalities. The course is interdisciplinary and comparative in its scope and integrates jurisprudence and various social science theories. prereq: 1101

SOC 3125. Terrorism, Law, and the State. (SS; 4 cr. ; Student Option; Periodic Fall) Examination of issues of violence, justice, and the responses of the state. Integrate competing political views and different cross-cultural perspectives. Explore answers for some difficult questions such as defining terrorism, should states suspend constitutional rights and abrogate human rights to face the threat of terrorism; does terrorist violence differ from the violence perpetuated by nation-states? Students learn and assess the complexities of competing moral and ideological values of terrorists and that of the liberal democracies.

SOC 3131. World Population. (ENVT; 4 cr. ; Student Option; Every Fall) Population theory and demographic method. Dynamics of fertility and mortality as the basis of population forecasting and its policy implications. Emphasis on the tie between Third World demographic trends and population issues in the rest of the world. prereq: 1101 or instr consent

SOC 3141. Sociology of Deviance. (E/CR; 4 cr. ; Student Option; Fall Even Year) Introduces students to the sociological study of deviance. Explores the social reality of deviance within contemporary society and

examines the social construction of deviant categories. Focuses on images of deviance as social constructs, rather than as intrinsic elements of human behavior. Investigates the complex relationships between individual behavior and social structure, with a focus on power, inequality, and oppression. Also, examines the socio-cultural definitions of morality and behavior. prereq: 1101 or instr consent

SOC 3251. African Americans. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring) Examination of African American religious, economic, political, family, and kinship institutions in the context of the greater American society. Struggles to overcome problems and the degree of success or failure of these struggles are examined and placed in historical context. prereq: 1101 or Anth 1111

SOC 3252. Women in Muslim Society. (IP; 4 cr. ; Student Option; Periodic Spring) The cultures and social statuses of women in several Muslim countries are examined and placed in their political, economic, and religious contexts. prereq: 1101 or Anth 1111

SOC 3307. Medical Sociology. (SS; 4 cr. ; Student Option; Every Spring) Introduction to the study of the sociological framework of health, illness, and health care. Examination of the influence of race, ethnicity, gender, age, sex, and socioeconomic status on the access to the quality of health care. Exposes students to the concept of health and illness as social constructs, and the meanings and experiences of illness from diverse cultural perspectives. Provides analytical tools to understand the organization and delivery of medical and health care, the relationship between providers and patients in the social and cultural context, the social implication of biomedical innovation, and the U.S. health policy. prereq: 1101

SOC 3403. Sociological Theory. (4 cr. ; Student Option; Every Fall) Survey of major developments in sociological theory, with attention to both classical and contemporary variants. Emphasis on sociological ideas in relation to the principal intellectual currents of European society, American society, and non-Western thought. prereq: 1101; 4 addtl cr in Soc recommended

SOC 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) Individualized on- or off-campus research project or other learning activity not covered in the regular Sociology curriculum. Topic determined by the student and instructor.

SOC 4991. Sociology Independent Project Seminar. (4 cr. ; Student Option; Every Spring) A capstone seminar to guide sociology majors in the completion of an independent study project, including selection and definition of a research project, designing and planning its execution, developing a literature review and bibliography, applying relevant theoretical perspectives to research materials, and organizing and writing a research paper. prereq: 3103, 3403

SOC 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
Individualized on- or off-campus research project or other learning activity not covered in the regular Sociology curriculum. Topic determined by the student and instructor.

Spanish (SPAN)

SPAN 1001. Beginning Spanish I. (4 cr. ; Student Option; Every Fall & Summer)
Development of basic skills of Spanish (reading, speaking, writing, listening) and an introduction to the cultural contexts of Latin America and Spain.

SPAN 1002. Beginning Spanish II. (FL; 4 cr. ; Student Option; Every Fall, Spring & Summer)
Continuation of the sequence beginning with 1001. prereq: 1001 or placement or instr consent

SPAN 1003. Accelerated Beginning Spanish. (FL; 4 cr. ; Student Option; Every Fall & Spring)
An accelerated introductory Spanish course for students with prior experience and appropriate placement exam score to allow completion of the FL GER requirement with one semester of coursework. Development of basic skills of Spanish (reading, speaking, writing, listening) and an introduction to the cultural contexts of Latin America and Spain. prereq: placement or instr consent

SPAN 1054. Associated Languages: Introduction to Nahuatl Language. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)
An introduction to speaking, writing, and reading in contemporary Nahuatl (more popularly known as the language of the Mexica or Aztecs) and an overview of Nahua culture. prereq: due to the fact that many Nahuatl texts are bilingual, it is recommended that students have completed at least two years of college-level Spanish

SPAN 1801. Hispanic Culture Through Cinema. (IC; 4 cr. ; Student Option; Periodic Fall)
An introduction to contemporary films from Spain and Latin America, showcasing innovative filmmakers from the Hispanic world, their representations of Hispanic societies through film, and their relationships to other international cinemas, with an emphasis on the medium as an art form rather than a commercial proposition. prereq: new college student in their first semester of enrollment at UMM

SPAN 1802. U.S. Latin@ Literature and Culture. (IC; 4 cr. ; Student Option; Periodic Fall)
Offered in English, this course considers literature, films, television, and art by and about people of Latin American origin living in the United States. Course activities include readings, lectures, in-class discussions, papers, and presentations. prereq: new college student in their first semester of enrollment at UMM

