Benedictine University®

LISLE CAMPUS COURSE DESCRIPTIONS

Academic Discourse Undergraduate

ADU 100 Orientation. This course is designed to provide an introduction to the Benedictine University community for international students. Students will become comfortable with key aspects of the academic culture and community of the University, will be provided with support and information for various aspects of academics and campus life, and will build confidence and skills through interaction with members of the Benedictine University community. Typically offered: fall and spring terms. *Department consent required.*

ADU 101 Introduction to Academic Discourse. This course focuses on the development of reading, writing, and study skills for a range of academic purposes, disciplines, and audiences. Assessment of student work is by portfolio submission. Co-requisite: ADU 100. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

ADU 102 Success in the American Classroom. This course integrates and extends academic discourse skills practiced in ADU 101, with a focus on longer writing assignments, oral presentation skills, and discipline-specific research and writing. Assessment of student work is by portfolio submission. Prerequisites: ADU 100; ADU101, or placement. Prerequisite or co-requisite: WRIT 101 designated section or placement. 3 semester credit hours. Typically offered: spring term.

ADU 110 Introduction to Spoken Academic Discourse. This course focuses on developing advanced listening and speaking skills for a range of academic purposes, disciplines, and audiences. Assessment of student work is by portfolio submission. Prerequisite or Co-requisite: ADU 100, or placement. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

ADU 111 Academic Skills Lab. Sequence of lab sessions designed to support and consolidate speaking and listening skills. Repeatable once for credit. Prerequisites or Co-requisites: ADU 100; ADU 101 or WRIT 101 designated section, or placement. 1.5 semester credit hours. Typically offered: spring term, even years. *Department consent required. Course repeatable. Maximum number of units allowed: 3.*

ADU 112 Individual and Small Group Study Lab. Sequence of study groups and activities that support academic skills across the curriculum. Repeatable for credit. Prerequisite or Co-requisite: ADU 100, ADU 101 or WRIT 101 designated section or placement. 1.5 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 90.*

ADU 113 Self-Guided Skills Lab. Sequence of individual study sessions using on-line and other self-paced materials. Prerequisites or Co-requisites: ADU 100; ADU 101 or WRIT 101 designated section. 1.5 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 90.*

ADU 114 Advanced Academic Skills Lab. Sequence of study groups and activities that support advanced academic skills across the curriculum. Prerequisites or Co-requisites: ADU 100; ADU 101 or WRIT 101 designated section. 1.5 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 90.*

ADU 203 English for Academic Purposes: Advanced English Writing. An immersion experience in a controlled environment which requires that students use English only for communication and academic work. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

Accounting

ACCT 100 Fundamentals of Accounting for Decision-Making. This course is designed for non-business majors who would like to learn the basics of accounting. Students are introduced to fundamental accounting concepts and information. They will learn to apply and use accounting fundamentals to start and run their own business or non-profit organization and for their personal use. Students are introduced to fundamental accounting concepts and information. They will learn to apply and use accounting fundamentals to start and run their own business or non-profit organization and for their personal use. Yearly. 3 semester credit hours. Business Core Elective. Typically offered: annually.

ACCT 111 Accounting I. Principles of financial accounting; including the basic structure of accounting, accounting systems, and controls, the preparation and use of financial statements, and problems related to financial disclosures. Credit will not be granted for both ACCT 111 and ACCT 115. IAI BUS 903. Prerequisite: MATH 105 or MATH 110 or co-registration in MATH 105 or MATH 110. 3 semester credit hours. Typically offered: fall and spring terms.

ACCT 112 Accounting II. Principles of managerial accounting; including cost accounting, planning and control systems, and analysis and interpretation of financial statements. IAI BUS 904. Prerequisite: ACCT 111. 3 semester credit hours. Typically offered: fall and spring terms.

ACCT 120 VITA Service Learning. A service learning course built around the Internal Revenue Service (IRS) volunteer income tax assistance (VITA) program. Students must participate in the training, successfully complete an IRS take-home exam, and participate in at least one volunteer income tax advising session. 1 semester credit hour. *Department consent required. Course repeatable. Maximum number of units allowed: 3.*

ACCT 211 Intermediate Accounting I. A thorough study of balance sheet accounts integrated with an analysis of their relationship to the income statement. Prerequisite: ACCT 111. 3 semester credit hours. Typically offered: fall term.

ACCT 212 Intermediate Accounting II. A thorough study of balance sheet accounts integrated with an analysis of their relationship to the income statement. Prerequisite: ACCT 211. 3 semester credit hours. Typically offered: spring term.

ACCT 215 Accounting Research. Students will become familiar with sources of accounting standards and current information affecting the accounting profession. Their communication and research skills will be used to learn about and report on the reasoning behind the development of accounting standards and current issues in accounting. This course is required by the State of Illinois for CPA candidates. Prerequisite: ACCT 212 and junior standing. 2 semester credit hours. Typically offered: fall and spring terms.

ACCT 297 Internship. Practical experiences in business related fields under the supervision of the program coordinator. 2-6 semester credit hours. Typically offered: periodically. Department consent required. Course repeatable. Maximum number of units allowed: 12. 2-6 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 12.*

ACCT 310 Accounting Information Systems. Students will learn to analyze the role of accounting information systems within a company's operating systems; appreciate the wider view of accounting's role in an organization as an integrated and comprehensive database; and learn the connections between transaction cycles, internal controls, and computer ethics. Students will use accounting software to complete projects and study auditing of accounting information systems, databases and e-business. Sophomore standing. Cross-listed with MIS 510. Prerequisite: ACCT 111 and ACCT 112. 3 semester credit hours. Typically offered: fall term.

ACCT 311 Cost Accounting. A comprehensive study of methods used to develop cost information for manufacturing and service operations and of models for business planning and control. Prerequisite: ACCT 112. 3 semester credit hours.

ACCT 312 Federal Taxation. An introductory study of federal regulations covering income taxation of individuals and businesses. Prerequisite: ACCT 112. 3 semester credit hours. Typically offered: fall term.

ACCT 313 Auditing and Assurance Services. An intensive study of PCAOB auditing standards, generally accepted auditing standards and procedures. Prerequisite: ACCT 212. 3 semester credit hours. Typically offered: fall term.

ACCT 315 Advanced Accounting. A study of the accounting methods for consolidations, foreign subsidiaries, governmental organizations, non-profit entities, and partnerships. Prerequisite: ACCT 212. 3 semester credit hours. Typically offered: spring term.

ACCT 321 Forensic Accounting. A comprehensive study of forensic accounting topics. This course provides students of all majors, concentrations and level of study with a background in the field of forensic accounting - fundamentals, tools and accounting applications. Cross-listed with MBA 606. Prerequisite: ACCT 111. 3 semester credit hours.

ACCT 322 Fraud Examination. An examination of schemes used by executives, managers, and employees to commit fraud against their organizations and the prevention, detection, and investigation strategies used to combat these schemes. Cross listed with MBA 607. Prerequisite: ACCT 321. 3 semester credit hours.

ACCT 323 Computer Fraud. This course provides an understanding of how fraud is accomplished by the use of computers and the Internet. It discusses the types of computer fraud that can occur in organizations and how computer fraud can be prevented. Cross-listed with MBA 609. Prerequisite ACCT 321. 3 semester credit hours.

ACCT 324 Fraud and the Legal Environment. This course examines criminal theory relating to fraud, existing legislation governing fraud, and preparation of fraud cases in the court system. Cross listed with MBA 608. Prerequisite ACCT 321. 3 semester credit hours.

ACCT 380 Issues in Corporate Financial Reporting. An intensive and extensive study of corporate reporting to understand and evaluate the application of financial accounting theory and concepts. This course has a substantial accounting research component making up two-thirds of the course. Prerequisite: ACCT 212, senior standing. 3 semester credit hours. Typically offered: spring term.

ACCT 391 Topics. Specially designed courses in various business topics to supplement the business curriculum. Prerequisite: Varies based upon the specific topic being explored. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

ACCT 395 Independent Study. Provides an opportunity for an advanced student in the major to pursue study in a field of business related interest. Prerequisite: Consent of instructor. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

American Studies

AMS 200 U.S. Cultural Studies. Incorporates elements of fiction and non-fiction in the study of various topics of race, gender and class in American Studies. Topics will vary. 3 semester credit hours.