SPAN 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

SPAN 2001. Intermediate Spanish I. (IP; 4 cr. ; Student Option; Every Fall)
Emphasizes the continued development of oral expression, vocabulary building, spelling, grammar, reading, and composition through the use of authentic materials such as short films and news features, cultural readings, literary selections, and contemporary music that strengthen students' proficiency in Spanish and their understanding of Hispanic cultures. prereq: 1002 or 1003 or placement or instr consent

SPAN 2002. Intermediate Spanish II. (IP; 4 cr. ; Student Option; Every Spring)
Continuation of the sequence beginning with 2001. prereq: 2001 or instr consent

SPAN 2121. Associated Languages: Intensive Portuguese. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)
Intensive, accelerated study of the basic skills of Brazilian Portuguese (reading, writing, listening, and speaking) with emphasis on oral competency. prereq: 2002 or Fren 2002 or instr consent

SPAN 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

SPAN 3011. Conversation, Composition, and Culture. (IP; 2 cr. ; Student Option; Every Fall)
Practice in effective oral and written communication in Spanish for advanced students, with an emphasis on the diversity of contemporary Hispanic cultures and a review of basic grammatical concepts. prereq: 2002, concurrent enrollment in 3111 or instr consent

SPAN 3012. Spanish Grammar in Practice. (IP; 2 cr. ; Student Option; Every Spring)
A review of advanced Spanish grammar, with emphasis on areas of concern and challenge for the non-native speaker, and on strengthening academic writing skills in Spanish. prereq: 3011, concurrent enrollment in 3112 or instr consent

SPAN 3111. Readings in Spanish I. (HUM; 2 cr. ; Student Option; Every Fall)
Introduction to representative works of contemporary Hispanic literature from diverse genres and cultural contexts, with emphasis on strategies for comprehension and interpretation. prereq: concurrent enrollment in 3011 or instr consent

SPAN 3112. Readings in Spanish II. (HUM; 2 cr. ; Student Option; Every Spring)
Further examination of representative works of Hispanic literature from diverse genres, time periods, and cultural contexts, with emphasis on literary concepts and terminology,

analysis, research and writing practices, and interpretation. prereq: 3111, concurrent enrollment in 3012 or instr consent

SPAN 3211. Literature and Culture of Latin America. (HUM; 4 cr. ; Student Option; Every Fall)
Study of important exemplary works of Latin American literary and cultural production through major historical periods. Texts are examined in light of multiple contexts, such as artistic, political, historical, and philosophical. prereq: 3012, 3112, or instr consent

SPAN 3212. Literature and Culture of Spain. (HUM; 4 cr. ; Student Option; Every Spring)
Study of important exemplary works of Spanish (peninsular) literary and cultural production through major historical periods. Texts are examined in light of multiple contexts, such as artistic, political, historical, and philosophical. prereq: 3012, 3112, or instr consent

SPAN 3651. Seminar: Miguel de Cervantes Saavedra's "El ingenioso hidalgo Don Quijote de la Mancha". (HUM; 4 cr. ; Student Option; Periodic Fall)
Study of Miguel de Cervantes Saavedra's novel "El ingenioso hidalgo Don Quijote de la Mancha" in light of its socio-historical context. prereq: 3012, 3112 or instr consent

SPAN 3654. Seminar: Sex, Love, and Marriage in Golden Age Spanish Literature. (HUM; 4 cr. ; Student Option; Periodic Fall)
The theme of sex, love, and marriage in Golden Age Spanish Literature through prose, poetry, and theatre of the Golden Age (XVI-XVII centuries) Spain. Consideration of the gender relations and gender politics reflected in the works and the socio-historical context in which these works were produced. prereq: 3012, 3112 or instr consent

SPAN 3681. Seminar: Romanticism and Revolution in 19th-Century Spain. (HUM; 4 cr. ; Student Option; Periodic Fall)
Study of representative texts (prose and poetry) from the first half of the 19th century in Spain, with emphasis on the expression of the Romantic vision within the particular political context of the period, marked by tensions between liberal reform and traditional conservatism. prereq: 3012, 3112 or instr consent

SPAN 3682. Seminar: Realism and Reform in 19th-Century Spain. (HUM; 4 cr. ; Student Option; Periodic Fall)
Study of representative texts (novels, stories, and essays) from the second half of the 19th century in Spain, with emphasis on the rise of realism as an exploration of the socio-political reality of the era and the need for reform. The focus is on general trends in Western cultures (e.g., industrialization, positivism, secularization). prereq: 3012, 3112 or instr consent

SPAN 3683. Seminar: Modernity and Identity in Spain, 1900-1930. (HUM; 4 cr. ; Student Option; Periodic Fall)
Study of representative texts (prose and poetry) from the early decades of the 20th century in Spain with particular emphasis

on their responses to changes brought by modernity: advancing technology, modern psychology, political experimentation, spiritual exploration, and artistic innovation. prereq: 3012, 3112, or instr consent

SPAN 3684. Seminar: Hispanic Film. (HUM; 4 cr. ; Student Option; Periodic Spring)
View, study, and discuss relevant Hispanic films from Spain, Latin America, and the U.S.A. Consider films' cinematic techniques and their specific socio-cultural and socio-political contexts. prereq: 3012, 3112 or instr consent

SPAN 3685. Seminar: Slavery and Abolition in Cuban Literature and Culture. (IP; 4 cr. ; Student Option; Periodic Fall & Spring)
A study of the major texts surrounding Cuban slavery from the 1812 Aponte slave rebellion to independence from Spain in 1898. How did 19th-century writers depict Cuban slave society? What was the relationship between literature, abolition, and independence? prereq: 3012, 3112, or instr consent

SPAN 3686. Seminar: Writing History in Spanish American Literature. (HUM; 4 cr. ; Student Option; Periodic Fall & Spring)
A study of 20th- and 21st-century Latin American historical novels and the colonial and 19th-century texts on which they are based. How and why is the past mobilized to meet the needs of the present? How do historical events continue to haunt the present day? prereq: 3011, 3012, or instr consent

SPAN 3687. Seminar: Afro-Hispanic Literature and Culture. (HDIV; 4 cr. ; Student Option; Periodic Fall & Spring)
An overview of the literature and culture of peoples of African descent in Spanish America from the colonial period to present day. How have Afro-Hispanics been marginalized from national projects in Spanish America? To what extent and under what circumstances has the group been included? How have Afro-Hispanic writers responded to larger culture? prereq: 3011, 3012, or instr consent

SPAN 3688. Seminar: Literature and Gender in Nineteenth-Century Spain. (HUM; 4 cr. ; Student Option; Periodic Fall)
An examination of 19th-century Spanish literature with primary emphasis on gender representation and construction. Readings include both canonical and lesser known works, by both male and female writers, that reflect an ongoing dialogue regarding traditional and shifting notions of gender identity and relations in Spain at the time. prereq: 3012, 3112 or instr consent

SPAN 3690. Seminar: Mexican Cultural Production. (HUM; 4 cr. ; Student Option; Periodic Spring)
An overview of the literature and culture of Anahuac (Mexico) from the colonial period to present day. With a focus on migration and diaspora, a key objective is to explore the dynamic cultural exchanges across this region. How are migration and diaspora represented? How do these representations deepen our understanding of Mexico and movements on a global scale? prereq: 3012, 3112

SPAN 3691. Seminar: Native Cultural Production of the Americas. (HDIV; 4 cr. ; Student Option; Periodic Spring)

A study of contemporary Native artistic production across Abya Yala (North and South America) in various media such as film, literature, radio, and paintings and its historical origins. One of the main objectives is to deepen students' understanding of the complexity and diversity of Native communities within urban and rural spaces, including those communities within the USA. What innovative aesthetic practices and perspectives do these texts contribute? What strategies can be gleaned from this cultural production for challenging discriminatory practices? prereq: 3012, 3112

SPAN 3692. Seminar: Nahua Media and Culture. (IP; 4 cr. ; Student Option; Periodic Spring)

An introduction to media and culture in Nahuatl, more popularly known as the language of the Mexica or Aztecs. Gives an overview of cultural production from the pre-colonial era to the present, with an emphasis on bilingual Nahuatl-Spanish film, music, radio, and literature. What strategies can be gleaned from Nahua artists' perspectives that would be of value to struggles for social and political rights across the globe? What do they teach us about persecution of minority languages and cultural practices? prereq: 3012, 3112

SPAN 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

SPAN 4001. Research Symposium. (HUM; 4 cr. ; A-F only; Every Spring)

A capstone experience for majors, consisting of an introduction to research methods and critical approaches to literature, as well as development of an independent research project and presentation. Spanish majors are required to complete a minimum of 16 of the 20 required credits at the 32xx and 36xx levels prior to registering for Span 4001. It is recommended to have all 20 of these credits completed prior to taking Span 4001. prereq: instr consent

SPAN 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Sport Studies and Athletics (SSA)

SSA 1051. Fitness for Life. (2 cr. ; Student Option; Every Fall & Spring)

Factors associated with a positive lifestyle, assessment of each individual's current wellness status, and development of a personal lifetime program for improving one's quality of life.

SSA 1052. Societal Issues in Health and Wellness. (SS; 2 cr. ; Student Option; Every Spring)

A study of how perceptions of society's health and wellness issues affect our individual health/fitness choices.

SSA 1101. First Aid. (1 cr. ; Student Option; Every Fall & Spring)

Lectures, demonstrations, practical work in emergencies and first aid. Emphasis on accident prevention. Completion of the course prepares students for National Safety Council First Aid and CPR Certification.

SSA 1108. The Aussie Sport Experience: Culture, Identity, and Impact. (IP; 4 cr. ; S-N only; Periodic Summer)

Provides students with opportunities to engage with sport management-based content on an international level, including content, key concepts, organizations, and personnel representing established partners, sites, and experience in Australia. Specific emphasis is placed on Australia's engagement with sport at the local level, in addition to their position as a global force when considering athlete development, organizational leadership, and international-level events and venues. Course content also includes emphasis on sport and indigenous culture including a service-learning component with local youth and community organizations. prereq: 2302 or instr consent

SSA 1213. Golf. (; 0.5 cr. [max 1 cr.] ; S-N only; Every Fall)

Introductory instruction in the skills and techniques of golf.

SSA 1219. Strength Training. (1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

Introductory instruction in the skills and techniques of strength training.

SSA 1225. Wellness Skills: R.A.D.-Basic and Advanced Self Defense System. (1 cr. [max 2 cr.] ; S-N only; Every Fall & Spring)

A hands-on comprehensive program of realistic, self-defense tactics and techniques for women. The only nationally approved self-defense class by the International Association of College Law Enforcement Administrators. Class curriculum is centered around physical self-defense techniques and situational awareness. The advanced section of the class builds on basic techniques and offers more options for increasing awareness and providing a deeper understanding of one's potential.