Anthropology

ANTH 200 Cultural Anthropology. Study of the origins of mankind and culture. Development of human language, culture, and institutions, cross cultural analysis of societies, and cultures. IAI S1 901N. 3 semester credit hours. Anthropology Core and Multi-Cultural.

ANTH 201 Physical Anthropology. Focuses on forces producing humans in their present form. The study of evolution, population genetics, and the fossil record. Prerequisite: "C" or better in: BIOL197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

ANTH 207 Contemporary Industrial Society. This course examines the social and cultural make-up of advanced industrial societies in terms of technology, lifestyles, urbanism and environment. 3 semester credit hours.

ANTH 208 The Anthropology of the Third World. A study of developing nations. Analyzes the relationship between culture, environment, and society in economic spheres, emphasizing the Third World. 3 semester credit hours. Anthropology Core Elective.

ANTH 210 Peoples and Cultures of World Regions. Alternating People/Cultures of Latin America, Africa and East Asia. 3 semester credit hours. Anthropology Core and Multicultural.

ANTH 290 Social and Cultural Change. Analysis of large scale historical change, the succession of types of societies and the emergence of the contemporary world. Evolution of social institutions (the family, religion) and speculation about significant future change. 3 semester credit hours. Typically offered: annually. 3 semester credit hours. Typically offered: annually.

ANTH 291 Topics in Anthropology. Topics such as globalization, cultural survival of indigenous peoples, Native American cultures, development and readings in anthropology. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 3.*

ANTH 292 Business Anthropology: Culture and International Business. Introduction to the impact of cultural variation on the functional areas of business with emphasis on globalization and the development of the world system. 3 semester credit hours. Anthropology Core Elective.

ANTH 295 Independent Study. Directed readings, independent research, or student projects on areas of individual academic interest; topics, meeting times, and outcomes arranged with instructor. 3 semester credit hours. *Department consent required.*

ANTH 309 People, Culture and Environment. The relationship between environment and social organization including subsistence activities, resource exploitation and development. 3 semester credit hours. Anthropology Core Elective.

ANTH 391 Topics in Anthropology. Topics such as globalization, cultural survival of indigenous peoples, Native American cultures, development and readings in anthropology. 3 semester credit hours. Typically offered: periodically.

Arabic

ARBC 101 Elementary Arabic I. Introduction to the basic structure of the language. Designed to enable the student to develop oral proficiency and written skills. No prerequisite. 3 semester credit hours plus one optional lab hour (required for minors). 3 semester credit hours. Typically offered: fall term.

ARBC 102 Elementary Arabic II. Continued study of the basic structure of the language. Designed to enable the student to continue to develop oral proficiency and written skills. 3 semester credit hours plus one optional lab hour (required for minors). Prerequisite: ARBC 101 or placement. 3 semester credit hours. Typically offered: spring term.

ARBC 105 Elementary Arabic I through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on total contact hours. 1-3 semester credit hours. Typically offered: periodically.

ARBC 106 Elementary Arabic II through Student Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on total contact hours. 1-3 semester credit hours. Typically offered: periodically.

ARBC 108 Elementary Arabic I Lab. Co-registration with ARBC 101 necessary. Required for minors (1 credit hour). 1 semester credit hour. Typically offered: periodically.

ARBC 109 Elementary Arabic II Lab. Language lab, co-registration with ARBC 102 necessary. Required for minors. Typically offered: periodically.

ARBC 191 Conversation and Culture. This course provides an introduction to and highlights of Arabic culture and basic language skills. 1 semester credit hour. Typically offered: periodically.

ARBC 201 Intermediate Arabic I. Review of the basic structure of the language. Emphasis on extensive language practice in simulated cultural settings in order to enable students to continue to develop their oral and written proficiency. Prerequisite: ARBC 102 or placement. 3 semester credit hours plus one optional lab hour (required for minors). 3 semester credit hours. Typically offered: fall term.

ARBC 202 Intermediate Arabic II. Continued review of the basic structure of the language. Emphasis on extensive language practice in simulated cultural settings in order to enable students to continue to develop their oral and written proficiency. Prerequisite: ARBC 201 or placement. 3 semester credit hours plus one optional lab hour (required for minors). 3 semester credit hours. Typically offered: spring term.

ARBC 205 Intermediate Arabic I through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on contact hours. 1-3 semester credit hours. Typically offered: periodically.

ARBC 206 Intermediate Arabic II through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on contact hours. 1-3 semester credit hours. Typically offered: periodically.

ARBC 208 Intermediate Arab I Lab. Language lab, co-registration with ARBC 201 necessary. Required for minors (1 credit hour). 1 semester credit hour. Typically offered: periodically.

ARBC 209 Intermediate Arabic II Lab. Language lab, co-registration with ARBC 202 necessary. Required for minors Typically offered: periodically.

ARBC 211 Intermediate Grammar and Composition. Comprehensive review and synthesis of Arabic grammar. Designed to provide students with extensive writing practice in order to prepare them for more effective participation in advanced courses, and to enable them to improve their ability to use and manipulate the language with a higher degree of accuracy, flexibility and assurance. Prerequisite: ARBC 202 or placement. 3 semester credit hours. Typically offered: fall term.

ARBC 212 Intermediate Oral Communications. Emphasis on oral proficiency, syntax and grammar, as well as enabling students to develop their ability to respond to the cultural challenges that face someone living in an Arabic-speaking country. Prerequisite: ARBC 202 or placement. 3 semester credit hours. Typically offered: spring term.

ARBC 218 Intermediate Grammar and Composition Lab. Language lab, co-registration with ARBC 211 necessary. 1 semester credit hour. Typically offered: periodically.

ARBC 219 Intermediate Oral Communications Lab. Language lab, co-registration with ARBC 212 necessary. 1 semester credit hour. Typically offered: periodically.

ARBC 291 Intermediate Topics in Arabic Language, Literature and Culture. Intermediate-level study of topics in Arabic literature, culture, and/or civilization. Prerequisite: ARBC 211, or department consent. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

ARBC 295 Independent Study. Designed for the intermediate student who wishes to explore an aspect of Arabic language, literature or culture beyond the scope of the regular course offerings. Prerequisite: ARBC 211, or department consent. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

Astronomy

ASTR 105 Astronomy. Examines astronomical phenomena and concepts including the solar system, start, galaxies, planetary motions, atoms and radiation and the origin and evolution of the universe. 4 semester credit hours.

Benedictine Beginnings

BENB 100 Benedictine Beginnings. New Student Orientation

BENB 95 Bridge to Success. The Bridge to Success program is designed to help incoming freshmen who may need additional academic support or opportunities to build confidence and prepare for the challenges of college learning. This week-long program combines instruction and hands-on learning activities in writing, math and study skills with career exploration and personal leadership development activities to help students prepare academically, encourage them to get involved in campus life and engage them in career development functions. Invitation by referral. Typically offered: summer term. *Department consent required.*

BENB 99 Benedictine Beginnings-Freshmen Success Seminar. Mandatory 8 week seminar for all first year freshmen who are placed on academic probation. Students will examine classroom success strategies, participate in self exploration exercises, develop an understanding of University expectations, explore campus resources and practice effective communication techniques. A framework will be built for future success not only as a student, but as a member of the Benedictine Community. Pass/Fail. Typically offered: spring term. *Department consent required.*

Bilingual Journalism

BIJR 150 Bilingual Journalism. Introduction course in Bilingual Journalism. A hands-on approach to teaching news editing for Spanish publications parallels COMM 150: Introduction to Communications. 3 semester credit hours.

BIJR 207 Editing Publications - in Spanish. A hands-on approach to teaching news editing for Spanish publications parallels COMM 207: Editing for Publications. Prerequisite: COMM 209. 3 semester credit hours. Typically offered: even years.

BIJR 337 Advanced Journalism Writing - in Spanish. A hands-on approach to teaching advanced journalism writing for Spanish publications parallels COMM 337: Advanced Journalism Writing. Prerequisite: COMM 209. 3 semester credit hours. Typically offered: even years.