SSA 1231. Beginning Taekwondo. (0.5 cr. [max 1 cr.] ; Student Option; Every Fall & Spring)

Philosophy of the martial arts. Basic stances and blocking, kicking, and striking techniques, terminology, footwork and sparring fundamentals.

SSA 1233. Advanced Taekwondo. (0.5 cr. [max 1 cr.] ; Student Option; Every Fall & Spring)

Advanced stances and blocking, kicking, and striking techniques, terminology, footwork and sparring fundamentals. prereq: 1231 or instr consent

SSA 1401. Varsity Baseball (M). (0.5 cr. [max 2 cr.] ; S-N only; Every Spring)

SSA 1402. Varsity Basketball. (0.5 cr. [max 2 cr.] ; S-N only; Every Spring)

SSA 1403. Varsity Cross Country. (0.5 cr. [max 2 cr.]; S-N only; Every Fall)

SSA 1404. Varsity Football (M). (0.5 cr. [max 2 cr.]; S-N only; Every Fall)

SSA 1405. Varsity Golf. (0.5 cr. [max 2 cr.]; S-N only; Every Fall)

SSA 1406. Varsity Softball (W). (0.5 cr. [max 2 cr.]; S-N only; Every Spring)

SSA 1407. Varsity Tennis. (0.5 cr. [max 2 cr.]; S-N or Audit; Every Spring)

SSA 1408. Varsity Track and Field. (0.5 cr. [max 2 cr.]; S-N only; Every Spring)

SSA 1410. Varsity Volleyball (W). (0.5 cr. [max 2 cr.]; S-N only; Every Fall)

SSA 1411. Varsity Soccer. (0.5 cr. [max 2 cr.]; S-N only; Every Fall)

SSA 1412. Varsity Swimming & Diving (W). (0.5 cr. [max 2 cr.]; S-N only; Every Fall)

SSA 1801. Mind and Body: Mental Skills and Martial Arts. (IC; 2 cr. ; Student Option; Periodic Fall & Spring)

Mental skills such as stress management, imagery, and concentration have been practiced for centuries by martial artists and more recently by elite performers in a variety of fields (e.g., athletics, artistic and dramatic performance, medicine, and business). These skills and more are introduced through readings, analyzed during discussions, emphasized via the practice of martial arts skills and techniques, and applied to students' individual needs. Readings come from current sport psychology literature as well as traditional Asian martial arts passages. Students engage in physical activity. prereq: new college student in their first semester of enrollment at UMM

SSA 1802. The Olympic Games: History, Culture, and Society. (IC; 2 cr. ; Student Option; Periodic Fall)

Study of the increasing diversity of the Olympic Games. Emphasis is placed on the Olympics as examined through historical and modern perspectives, including the impact, influence, and implications upon culture and society. prereq: new college student in their first semester of enrollment at UMM

SSA 1993. Directed Study. (1-5 cr. [max 10 cr.]; Student Option; Every Fall & Spring)
An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

SSA 2102. Human Anatomy. (4 cr. ; Student Option; Every Fall)
Same as Biol 2102. Structure of human systems at their organ and cellular level. (two 75-min lect, one 120-min lab)[Note: no elective cr for biol majors or minors] prereq: soph

SSA 2111. Kinesiology. (SCI; 2 cr. ; Student Option; Every Fall)
Scientific principles of movement and tissue responses to force; analysis of basic movement in sports and other physical activities. prereq: 2102

SSA 2112. Exercise Physiology. (2 cr. ; Student Option; Every Fall)
Human physiological adaptations resulting from activity/exercise.

SSA 2121. Prevention and Care of Injuries. (4 cr. ; Student Option; Every Spring)
Introduction to safety measures, care, prevention, and rehabilitation of injuries in sports and other physical activities. (three 65-min lect, one 65-min lab) prereq: 2111

SSA 2131. Theory of Coaching. (SS; 2 cr. ; Student Option; Every Spring)
Introduction to coaching theory within a variety of competitive sport environments. Emphasis upon professional, personal, and philosophical development as related to coaching leadership. Additional topics may include theories of motivation, effective communication, developing team dynamics and culture, as well as improving athlete performance.

SSA 2201. Baseball Coaching. (2 cr. ; Student Option; Spring Even Year)
History, psychology, and theory of the game, techniques of coaching each position, rules, batting, practice and game organization, strategy, officiating.

SSA 2202. Basketball Coaching. (2 cr. ; Student Option; Every Fall)
History, psychology, and theory of the game, offensive and defensive formations, strategy, practice and game organization, officiating, rules, and techniques of coaching each position.

SSA 2203. Football Coaching. (2 cr. ; Student Option; Every Fall)
History, psychology, and theory of the game, offensive and defensive formations, strategy, practice and game organization, officiating, rules, techniques of coaching each position.

SSA 2204. Softball Coaching. (2 cr. ; Student Option; Spring Odd Year)
History, psychology, and theory of the game, techniques of coaching each position, rules, batting, practice and game organization, strategy, officiating.

SSA 2205. Track and Field Coaching. (2 cr. ; Student Option; Every Spring)
History, psychology, and theory of the sports, techniques for all track and field events, methods of coaching, practice and meet organization, strategy, rules, officiating.

SSA 2206. Volleyball Coaching. (2 cr. ; Student Option; Fall Even Year)
History, psychology, and theory of the game, offensive and defensive formations, strategy, practice and game organization, officiating, rules.

SSA 2208. Soccer Coaching. (2 cr. ; Student Option; Fall Odd Year)
History, psychology, and theory of the sport, individual techniques, practice and game organization, officiating, rules and strategies.

SSA 2302. Introduction to Sport Management. (4 cr. ; A-F only; Every Fall)

Provides students with an overview of and a foundation in sport management. Topics include the history of sport management, the relevance of managerial concepts to sport, typical settings for sport managers, areas of study within sport management, sustainability in sport, and globalization and sport, among others.

SSA 2311. Sports Officiating. (2 cr. ; Student Option; Periodic Summer)
Knowledge of the rules, techniques, and mechanics for officiating basketball, baseball, and softball at the high school level.

SSA 2331. Personal Training Preparation. (2 cr. ; S-N only; Periodic Fall & Spring)
Concepts, theory, practice, and research in personal training and conditioning. Basic anatomy and physiology, principles of strength training, overview of training equipment, fitness assessments, designing individual exercise programs, legal liabilities, national certifications, and review of research. Preparation for national certification examinations in the areas of personal training and strength conditioning.

SSA 2333. The Story of Sports. (SS; 4 cr. ; Student Option; Periodic Summer)
Sports have become an important way to view and understand the broad developments of society in the 20th century. Many of these developments have been presented in the form of movies, music, poetry, short stories, novels, and stories handed down through the generations. Study these developments, how they are told through stories, and how sports can be useful for examining 20th century society and culture.

SSA 2401. Sociological Aspects of Sports. (SS; 2 cr. ; Student Option; Every Spring)
Sociological aspects of physical education, sports, and recreation and the implications this knowledge has for effective teaching, coaching, and athletic training.

SSA 2402. Psychological Aspects of Sports. (SS; 2 cr. ; Student Option; Every Spring)
Psychological aspects of physical education, sports, and recreation and the implications this knowledge has for effective teaching, coaching, and athletic training. prereq: 2401

SSA 2403. Sport, Gender, and Sexuality. (SS; 2 cr. ; Student Option; Fall Even Year)
Interdisciplinary introduction to gender and sexuality and their intersection with sport as a social institution. Varying levels and contexts of sport are examined in contribution to the discussion of the sport industry's opportunities as a platform to address and influence issues of inclusion, accessibility, and equity. prereq: GWSS 1101 or SSA 2302

SSA 2404. Sport and Indigenous Cultures. (HDIV; 2 cr. ; Student Option; Fall Odd Year)
Introduction to Native American sports and games from historical and modern perspectives, with general global comparisons. Emphasis upon the significance, ritual practice, and use of sport and games within Native American communities. Examination of the representation of Native American athletes,

identities, and symbols in popular sport. prereq: Amin 1101 or SSA 2302

SSA 2501. Sports in Media I. (SS; 2 cr. ; A-F only; Every Spring)

An introduction to the relationship between the media and sports in America. A broad range of topics include broadcast, print, and social media, as well as promotion and public relations and their roles as vehicles for promoting sports.

SSA 2502. Sports in Media II. (SS; 2 cr. ; A-F only; Every Spring)

A continuation of Sports in Media I that will dissect and analyze the relationship between sports and media. Topics include the development, organization, and implementation of media tactics and associated historical, social, cultural, and legal issues. prereq: 2501

SSA 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

SSA 3101. Sport Industry Analysis. (SS; 4 cr. ; Student Option; Every Spring)

An examination of the rapidly developing sports industry from a promotional and sales management perspective. Focus on sport promotion, sport consumers, sales, sponsorship, licensing, and e-commerce. prereq: 2302, Stat 1601 or Stat 2601 or instr consent

SSA 3172. Leadership in Sport

Organizations. (SS; 2 cr. ; A-F only; Every Fall)

Examination of theories and case studies of organizational leadership within sport. Students learn about additional theories and models of sport leadership and practice and develop their leadership skills. [Note: no cr for students who have received cr for Mgmt 3172] prereq: 2302

SSA 3201. Coaching Practicum. (1 cr. ; S-N only; Every Fall & Spring)

Supervised field experience in coaching, consisting of no fewer than 40 hours. prereq: instr consent

SSA 3210. Internship in Sport Studies and Athletics. (1-12 cr. [max 24 cr.] ; S-N only; Every Fall & Spring)

An educational experience in a work environment providing field applications for the student's theoretical classroom learning experiences.

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

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

SSA 4101. Planning and Programming of Athletic Facilities. (4 cr. ; Student Option; Every Spring)

Theories/techniques in administration/management of sport enterprises including the steps in planning/building facilities for athletics,

physical education, and sport for college, professional, and public use. prereq: 3101

SSA 4102. Organization and Administration of Athletics and Recreation. (4 cr. ; Student Option; Every Fall)

Comprehensive analysis of organization and management of athletics and recreation. prereq: 3101

SSA 4201. Sport Governance: Legal and Ethical Issues. (E/CR; 4 cr. ; A-F only; Every Spring)

An integrative capstone for students in sport management. In addition to emphases in legal and ethical issues, it integrates knowledge from key areas of study in sport management. Includes an independent research project and a public presentation. prereq: 2401, 2402, 4102

SSA 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Statistics (STAT)

STAT 1601. Introduction to Statistics. (M/SR; 4 cr. ; Student Option; Every Fall & Spring) Scope, nature, tools, language, and interpretation of elementary statistics.