BIJR 353 Advance Writing, Editing and Page Design for Publications - in Spanish. A hands-on approach to teaching advanced writing, editing and page design for Spanish publications parallels COMM 353: Advanced Writing, Editing and Page Design for Publications. Prerequisite: COMM 208. 3 semester credit hours. Typically offered: even years.

Biochemistry

BCHM 100 Impact of Science and Technology on Society. Current scientific issues of personal and national interest, e.g. drugs, nutrition, energy, pollution, etc. 3 semester credit hours. Life Science Core Elective. Typically offered: fall and spring terms.

BCHM 261 Principles of Biochemistry. The structures and functions of carbohydrates, lipids, proteins, and nucleic acids and their reactions in metabolic pathways. (Students cannot earn credit in both BCHM 261 and 361). IAI CLS 910; NUR 910. Prerequisite: "C" or better in CHEM 247. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: fall and spring terms.

BCHM 290 Selected Topics in Biochemistry. Current topics in Biochemistry. 1-3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

BCHM 292 Research Literature. Discussion and application of online sources containing scientific publications and other information, e.g., SciFinder. The introduction of a report for a research project will be completed. 1 semester credit hour.

BCHM 295 Biochemistry Teaching. Opportunity for a student to work as a teaching assistant in the chemistry department. Typically offered: fall, spring, and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 8.*

BCHM 361 Biochemistry. The structure and function of the major chemical components of biological systems are described. The major topics include water, buffers and pH; proteins; enzymes; carbohydrates; lipids; and vitamins. Prerequisite [Main Campus]: CHEM 247. Prerequisite [Springfield Campus]: CHEM 241. 3 semester credit hours. Life Science Core Elective. Typically offered: fall term.

BCHM 362 Protein Biochemistry Lab. A laboratory course in which protein purification and characterization will be carried out. In addition some of the aspects of the structure and function of proteins and enzymes will be explored. This course is intended for biochemistry/molecular biology majors. Prerequisite: BIOL 260 and credit or co-registration in BCHM 361. 1 semester credit hour. Typically offered: fall term.

BCHM 365 Intermediary Metabolism. The major metabolic pathways and cellular bioenergetics are discussed. An emphasis is placed upon the chemistry of these processes. Prerequisite: BCHM 361. 3 semester credit hours. Typically offered: spring term.

BCHM 390 Selected Topics. Current advanced topics in Biochemistry. 1-3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

BCHM 393 Biochemical Internship. Practical experiences in biochemistry under the supervision of the program faculty. 1-6 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 12.*

BCHM 398 Biochemical Research. Intended for Biochemistry/Molecular Biology majors. Original experimental research conducted under the supervision of a faculty or adjunct faculty member. Projects may be conducted on campus or at an affiliated research facility. Publication of the data in a scientific journal is a course objective. 1-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

Biology

BIOL 105 Physical Geography. An introduction to hydrology and the physical processes operating in and on the planet Earth. Topics of study will include ground and surface water, the hydrologic cycle, watershed models, groundwater recharge, geomorphology, tectonics, structural features, and geological processes relating to natural resource management, environmental processes and concerns. 3 semester credit hours. Physical Science Core Elective. Typically offered: periodically.

BIOL 120 Genetics of Everyday Life. Introduces the non-science major to the classical principles of genetics. Emphasis is on human genetic disease and genetic biotechnology including social, cultural and ethical implications. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 124 Human Health and Disease. Human Health and Disease is designed to introduce students to the general concepts of health and human diseases. The major goal of this course is to cover main principles of disease presentation, risk factors, diagnosis, treatment and prevention. Diseases and physiological systems will vary from semester to semester. MI QLS elective. 3 semester credit hours. Typically offered: periodically.

BIOL 130 The Search for Life in Outer Space. Integration of biology and astronomy to address the provocative questions of whether we are alone in the universe, how life originated on earth and whether we can find or contact extraterrestrial life. Intended for non-biology majors. 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 134 Biology of Non-Human Primates. This course is an introduction to the biology and behavior of non-human primates. Specifically, we will focus on the characteristics that define the primate order and examine the similarities and differences among the various groups of primates, including lemurs, lorises, tarsiers, monkeys and apes. Additionally, topics such as growth and development, cognition and communication, diet and feeding strategies and mating patterns will be explored. This course emphasizes scientific methodology and critical thinking. Life Science Core Elective. MI QLS elective. 3 semester credit hours. Typically offered: periodically.

BIOL 135 Forensics. Fundamental principles and methods of biological forensics. Intended for non-biology majors. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 140 Origins of Humanity. Introduction to human evolution. Introduces the nonscience major to what the fossil record reveals, the place of humans in the natural world and the biological reasons for modern human physical variation. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 144 Science at the Movies. "An investigation of a wide variety of current scientific topics such as genetic engineering, space exploration and epidemiology through the lens of popular films and television. Students will learn the science behind the stories and critically consider how science and scientists are presented in popular media. MI QLS elective. 3 semester credit hours. Typically offered: periodically.

BIOL 150 Biology of Women. Discusses biology of gender with special emphasis on the physical structure, function and health concerns of women. The intention is that both women and men understand the complex functioning of the female body and women's unique health issues. Intended for non-biology majors. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 155 Anatomy and Physiology. Integrated approach to structure and function of the human body. All the major organ systems will be studied. For physical education majors. Prerequisite: High School Biology and Chemistry. Life-Scientific Mode of Inquiry (QLS). 4 semester credit hours. Life Science Core Elective. Typically offered: spring term. *Department consent required.*

BIOL 160 Plagues and People. This is a course for non-biology majors, as an introductory survey of microbiology that focuses on plagues and their effects on people. It introduces students to collegiate-level thinking and investigating issues in science and biology. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 165 Wine Laboratory and Winery Operations. This course will explore wine making, including all phases of small scale wine production and the biology and chemistry of wine and wine production. For non-science majors. 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 170 Animal Behavior. Exploration of animal behavior including how evolution, genetics and ecology play a role in animal diversity. Intended for non-biology majors. 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 175 Wild Chicago. This course explores the unique biodiversity of the Chicago Region by studying local plants, animals and habitats; investigates past and present negative ecological problems regarding regional natural areas, and delves into the endeavors made to reverse these ecological problems. For non-science majors. 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 180 The Ecology of a Changing Planet. Introduces the nonscience major to the basic ecological processes and science that are involved in many environmental concerns. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

BIOL 191 Selected Topics. Special topics in biology at an introductory level. 1-3 semester credit hours. Life Science Core Elective. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

BIOL 196 Introduction to Biology Lab. This course is designed with selected exercises to reinforce information learned in BIOL198, and to apply statistical and quantitative approaches to biology. This course does not meet the requirements for majors in the department of Biological Science. Co-registration or "C" or better in BIOL 198 or equivalent and "C" or better in MATH 110 or MATH 105 or MATH 108 or above. 1 semester credit hour. Typically offered: fall term.

BIOL 197 Principles of Organismal Biology. Key concepts in organismal biology on which advanced courses will build. Includes introduction to evolution, ecology, development, and reproduction and survey of bacteria, protists, fungi, plants and animals. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: fall and spring terms.

BIOL 198 Principles of Biology. Key concepts in biology on which advanced courses will build. Includes basic biological molecules, molecular biology, cell structure/function, transport processes, bioenergetics and genetics. For science majors. Prerequisite: co-registration or credit in CHEM 113 or CHEM 103. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: fall, spring, and summer terms.

BIOL 199 Principles of Biology Lab. Methods and techniques of laboratory investigation. Co-registration or "C" or better in BIOL 198 or equivalent and "C" or better in MATH 110 or MATH 105 or MATH 108 or above. 1 semester credit hour. Life Science Core Elective. Typically offered: fall and spring terms.

BIOL 201 Physical Anthropology. Focuses on forces producing humans in their present form. The study of evolution, population genetics, and the fossil record. Prerequisite: "C" or better in: BIOL197, BIOL 198, and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 203 Human Anatomy. Study of human organism structure through cadaver observation. Lecture and Lab. A Biology major cannot receive credit for both BIOL 203 and 254. IAI CLS 903; NUR 903. Prerequisite: "C" or better in: BIOL197, BIOL 198, and CHEM 103 or 123. Fee: $130. 4 semester credit hours. Typically offered: fall and spring terms.