Descriptive statistics; graphical and numerical representation of information; measures of location, dispersion, position, and dependence; exploratory data analysis. Elementary probability theory, discrete and continuous probability models. Inferential statistics, point and interval estimation, tests of statistical hypotheses. Inferences involving one and two populations, ANOVA, regression analysis, and chi-squared tests; use of statistical computer packages. prereq: high school higher algebra

STAT 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

STAT 2501. Probability and Stochastic Processes. (M/SR; 4 cr. ; Student Option; Periodic Fall)

Same as Math 2501. Probability theory; set theory, axiomatic foundations, conditional probability and independence, Bayes' rule, random variables. Transformations and expectations; expected values, moments and moment generating functions. Common families of distributions; discrete and continuous distributions. Multiple random variables; joint and marginal distributions, conditional distributions and independence, covariance and correlation, multivariate distributions. Properties of random sample and central limit theorem. Markov chains, Poisson processes, birth and death processes, and queuing theory. prereq: Math 1101 or instr consent

STAT 2601. Statistical Methods. (M/SR; 4 cr. ; Student Option; Every Fall)

Descriptive statistics, elementary probability theory; laws of probability, random variables, discrete and continuous probability models, functions of random variables, mathematical expectation. Statistical inference; point estimation, interval estimation, tests of hypotheses. Other statistical methods; linear regression and correlation, ANOVA, nonparametric statistics, statistical quality control, use of statistical computer packages. prereq: Math 1101 or Math 1021

STAT 2602. Mathematical Statistics. (M/SR; 3 cr. ; Student Option; Every Fall & Spring)

Descriptive statistics, elementary probability theory; laws of probability, random variables, discrete and continuous probability models. Statistical inference; point estimation, interval estimation, tests of hypotheses. Other statistical methods; linear regression and correlation, ANOVA, use of statistical computer packages.

STAT 2611. Mathematical Statistics. (M/SR; 4 cr. ; Student Option; Every Spring)

Introduction to probability theory. Principles of data reduction; sufficiency principle. Point estimation; methods of finding and evaluating estimators. Hypothesis testing; methods of finding and evaluating tests. Interval estimation; methods of finding and evaluating interval estimators. Linear regression and ANOVA. prereq: Math 1101

STAT 2701. Introduction to Data Science.

(M/SR; 4 cr. ; Student Option; Every Spring) Same as CSci 2701. Introduction to data science and informatics and their application to real world scenarios. Computational approaches to data types; database creation including technologies such as SQL/no-SQL; data visualization; data reduction, condensation, partitioning; statistical modeling; and communicating results. prereq: Stat 1601 or Stat 2601 or Stat 2611, CSci 1201 or CSci 1301 or CSci 1251 or instr consent

STAT 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring)

An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

STAT 3501. Survey Sampling. (M/SR; 4 cr. ; Student Option; Fall Even Year)

Introduction to basic concepts and theory of designing surveys. Topics include sample survey designs including simple random sampling, stratified random sampling, cluster sampling, systemic sampling, multistage and two-phase sampling including ratio and regression estimation, Horvitz-Thomson estimation, questionnaire design, non-sampling errors, missing value-imputation method, sample size estimation, and other topics related to practical conduct of surveys. prereq: 1601 or 2601 or instr consent

STAT 3601. Data Analysis. (M/SR; 4 cr. ; Student Option; Every Fall)

Nature and objectives of statistical data analysis, exploratory and confirmatory data analysis techniques. Some types of statistical

procedures; formulation of models, examination of the adequacy of the models. Some special models; simple regression, correlation analysis, multiple regression analysis, analysis of variance, use of statistical computer packages. prereq: 1601 or 2601 or 2611 or instr consent

STAT 3611. Multivariate Statistical Analysis. (M/SR; 4 cr. ; Student Option; Every Spring) Analysis of categorical data. Loglinear models for two- and higher-dimensional contingency tables. Logistic regression models. Aspects of multivariate analysis, random vectors, sample geometry and random sampling, multivariate normal distribution, inferences about the mean vector, MANOVA. Analysis of covariance structures: principal components, factor analysis. Classification and grouping techniques: discrimination and classification, clustering, use of statistical computer packages. prereq: 1601 or 2601 or 2611 or instr consent

STAT 3901. Statistical Communication. (2 cr. ; A-F only; Every Spring) Finding and utilizing sources of statistical information including data. Techniques for searching statistical literature, as well as reading and interpreting these sources. Principles of technical writing and communication in statistics. Writing, editing, and revising an extensive review paper on a statistical topic. Collaboration and statistical consulting skills needed for clients and project teams, explaining analyses, and writing reports understandable to non-statisticians. Attendance at senior seminar presentations is required. prereq: stat major, jr or sr status or instr consent

STAT 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

STAT 4601. Biostatistics. (4 cr. ; Student Option; Every Spring) Design and analysis of biological studies: biological assays, case-control studies, randomized clinical trials, factorial designs, repeated measures designs, observational studies, and infectious disease data. Analysis of survival data: basic concepts in survival analysis, group comparisons, and Cox regression model. Use of statistical computer packages. prereq: 1601 or 2601 or 2611 or instr consent

STAT 4631. Design and Analysis of Experiments. (4 cr. ; Student Option; Periodic Fall & Spring) Design and analysis of experimental designs; blocking, randomization, replication, and interaction; complete and incomplete block designs; factorial experiments; crossed and nested effects; repeated measures; confounding effects. prereq: 3601 or instr consent

STAT 4651. Applied Nonparametric Statistics. (4 cr. ; Student Option; Periodic Fall & Spring)

Application of nonparametric statistical methods. Examples use real data, gleaned primarily from results of research published in various journals. Nonparametric inference for single samples, paired samples, and independent samples, correlation and concordance, nonparametric regression, goodness-of-fit tests, and robust estimation. prereq: 1601 or 2601 or 2611 or instr consent

STAT 4671. Statistical Computing. (; 4 cr. ; Student Option; Periodic Summer) Entering, exploring, modifying, managing, and analyzing data by using selected statistical software packages such as R or SAS. The use of statistical software is illustrated with applications of common statistical techniques and methods. Designed for students who have a basic understanding of statistics and want to learn the computing tools needed to carry out an effective statistical analysis. prereq: 1601 or 2601 or 2611 or instr consent

STAT 4681. Introduction to Time Series Analysis. (4 cr. ; Student Option; Fall Odd Year) Introduction to the analysis of time series including those with a connection to environment such as spatial and spatio-temporal statistics. Randomness test, ARMA, ARIMA, spectral analysis, models for stationary and non-stationary time series, seasonal time series models, conditional heteroscedastic models, spatial random processes, covariance functions and variograms, interpolation and kriging. prereq: 3601 or instr consent

STAT 4901. Senior Seminar. (2 cr. ; S-N only; Every Fall) Required for all statistics majors. Seminar on student-selected statistical topics. Includes preparation and presentation of a seminar based on original research, a data analysis, or results of a detailed study of a topic in statistics. Begins in fall semester and continues all year. Students attend year round and present one of the seminars in Spring semester. Requires attendance and a presentation in addition to regular class meetings. prereq: 3901, sr status

STAT 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

Theatre Arts (TH)

TH 1040. Backstage on Broadway. (1 cr. [max 4 cr.] ; S-N only; Periodic Fall & Spring) Supervised field trip to New York; attending selected professional theatre productions; backstage tours; discussions with theatre professionals. prereq: instr consent

TH 1050. London Theatre Tour. (1 cr. [max 4 cr.] ; S-N only; Periodic Fall & Spring) Supervised field trip to London, England; attending selected professional theatre productions; backstage tours; discussions with theatre professionals. prereq: instr consent

TH 1060. Production Experience. (1 cr. [max 8 cr.] ; S-N only; Every Fall & Spring) Participation in some aspect of theatre production other than performing (e.g., scenery, props, costumes, lighting). An interview and approval from theatre faculty is required. prereq: instr consent

TH 1070. Performance Experience. (ART/P; 1 cr. [max 8 cr.] ; S-N only; Every Fall & Spring) Participation in theatrical production as a performer. A production audition is required with approval from the theatre faculty. prereq: instr consent

TH 1101. The Theatre Experience: An Introduction. (FA; 4 cr. ; Student Option; Every Fall) Fundamental examination and practical application of the theory, history, and practice of theatrical performance as a reflection of society. Focus is on the theatre event as a collaborative effort and transitory art form. (lect, 2 hrs practicum)[Note: practicum two hours per week, selected from M-Th from 2:00-5:00 pm]

TH 1111. Fundamentals of Acting. (ART/P; 4 cr. ; Student Option; Every Spring) Approaches characterization from a physical and psychological view. Focus is on use of imagination, text analysis, body and voice to develop characters from modern realistic dramatic literature. prereq: 1101, theatre arts major or minor or instr consent

TH 1301. Fundamentals of Design. (ART/P; 4 cr. ; Student Option; Every Fall) Problem-solving approach to elements, principles, and functions of design; their place in the theatre and elsewhere.

TH 1993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

TH 2101. Fundamentals of Directing. (ART/P; 4 cr. ; Student Option; Every Fall) Introduces the practical components of the director as artist, teacher, and collaborator. Focus is on the craft of directing modern realistic dramatic literature through text analysis, communication of concepts, and stylistic techniques. prereq: 1111, theatre arts major or minor or instr consent

TH 2111. Creative Drama with Children. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) Development of classroom skills in the use of dramatic techniques to teach a broad range of subjects to children. Exercises, presentations, and experiential learning techniques are modeled and practiced in class. prereq: 1101 or theatre or elem ed major or instr consent

TH 2201. Voice and Movement. (ART/P; 4 cr. ; Student Option; Every Spring) Explores the use of the voice and the body as means for expression in performance and everyday communication. Focus is on expansion and enhancement of vocal and physical skills through release of tension,

posture, vocal exercises, and muscle extension. prereq: 1111, theatre arts major or minor or instr consent

TH 2211. Oral Interpretation. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) Introduces the study of literature through text analysis and performance. Focus is on the student's discovery of the aesthetic, communicative, and performative elements of a variety of personal narratives, prose, and poetry.

TH 2221. Readers' Theatre. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) Explores the theory and practice of adapting literature into group performance. Focus is on text analysis, script development, directing, and performing both dramatic and non-dramatic literary texts. prereq: 2211

TH 2222. Creating Live Radio Theatre from Script to Performance. (ART/P; 1 cr. ; S-N only; Periodic Spring) Provides an opportunity to develop a radio theater show from script through broadcast performance. Parts are assigned through audition. Involves significant research and rehearsal time in various capacities for all students enrolled. [Note: students will audition/interview to be on radio] prereq: instr consent

TH 2231. Playwriting. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) Introduces the process for writing and revising an original play. Focus is on writing, revising, and presenting a short play, including idea generation, invention, drafting, and peer response.