BIOL 204 Advanced Botany. A detailed study of the plant kingdom using a morphological and anatomical approach. Labs will consist of microscope slide work, dissections and aspects of plant ecology and physiology. Prerequisite: "C" or better in BIOL 197, BIOL 198, BIOL 199 or 299, and CHEM 123. 3 semester credit hours. Typically offered: fall and spring terms.

BIOL 205 Environmental Science. A survey of environmental science with an emphasis on global concerns, biological and physical resources, resource use, conservation issues, and the interactions among science, society, and the environment. Prerequisite: "C" or better in: BIOL197, BIOL 198, and CHEM 123. Cross-listed BIOL 205/ENVS 205. 3 semester credit hours. Typically offered: fall term.

BIOL 208 General Microbiology. Comprehensive survey of the biology of microorganisms, especially bacteria. Includes topics in growth, metabolism, physiology, taxonomy, ecology and biotechnology. Lecture and lab. IAI CLS 905; NUR 905. Prerequisite [Main Campus]: "C" or better in BIOL 197, BIOL 198, BIOL 199 or 299, and CHEM103 or 123. Prerequisite [Springfield Campus]: BIOL 193, CHEM 121. [Mesa campus]: "C" or better in BIOL 196, BIOL197, BIOL 198 and CHEM 103. 4 semester credit hours. Typically offered: fall and spring terms.

BIOL 224 Field Botany. Identification and classification of native and naturalized flowering plants of Illinois. Prerequisite: "C" or better in BIOL 197, BIOL 198, BIOL 199 or 299 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 228 Vertebrate Embryology. Developmental anatomy, genetics and physiology of vertebrates with emphasis on human development, pregnancy, and birth. Lecture and lab. Prerequisite: "C" or better in: BIOL197, BIOL 198, CHEM 123. 4 semester credit hours. Typically offered: spring term.

BIOL 229 Biostatistics. A quantitative approach to biology; emphasis is on the design and analysis of biological experiments. Prerequisites [Main Campus]: "C" or better in BIOL 197, 198, and 199 or 299 or NTSC 152, CHEM 123. Prerequisites [Springfield campus]: MATH 110 or higher, BIOL 194. 3 semester credit hours. Typically offered: fall and spring terms.

BIOL 230 Plant-Soil Relationships. Topics include effects of soil on plant growth and nutrition and how plants affect the soil. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 249 Parasitology. The morphology and life histories of animal parasites and their relation to the spreading of disease. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 250 Genetics. A survey course emphasizing Mendelian inheritance, molecular, cellular and medical genetics as well as current genetic research and its applications. Prerequisite of "C" or better in BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: fall and spring terms.

BIOL 251 Genetics Laboratory. Designed to illustrate principles formulated in BIOL 250. Prerequisite: Co-Registration or "C" or better in BIOL 250. 1 semester credit hour. Typically offered: fall and spring terms.

BIOL 254 Comparative Vertebrate Anatomy. Comparative and phylogenetic study of the anatomy of vertebrates. Lab and museum work. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 4 semester credit hours. Typically offered: periodically.

BIOL 256 Comparative Animal Physiology. A study of basic life functions in animals emphasizing the mechanisms for maintenance of homeostasis in response to environmental factors such as water and dehydration, salts and ions, temperature, light, and daily and seasonal rhythms. May or may not be offered with lab. Prerequisite: "C" or better in: BIOL 197, BIOL 198, and CHEM 123. 3-4 semester credit hours. Typically offered: periodically.

BIOL 258 Human Physiology. The study of the control and function of human organ systems. Lecture only. IAI CLS 904; NUR 904. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 103 or 123. 4 semester credit hours. Typically offered: fall and spring terms.

BIOL 259 Human Physiology Laboratory. Lab uses standard clinical equipment to illustrate principles of physiology. IAI CLS 904; NUR 904. Prerequisite: "C" or better in BIOL 258. 1 semester credit hour. Typically offered: fall and spring terms.

BIOL 260 Recombinant DNA Lab. Current techniques in manipulating DNA, such as PCR and subcloning, for expression of proteins. Gene product will be studied further in subsequent labs in the series. This lab is intended for Biochemistry/Molecular Biology majors. Prerequisite: "C" or better in BIOL 250. Also, BMB majors must complete the entire introductory sequence of BIOL 197, BIOL 198, BIOL 199, CHEM 113, 114 or 115,123, 124 or 125, and MATH 220 with a "C" or better and a GPA of at least 3.2 prior to taking BIOL 260 (See the section "Acceptance into the BMB program"). 1 semester credit hour. Typically offered: spring term.

BIOL 263 Tropical Ecology. A course on the composition and change in contemporary and historical tropical forests. Includes surveys of plants and animals and their interactions, and ecological concepts controlling biodiversity. Depending on the year, either spring term on-campus lectures with local weekend field trip(s), or summer term longer trip to site in Costa Rica. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 271 Biology of Mammals. The habits, classification, life histories and economic relations of North American mammals. Museum work. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 272 Zoology. An organized presentation of the animal kingdom. The class emphasizes the structure of animal traits and how they help the animal function as an integral whole entity. A secondary goal is comparative anatomy of the animal classes. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 273 Biology of Birds. The habits, classification, and life histories of North American birds. Museum and field study. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 275 Invertebrate Zoology. Survey of major invertebrate animal groups through comparative study of their biodiversity, anatomy, physiology, development, and ecology. Focus on evolutionary relationships and importance of reproductive, development, feeding, mobility, skeletonization, bilaterality, cephalization, terrestrialization, parasitism, and carnivory. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 279 Freshwater Ecology. Relationships between water, animals, plants and humans are investigated using the Shedd Aquarium as the laboratory. An introduction to the components of a freshwater habitat and a survey of the plants and animals that exist there, offered through the ACCA Cooperative College Program. Prerequisite: "C" or better in: BIOL 197, BIOL 198, and CHEM 123. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 280 Marine Mammology. Classification, distribution, feeding habits, physiology anatomy and reproduction of marine mammals will be investigated using the Shedd Aquarium as the laboratory, offered through the ACCA Cooperative College Program. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 281 ACCA Seminar. Evening seminar dealing with advanced topics in biology. Topics are announced. 1 semester credit hour. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

BIOL 282 Vascular Plant Taxonomy. An introduction to the theory and practice of vascular plant classification. Field work and a personal collection are required. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 4 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 283 Contemporary Ethnobotany. A study of the influence of plants on our economic, social and political history, and plants humans have chosen to protect and cultivate. Lab includes horticultural and identification work with economically important plants, and trips to plant conservatories. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 284 Woody Plants of the Western Great Lakes Region. An introduction to the composition and identification of the woody flora of the western Great Lakes region. The impact of geology, climate and soils on the development of woody flora will also be considered. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 4 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 285 Biology of Algae. An introduction to the algae, including the classification, structure and reproduction of major groups. Lab includes field collections and laboratory studies of local freshwater and soil algae. Practical applications in waste management, environmental monitoring and agriculture will be considered. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 4 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 286 Biology of the Fungi. An introduction to the fungi; including classification, structure, ecology, and identification of the significant groups. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 4 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 287 Plant Ecology. Examination of the structure/function relationships of plants to environmental factors, interrelationships of plant communities, laboratory and field techniques, and appropriate literature. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198, and CHEM 123. 4 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 288 Medical Botany. Study of use of plants in medical practice and as sources of medicine. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 289 Plant/Animal Interactions. Studies the special ecological and evolutionary relationships between plants and animals (herbivory, pollination and seed dispersal). Includes natural history, experiments, theory and current research. ACCA Cooperative College Botany Program with the Morton Arboretum. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 4 semester credit hours. Typically offered: periodically. *Department Consent Required.*

BIOL 290 Marine and Island Ecology of the Bahamas. Exploration of habitats and animals found on and around the Bahamian Islands. Includes a nine-day field experience in the Bahamas. Course offered ACCA Cooperative College Program at the Shedd Aquarium. Prerequisite: "C" or better in BIOL 197, BIOL 198, BIOL 199 or 299 and CHEM 123. 4 semester credit hours. Typically offered: spring term. *Department consent required.*

BIOL 291 Selected Topics. Special topics in biology chosen for the interests or needs of students. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 1-4 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

BIOL 292 Biology Teaching. Opportunity for motivated students that have demonstrated excellent ability in theoretical aspects and practical techniques covered in prior laboratory coursework with experience to (1) assist in the teaching of an undergraduate laboratory science course, (2) grade assignments and tests, and (3) prepare reagents and equipment for laboratory use. Maximum of 2 credits allowed towards major. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 1 semester credit hour. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed: 9.*

BIOL 295 Independent Study. Provides opportunity for advanced major to pursue study in a field of biological interest. Prerequisite: "C" or better in: BIOL 197, BIOL 198, and CHEM 123. 1-3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

BIOL 299 Quantitative Biology Laboratory for Transfer Students. Methods and techniques of biology laboratory investigation. Experimental design, data collection and statistical analysis, graphical representation of data, interpretation of results. Includes Biological Science Department orientation activities for transfer students. Credit may not be earned in BIOL 199 and BIOL 299 at Benedictine University. Required for transfer students majoring in the biological sciences. Prerequisite: Transfer credit for BIOL 197, BIOL 198, and BIOL 199. Life-Scientific Mode of Inquiry (QLS). 1 semester credit hour. Typically offered: fall and spring terms.

BIOL 300 Ecology of Lakes and Streams. The study of the interrelations among the physical, chemical, and biological components of freshwater ecosystems. Includes taxonomy, adaptations, distributions and abundance of aquatic organisms. Prerequisite: "C" or better in CHEM 123 and one of: BIOL 201, BIOL 203, or BIOL 250. Cross-listed ENVS / BIOL 300. 3 semester credit hours. Typically offered: periodically.

BIOL 301 Human Evolution. An in-depth look at the physical and behavioral evolution of humans. This course will focus primarily on the human fossil record from seven million years ago to the origin of Homo sapiens, with concentration on the functional anatomy of early humans. Prerequisite: "C" or better BIOL 201 or BIOL 203 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 305 Environmental Toxicology. A study of the toxic effects of chemicals on human and ecological populations. Includes the physiological, genetic, and teratogenic effects of chemicals on humans and the study of biomagnification of chemicals through the food chain. Case studies and risk modeling using computers will be included to integrate theory and regulatory compliance. Prerequisite: "C" or better in CHEM 123 and either BIOL 256 or BIOL 258. Cross-listed with ENVS / BIOL 305. 3 semester credit hours. Typically offered: periodically.

BIOL 310 Physiological Modeling. Students will develop simple models that can be implemented in an Excel spreadsheet and compared with experimental or clinical data when available. Topics covered include drug elimination; distribution of O2, CO2 and glucose; osmosis and homeostasis of erythrocytes; fluid dynamics and blood flow; kinetics of motors, carriers, and RNA; membrane transport and drug delivery; diffusion of neurotransmitters; ion channel permeation and gating; ion channels and the action potential. Intended for Biology and Health Science Majors. Prerequisite: "C" or better in CHEM 123, BIOL 197, BIOL 198 and any 200-level BIOL course. 3 semester credit hours. Typically offered: periodically.

BIOL 313 Evolution. A study of evolutionary processes, including Darwinian and non-Darwinian evolutionary theory, genetic mechanisms, social issues and the role of natural selection in the formulation of species and higher categories. Emphasis is placed on the phylogeny of major animal groups. Prerequisite: "C" or better in BIOL 250 and CHEM 123. 3 semester credit hours. Typically offered: fall term.

BIOL 319 Histology. The microscopic anatomy of the tissues and organs of vertebrates. Lecture and lab. Prerequisite [Main Campus]: "C" or better in BIOL 258 and CHEM 123. Prerequisite [Springfield Campus]: BIOL 217. 4 semester credit hours. Typically offered: periodically.

BIOL 321 Ornithology. The basic biology, evolution, behavior, identification and ecology of birds. Laboratory, museum and field study. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 4 semester credit hours. Typically offered: periodically.

BIOL 322 Paleobiology. Using fossils to understand the evolutionary and ecological history of life. Topics such as mass extinctions, evolutionary diversifications, quantification of evolutionary rates, microevolution and speciation in the fossil record, evolutionary development, evolutionary transitions, fossilization, climate change, competition, functional morphology, conservation biology, and long-term trends in evolution and ecology are covered. Prerequisites: "C" or better in BIOL 204 or 229 or 275 and CHEM 123. 4 semester credit hours. Typically offered: spring term.

BIOL 323 Biophysics. This course provides a calculus based introduction to biophysics and physiological modeling. The course in an integrated lecture and computer lab experience that focuses on scientific modeling and hypothesis testing. Topics covered will be selected from: experimental data analysis; drug elimination (pharmacokinetics); single molecule biophysics. Poisson processes, ligand binding, enzyme kinetics and saturation, ion channel gating, motor proteins and dwell time distributions; molecular dynamics; transport diffusion and random walks; computational fluid dynamics; ion channel permeation and the action potential; osmosis, gastrointestinal and renal functioning; statistical thermodynamics and the second law; free energy transduction, passive transporters and active pumps; hemoglobin, oxygen transport and metabolism. Prerequisites: "C" or better in CHEM 113, CHEM 123, PHYS 212 and MATH 211 or 221. Cross-listed as BIOL/CHEM/PHYS 323. 4 semester credit hours. Typically offered: spring term.

BIOL 325 Biology of Complex Systems. Survey of emergent and organizing principles in complex biological systems modeled as networks. Topics include genome and cellular interaction networks, anatomical networks such as brain and cardiovascular systems, social, linguistic, cultural, and technological networks, and ecological networks. Graph theory and computer software are used to visualize and analyze system properties. Prerequisite: "C" or better in BIOL 250 and CHEM 123. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 333 Plant Physiology. The study of plant functions at all levels - molecular, cellular, organismic and environmental. Prerequisite: "C" or better in BIOL 204 and CHEM 247. 3 semester credit hours. Typically offered: periodically.

BIOL 340 Cell Biology. The study of life processes at the level of molecules, macromolecules, subcellular particles and organelles; integration of structure and function of living things on the suborganismic level. Prerequisite: "C" or better in BIOL 250 and CHEM 242. 3 semester credit hours. Typically offered: fall and spring terms.

BIOL 341 Cell Molecular Biology Laboratory. Techniques in cell and molecular biology. Prerequisite: "C" or better in BIOL 109 or 199; Registration or credit in BIOL 340. 1 semester credit hour. Writing Intensive Course. Typically offered: fall and spring terms.

BIOL 342 BMB Cell Biology Laboratory. Laboratory research problems in cell biology, including literature review, experimental design, data gathering, and evaluation of results. Students keep a laboratory journal, write a formal journal-style report about their research, and present their work orally in a research symposium. Third lab in a 3-semester lab sequence intended for the BMB major. Prerequisite: "C" or better in BIOL 340 and BCHM 362. Writing Intensive. 2 semester credit hours. Typically offered: spring term. *Department consent required.*

BIOL 344 Gross Dissection Anatomy. Dissection of the human cadaver. Prerequisite: "C" or better in CHEM 123 and "B" or better in BIOL 203. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 345 Gross Dissect Anatomy II: Head and Neck. Head and Neck. Prerequisite: "C" or better in CHEM 123 and "B" or better in BIOL 203. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 346 Gross Dissect Anatomy III: Lower Body. Lower Body. Prerequisite: "C" or better in CHEM 123 and "B" or better in BIOL 203. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 354 Immunology. Includes structural and functional components of the immune system, as well as types and control of immune response. Each semester BIOL 208 or BIOL 340. Cross-listed with CLSC 354. 3 semester credit hours.