TH 2301. Stagecraft. (ART/P; 4 cr. ; Student Option; Every Spring) Development of stagecraft from the Greeks to the present. Basic forms of stage scenery and their functions in the theatre. Tools, materials, and techniques employed in creating the visual environment of the stage. (3 hrs lect, 3 hrs practicum)

TH 2993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

TH 3001. Theatre Scene Painting Studio. (FA; 4 cr. ; Student Option; Fall Odd Year) Instruction in a systematic approach to painting theatrical scenery. Traditional techniques and the tools and paints that have been developed to support those techniques. prereq: instr consent

TH 3003. Stage Management. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) Introduces the principles of theatrical stage management; explores the stage manager's functions and duties through all phases of the production process including pre-production, rehearsal, and performance. prereq: instr consent

TH 3101. World Theatre: History and Literature I. (FA; 4 cr. ; Student Option; Every Fall)

Theatrical practice and dramatic literature from origins through late 17th century, tracing the roots leading to, and influences on, early modern European theatre practice and dramatic literature, as well as examining select Asian, African, and/or pre-Columbian American theatrical practice.

TH 3102. World Theatre: History and Literature II. (FA; 4 cr. ; Student Option; Every Spring)

Theatrical practice and dramatic literature from the late 17th century to the present, examining select Asian, African, and/or Western Hemisphere theatrical practice, as well as tracing the roots leading to, and influences on, current world theatre practice and dramatic literature.

TH 3201. Advanced Acting. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) Begins with advanced acting techniques based in psychological realism and moves to an exploration of select classical and non-realistic forms. Styles to be examined are chosen from a list, including ancient Greek, Elizabethan, comedy of manners, absurdism, postmodernism, musical theatre, etc. prereq: 1101, 1111, 2101

TH 3202. Advanced Directing. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) Begins with advanced directing techniques based in psychological realism and moves to an exploration of select classical and non-realistic forms. Styles to be examined are chosen from a list, including ancient Greek, Elizabethan, comedy of manners, absurdism, postmodernism, musical theatre, etc. prereq: 1101, 1111, 2101

TH 3301. Stage Lighting. (ART/P; 4 cr. ; Student Option; Fall Even Year) History and development of lighting for the stage. Theory and concepts of lighting as a visual art and its function in the theatre. Lighting design as a creative process and practical solution of lighting design problems. Lighting equipment and its use. prereq: 1301, 2301

TH 3302. Stage Costuming. (FA; 4 cr. ; Student Option; Fall Odd Year) History and development of stage costume. Theory and concepts of stage costuming as a visual art and its function in the theatre. Costume design as a creative process. Practical demonstrations of knowledge of design, history, and functions of stage costume. prereq: 1301, 2301

TH 3303. Computer-Assisted Drawing. (ART/P; 4 cr. ; Student Option; Periodic Fall) Theory, concepts, and practice of using a computer as a drawing and drafting tool.

TH 3304. Art Direction for Film and Television. (FA; 4 cr. ; Student Option; Periodic Fall & Spring) Introduction of art direction for film and television. The roles and duties of the production designer and art director for fictional film and television series.

TH 3305. Stage Make-Up. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring)

Systematic approach to stage make-up application. Includes history, safety, product, design, and application, with heavy emphasis on hands-on experience.

TH 3306. Advanced Lighting and Sound Design. (ART/P; 4 cr. ; Student Option; Periodic Fall & Spring) Advanced study in the application of design theory as it relates to lighting and sound for theatre. Particular emphasis on use of relevant technologies in the design process. prereq: 1301 or 3301 or instr consent

TH 3450. Irish Drama: Print, Culture, and Performance. (IP; 4 cr. [max 8 cr.] ; Student Option; Periodic Summer) Includes theatre performances and tours, workshops, and seminars from leading Irish scholars and actors; class sessions; cultural visits and exploration of Irish cities, landscapes, and historical sites throughout Ireland. [Note: some course readings expected before departure]

TH 3993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.

TH 4301. Scenic Design. (FA; 4 cr. ; Student Option; Fall Odd Year) Designing scenery as an expressive environment for the theatre. Elements and functions of design and principles of composition. Problems in coordination and execution of design in the interpretation of dramatic literature using a variety of staging techniques. Study of various styles of historical and contemporary stage productions and theatre architecture through the writings and designs of such artists and theorists as Appia, Craig, Meyerhold, Jones, and Svoboda. prereq: 1301, 2301

TH 4901. Senior Project. (2-4 cr. ; Student Option; Every Fall & Spring) Culminating activity to demonstrate the student's competence in some area of theatre arts. Projects may be completed independently (e.g., a research paper, a solo acting performance) or as part of a group effort. Acting, scenery, lighting, costume design, playwriting, and theatre history are some areas in which the project may be undertaken. prereq: theatre arts major, instr consent

TH 4993. Directed Study. (1-5 cr. [max 10 cr.] ; Student Option; Every Fall & Spring) An on- or off-campus learning experience individually arranged between a student and a faculty member for academic credit in areas not covered in the regular curriculum.