BIOL 355 Cellular and Molecular Mechanisms of Human Disease I. Mechanisms of human disease that occur in the cardiovascular, lymphatic, pulmonary, renal and digestive systems. Prerequisite: "C" or better in BIOL 340 or BIOL 258 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 356 Cellular and Molecular Mechanisms of Human Disease II. Mechanisms of human disease that occur in the neurological, endocrine, reproductive hematologic, musculoskeletal and integumentary systems. Prerequisite: "C" or better in BIOL 340 or BIOL 258 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 358 Exercise Physiology. Provides an in-depth overview of how the body's physiological, hormonal, and biochemical systems acutely and chronically respond to various forms of physical activity and environmental conditions in untrained and trained individuals. Prerequisite: BIOL 258 or a human physiology course and CHEM 123. Cross-listed as BIOL 358/HLSC 358/EXPH 500. 3 semester credit hours. Typically offered: fall, spring and summer terms.

BIOL 359 Pathophysiology. Integrates the pathological processes of human disease with those of the normal functioning body. Cellular and organismal disease mechanisms are studied with reference to specific diseases, with opportunity to apply this learning to actual case studies. Prerequisite: "C" or better in BIOL 258 or 256 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 360 Endocrinology. A study of the structure and function of the endocrine system. Prerequisite: "C" or better in BIOL 258 and CHEM 123. 3 semester credit hours. Typically offered: spring term.

BIOL 363 Ecology. Study of the relationships of organisms to one another and to their environment. Includes evolutionary, behavioral, population, community, ecosystem, and applied ecology. Prerequisite: "C" or better in BIOL 205 or BIOL 250; CHEM 123; MATH 200, 210 or 220. 3 semester credit hours. Typically offered: fall and spring terms.

BIOL 364 Ecology Laboratory. A field and laboratory course designed to illustrate the principles of basic and applied ecology. Includes field trips, computer simulations, observational studies, and the design and implementation of ecological experiments. Prerequisite: "C" or better in BIOL 229, credit or co-registration in BIOL 363. 1 semester credit hour. Writing Intensive Course. Typically offered: fall and spring terms.

BIOL 365 Molecular Pharmacology. A course introducing students to the molecular foundations of drug action with an emphasis on molecular structure-function relationships. Includes receptor-ligand interactions, agonists and antagonists, and signal transduction pathways Prerequisite: "C" or better in CHEM 247 and BIOL 340 or BIOL 258. BCHM 261 is suggested. fall. 3 semester credit hours. Typically offered: fall term.

BIOL 366 Medical Genetics. An advanced course in which the principles of genetics are applied and explored in clinical and other human settings. Problems in dysmorphology, inborn errors of metabolism, consanguinity, cancer etiology, pregnancy loss, prenatal diagnosis, gene therapy, genetic counseling and ethical issues are explored. Prerequisite: "C" or better in BIOL 250 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 367 Human Embryology. Study of human development from gametogenesis through the neonatal period, including development after delivery. Topics include medical genetics, morphogenesis, normal and abnormal development processes and the role of environment in prenatal development. Prerequisite: "C" or better in BIOL 203 or BIOL 250. 3 semester credit hours. Typically offered: periodically.

BIOL 368 Biomechanics. Principles from the fields of physics, engineering, anatomy and physiology are used to analyze motion of the human body and to describe the forces acting upon the various body segments during normal daily activities. Prerequisite: "C" or better in BIOL 197, BIOL 198, BIOL 203, CHEM 123 and MATH 111. Cross-listed as BIOL 368/EXPH 568. 3 semester credit hours. Typically offered: spring term.

BIOL 369 Neurobiology. Introduction to the nervous system including the human brain and its specialized functions. Topics covered include pathophysiology of the brain, how and why psychotic and other drugs affect the nervous system, and how and why memories are formed. Prerequisite: "C" or better in: CHEM 123, and either BIOL 258 or BIOL 340. 3 semester credit hours. Typically offered: periodically.

BIOL 370 Animal Behavior. A study of how and why animals act and react in their environment, with an emphasis on the evolutionary and ecological aspects. Topics covered include neural mechanisms of behavior, learning, game theory, foraging, communication, reproductive behavior and mating systems, and social behavior. Prerequisite: "C" or better in CHEM 123, BIOL 250 and BIOL 256 or BIOL 258. 3 semester credit hours. Typically offered: periodically.

BIOL 371 Molecular Biology. An advanced study of mechanisms controlling gene and genome organization, expression, regulation, and evolution. Includes viral, prokaryotic, and eukaryotic systems. Exposure to fundamental bioinformatics and Python programming and readings from the primary literature. Prerequisite: "C" or better in BIOL 340. 3 semester credit hours. Typically offered: fall term.

BIOL 372 Genomics and Bioinformatics. A survey of the fields of genomics, proteomics, and metabolomics, and systems biology with an emphasis on using bioinformatics resources and understanding the computational and mathematical basis behind many of the tools used for data mining and analysis. Student project involves Python programming. Prerequisite: "C" or better in BIOL 340 and MATH 224 or MATH 211. 2 semester credit hours. Typically offered: spring term.

BIOL 373 Tropical Ecology. A course on the composition and change in contemporary and historical tropical forests. Includes surveys of plants and animals and their interactions, and ecological concepts controlling biodiversity. Depending on the year, either spring term on-campus lectures with local weekend field trip(s), or summer term longer trip to site in Costa Rica. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 3 semester credit hours. Typically offered: periodically.

BIOL 374 Research Techniques in Molecular Biology. A laboratory course designed to acquaint the student with research methodologies and instrumentation in molecular biology. Prerequisite: "C" or better in BIOL 341. 1-3 semester credit hours. Typically offered: periodically. *Department consent required.*

BIOL 375 Research Techniques in Field Ecology. A hands-on field experience designed to acquaint students with research methodologies in ecology. Project required. Prerequisite: "C" or better BIOL 363 and BIOL 364. 1-2 semester credit hours. Typically offered: periodically.

BIOL 380 Advanced Topics in Biology. A comprehensive study of some selected topic or area in a particular field of biology. Topics will be announced. Prerequisite: "C" or better in BIOL 197, BIOL 198, CHEM 113 and CHEM 123; Senior Standing. 1-2 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 2.*

BIOL 389 Biological Research. Research projects which require extensive use of laboratory or museum facilities. Prerequisite: "C" or better in: BIOL 197, BIOL 198, CHEM 113 and CHEM 123. 1-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 9.*

BIOL 391 Selected Topics. Special courses on various topics with which the student has not become acquainted in formal course work. May be an extension of or a supplement to material previously encountered, or lectures from a completely new area. Prerequisite: Instructor consent and "C" or better in CHEM 123 and one of BIOL 204, 250, 258, 272, 313 or 363. 1-4 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

BIOL 393 Great Ideas in Biology and Medicine. A study in the original writings of some of the great biologists and medial scientists to understand their thoughts and work and the historical development of the scientific method in biology. Capstone course for HLSC majors on the Main Campus. Prerequisites: "C" or better in BIOL 197, BIOL 198 and CHEM 123; 90 credit hours standing. 1 semester credit hour. Writing Intensive Course. Typically offered: fall and spring terms.

BIOL 394 Nature Writing. This course will introduce the literary genre of Nature Writing and explore its ongoing relationship with science. This interdisciplinary course will explore the nature writing of the past and other cultures, as well as trends leading to its future. May be taken as the capstone course for HLSC majors. Prerequisite: "C" or better in: BIOL 197, BIOL 198 and CHEM 123. 1 semester credit hour. Writing Intensive Course. Typically offered: annually.

BIOL 395 Independent Study. Provides opportunity for advanced major to pursue study in a field of biological interest. Prerequisite: "C" or better in: BIOL 197, BIOL 198, CHEM 113 and CHEM 123. 1-3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

BIOL 397 Biology Internship. Practical experiences in the life sciences under the supervision of the biology faculty. Prerequisite: "C" or better in: BIOL 197, BIOL 198, CHEM 113 and CHEM 123. 1-3 semester credit hours. Typically offered: periodically. *Department consent required.*

Business Analytics

BALT 220 Introduction to SAS for Data Analysis. This course will provide an introduction to the SAS programming language. SAS is a 4th generation language that is used in many fields including marketing and finance to analyze data. The language is easy to learn and increases one's analytical capabilities and productivity. 1 semester credit hour. Typically offered: spring term.

BALT 230 Advanced Excel for Business. This course will focus on advanced Microsoft Excel skills needed in a business environment. The topics covered will prepare students to take The Microsoft Excel Intro and Expert certification exams. Prerequisite: CMSC 180/184 and Senior Standing. 1 semester credit hour. Typically offered: fall and spring terms.

BALT 297 Internship. 2-6 semester credit hours. Typically offered: annually.

BALT 301 Managerial Decision Making Under Uncertainty. This course introduces students to the art and science of decision making under constraints such as limited data, uncertainty, and competing objectives. The course provides students with hands on experience using problem solving techniques. Students will be introduced to simulation modeling, optimization techniques, and decision trees. Prerequisite: MGT 150. 3 semester credit hours. Typically offered: fall term.

BALT 310 Visualization Techniques and Dashboarding. There is a proliferation of data within organizations that can be used to reduce expenses and increase profits i.e. gain a competitive edge. Attempting to gain insight into the numbers through text is ineffective. Visualization techniques provide an opportunity to spot trends and patterns. This course focuses on using visualization techniques to develop business insights and dashboards to effectively convey those insights to a non-technical audience. 3 semester credit hours. Typically offered: fall term.

BALT 320 Data and Text Mining. Knowledge discovery and business analytics are core tools used by organizations to direct business decisions, improve strategies, reduce risk and create new business opportunities. This course focuses on algorithm techniques that can be used for knowledge discovery such as classification, association rule mining, clustering, and heuristics. Successful applications of this methodology have been reported in areas such as credit rating, fraud detection, database marketing, customer relationship management, and stock market investments. This course will cover data mining for business intelligence and will cover applications to both data and text. The focus is on several techniques that aim at discovering patterns that can bring value or "business intelligence" to organizations. Examples of such patterns include fraud detection, consumer behavior, and credit approval. The course will cover the most important data mining techniques including: classification, clustering, association rule mining, prediction - through a hands-on approach using SAS Data and Text Miner. 3 semester credit hours. Typically offered: fall term.

BALT 330 Database Structures and Queries. In this course students will be introduced to the basic concepts of databases. The course stresses the storage, retrieval and manipulation of data using SQL and SAS.

Computer software techniques used in business with emphasis on information management and database management systems. Data management and analysis. Major types of database management systems, query languages.
Content:
(a) Introduction to the SAS programming language and SQL
(b) Overview of data warehouse structure and access
(c) Data retrieval for analysis

3 semester credit hours. Typically offered: fall term.

BALT 340 Web Intelligence and Analytics. This course will focus on developing an understanding of web analytics and web intelligence. Students will learn how to: leverage Web site effectiveness and marketing; measure, identify, and interpret key Web metrics and KPIs. Additionally, students will gain an understanding of main data collection techniques, their impact on metrics and their limitations. Insight into the potential of data mining and predictive analytics in the context of the Web will be explored as well as web spiders, web bots and social listening software. 3 semester credit hours. Prerequisite: BALT 320. 3 semester credit hours. Typically offered: periodically.

BALT 350 Business Process Management. This course introduces the latest advances in business process technologies and management such as business process planning, business process requirements analysis, business process modeling, workflow system design and implementation. The course will emphasize a hands-on approach. 3 semester credit hours. Typically offered: spring term.

BALT 360 Social Influence Networks. Social computing is a term used to describe the intersection of human social behavior and technology systems. This course will introduce students to the concepts of social networks from the viewpoint of economists, sociologists, psychologists and technologists. The focus of the course will be on viewing social groups as networks and decision making as a form of game theory. Real world applications such as online auctions and prediction markets will be explored. 3 semester credit hours. Typically offered: periodically.

BALT 380 Business Analytics Capstone. Students will be asked to design and build an innovative research project for presentation at the end of the semester. Students should organize themselves into research project teams and develop their research project. A final written report will be submitted. 3 semester credit hours. Typically offered: periodically.

Business with Science Applications

BSCI 200 Introduction to Science Management. Introduction to Science Management course objectives are: to provide an overview of science management functional areas and how they work in science based industries; to introduce managers from various industries to compare/contrast functional expectations in the context of contemporary industry practices, including: overview of science management and industry; comparison and contrasts between scientific research (to discover knowledge) and business research (to produce value); introduction to finance in scientific companies (discovering valuable solutions and protecting that value in the competitive marketplace); comparing/contrasting the scientific with business research and development cycle; comparing/contrasting the role of the general business manager with other scientific related managers, including: scientific research project manager; development manager; start up CEO, human resources manager; accounting manager; production manager, health and safety manager; marketing manager; regulatory manager; business development manager, purchasing/supply chain manager. 3 semester credit hours. Typically offered: annually. *Department consent required.*

BSCI 210 Science Management: Legal Aspects. Introduces students to at least four different applications of legal and regulatory requirements in scientific industries, including: introduction to intellectual property, patents, corporate intellectual property strategy, and negotiation approaches to corporate intellectual property strategy. 3 semester credit hours. Typically offered: annually. *Department consent required.*

BSCI 220 Science Management: Innovation and Product Development. Innovation and Product Development provides an introduction to the critical skills for effective product development through teams, in the context of the highly professionalized nature of scientific industries. 3 semester credit hours. Typically offered: annually. *Department Consent Required.*

BSCI 230 Science Management: Ethical and Quality Systems. Ethical and Quality Systems provides an introduction to the fundamental requirements for ethical practice and quality in high technology organizations, from both the personal and organizational perspectives. Included is a study of individual moral and value perspectives as the basis for ethical decision making in the context of quality control systems in high technology businesses. Also included is material on corporate social responsibility and sustainability practices reinforced with recent business case analysis. Examples of unsustainable global energy usage as well as alternative, sustainable energy technologies are presented. Main lecture topics are effective character attributes; leading ethical paradigms as they pertain to corporate quality processes, identification of primary quality management tools such as Total Quality Management and Lean Six Sigma; characterization of high performance companies and structuring high technology companies for optimum performance. 3 semester credit hours. Typically offered: annually. *Department consent required.*

BSCI 297 Internship. BSCI 297 Internship provides an internship in a regional scientific organizational setting, to apply and develop program concepts and skills. 1-3 semester credit hours. Typically offered: spring and summer terms. *Department consent required.*

BSCI 380 Capstone. Capstone provides each student a comprehensive research project and team based presentation, with professional external review and feedback on the student's business, scientific and communication skills. Senior Standing. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

Chemistry

CHEM 101 Introduction to Chemistry. The fundamental principles of chemistry with an introduction to inorganic chemistry; including acids, bases, gases, and solutions. Intended for nursing and allied health majors. IAI P1 902. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: fall term.

CHEM 102 Introduction to Chemistry Laboratory. Experiments that explore the principles discussed in CHEM 101. IAI P1 902L. Prerequisite: Registration or credit in CHEM 101. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: fall term.

CHEM 103 Introduction to Organic Chemistry and Biochemistry. The structure, nomenclature, and reactions of organic compounds and an introduction to biochemistry. IAI P1 904. Prerequisite: CHEM 101 or CHEM 123. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: spring term.

CHEM 104 Introduction to Organic Chemistry and Biochemistry Laboratory. Experiments examine the applications of organic and biochemical theory. IAI P1 904L. Prerequisite: Registration or credit in CHEM 103. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: spring term.

CHEM 107 Chemistry: An Experimental Science. Lecture and laboratory component. Develop chemical principles, such as acid-base, kinetics, thermodynamics, and periodicity through observation, demonstration, and experimentation. Designed for education, humanities and social science majors. 3 semester credit hours. Physical Science Core Elective. Typically offered: periodically.

CHEM 113 General Chemistry I. Principles of stoichiometry, aqueous reactions, thermochemistry, electronic structure and bonding, periodicity, phase-related properties and functional groups. IAI P1 902; BIO 906; EGR 961; CHM 911; CLS 906. Prerequisite: "C" or better in MATH 110 or placement into MATH 111 or better and one year of high school chemistry or equivalent. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: fall, spring and summer terms.

CHEM 114 General Chemistry I Laboratory. Separations, quantitative measurements and transfers, and spectrochemical techniques involving organic and inorganic systems. IAI P1 902L; BIO 906; EGR 961; CHM 911; CLS 906. Prerequisite: Registration or credit in CHEM 113. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: fall, spring, and summer terms.

CHEM 115 General Chemistry I Laboratory. Intended for physical science majors or students interested in chemistry or biochemistry. The study and application of laboratory techniques and methods of chemical/biochemical analysis that includes a variety of chromatographic and spectroscopic methods, titrimetry, and sample preparation, data acquisition and statistical analysis, molecular modeling, laboratory safety, and scientific ethics. IAI CHM 911. Prerequisite: Credit or co-registration in CHEM 113. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Typically offered: fall term. *Department consent required.*

CHEM 123 General Chemistry II. Gas laws, principles of intermolecular forces, kinetics, chemical equilibrium, acid/base chemistry, electrochemistry, and nuclear chemistry. IAI BIO 907; CHM 912; CLS 907; EGR 962. Prerequisite: "C" or better in CHEM 113. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: spring and summer terms.

CHEM 124 General Chemistry II Laboratory. Titrimetry, solubility, synthesis, qualitative analysis, and instrumentation for pH, kinetics, and electrochemical processes. IAI BIO 907; CHM 912; CLS 907; EGR 962. Prerequisite: "C" or better in CHEM 114 or CHEM 115 or NTSC 151 and co-registration or credit in CHEM 123. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: spring and summer terms.

CHEM 125 General Chemistry II Laboratory. Completion of the topics listed for CHEM 115 and pH, electrochemistry, equilibrium, and inorganic synthesis. IAI CHM 912. Prerequisite: CHEM 115 and credit or co-registration in CHEM 123. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: spring term. *Department consent required.*

CHEM 190 Selected Topics in Chemistry. Current topics in chemistry. 1 semester credit hour. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

CHEM 231 Analytical Chemistry I. Statistical analysis of data, and the theory and applications of instrumental analysis including spectroscopy, chemical separation, and mass spectrometry. Prerequisite: "C" or better in CHEM 123 and CHEM 124 or CHEM 125 or NTSC 152. 3 semester credit hours. Typically offered: fall term.

CHEM 232 Analytical Chemistry II. Sampling and the theory and applications of gravimetric, titrimetric, electrochemical, thermal, automated and computer assisted methods of analysis. Prerequisite: "C" of better in CHEM 231. 3 semester credit hours. Typically offered: spring term.

CHEM 237 Analytical Chemistry I Laboratory. Optimization, operation, and applications of selected instrumental methods discussed in CHEM 231. Prerequisite: Credit or co-registration in CHEM 231, "C" or better in CHEM 124 or 125 or NTSC 152. 1 semester credit hour. Typically offered: fall term.

CHEM 238 Analytical Chemistry II Lab. Preparation of buffers, standard addition methods, and standardization of acid/base solutions. Quantitative analysis methods including gravimetry, titrations, potentiometry, voltammetry and amperometry that are discussed in CHEM 232. Prerequisite: Credit or co registration in CHEM 232, "C" or better in CHEM 237. 1 semester credit hour. Typically offered: spring term.

CHEM 242 Organic Chemistry I. Introduction to cyclic and acyclic molecules, with an emphasis on organic acids and bases, reaction mechanisms and stereochemistry. Intended for physical and biological science students. IAI BIO 908; CHM 913; EGR 963. Prerequisite: "C" or better in CHEM 123. 3 semester credit hours. Typically offered: fall and summer terms.

CHEM 243 Organic Chemistry I Laboratory. Introduction to organic and biochemical laboratory techniques, separations, purifications and analysis. For non-chemistry majors. IAI BIO 908; CHM 913; EGR 963. Prerequisite: "C" or better in CHEM 124 or CHEM 125 or NTSC 152 and credit or co-registration in CHEM 242. 1 semester credit hour. Typically offered: fall and summer terms.

CHEM 244 Organic Chemistry I Laboratory. Introduction to organic and biochemical laboratory techniques, separations and purifications, with an emphasis on chemical instrumentation. Intended for chemistry and biochemistry/molecular biology majors. IAI CHM 913. Prerequisite: "C" or better in CHEM 124 or 125 or NTSC 152, Credit or co-registration in CHEM 242. 1 semester credit hour. Typically offered: fall term. *Department consent required.*

CHEM 247 Organic Chemistry II. Organic synthesis. A study of the preparations and reactions of aliphatic and aromatic organic compounds and their inter-conversions. IAI BIO 909; CHM 914; EGR 964. Prerequisite: "C" or better in CHEM 242. 3 semester credit hours. Typically offered: spring and summer terms.

CHEM 248 Organic Chemistry II Laboratory. The synthesis, isolation and identification of organic compounds. For non-chemistry majors. IAI BIO 909; CHM 914; EGR 964. Prerequisite: "C" or better in CHEM 243 and credit or co-registration in CHEM 247. 1 semester credit hour. Typically offered: spring and summer terms.

CHEM 249 Organic Chemistry II Laboratory. The synthesis, isolation and identification of organic compounds with an emphasis on spectroscopic analysis. For chemistry and biochemistry/molecular biology majors. IAI CHM 914. Prerequisite: "C" or better in CHEM 244 and credit or co-registration in CHEM 247. 1 semester credit hour. Typically offered: spring term. *Department consent required.*

CHEM 290 Selected Topics in Chemistry. Current topics in chemistry. Prerequisite [Springfield Campus]: Division consent. 1-3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

CHEM 292 Research Literature. Discussion and application of online sources containing scientific publications and other information, e.g., SciFinder. The introduction of a report for a research project will be completed. 1 semester credit hour. Typically offered: spring term.

CHEM 295 Chemistry Teaching. Opportunity for a student to work as a teaching assistant in the chemistry department. 1-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

CHEM 313 Classical Thermodynamics. Properties of gases, relating heat and work, concepts of enthalpy and entropy, laws of thermodynamics, heat engines, thermodynamics of mixing processes and phase changes. Prerequisite: "C" or better in CHEM 123, PHYS 212, and MATH 212. Cross-listed as CHEM/PHYS 313. 3 semester credit hours. Typically offered: fall term.

CHEM 314 Physical Chemistry I Laboratory. Applies principles discussed in CHEM/PHYS 313. Prerequisite: co-registration or credit in CHEM/PHYS 313. Cross-listed as CHEM/PHYS 314. 1 semester credit hour. Writing Intensive Course. Typically offered: fall term.

CHEM 315 Quantum and Statistical Mechanics. Failures of classical physics, development of quantum theory, atomic structure and spectra, statistical mechanics, and statistical thermodynamics. Prerequisites: "C" or better in CHEM/PHYS 313 and co-registration or credit in MATH 260 or 300. Cross-listed as CHEM/PHYS 315. 3 semester credit hours. Typically offered: spring term.

CHEM 316 Physical Chemistry II Laboratory. Applies principles discussed in CHEM/PHYS 315. Prerequisite: Credit or co-registration in CHEM/PHYS 315. Cross-listed as CHEM/PHYS 316. 1 semester credit hour. Writing Intensive Course. Typically offered: spring term.

CHEM 320 Inorganic Chemistry. Principles of structure and bonding, coordination chemistry, organometallic chemistry, and descriptive chemistry. Prerequisite: "C" or better in CHEM 232 and 247. 3 semester credit hours. Typically offered: fall term.

CHEM 321 Inorganic Synthesis Laboratory. Applications of the topics discussed in CHEM 320 including vacuum-line manipulation, inert atmosphere techniques, spectroscopy, and separation methods. Prerequisite: "C" or better in CHEM 320. 1 semester credit hour. Writing Intensive Course. Typically offered: spring term. *Department consent required.*

CHEM 322 Bioinorganic Chemistry. Selected lecture topics include transition metals in biological systems, metals in photosynthesis, metal homeostasis, inorganic compounds in medicine, spectroscopy and biological coordination compounds. Prerequisite: "C" or better in CHEM 232 and CHEM 247. 3 semester credit hours. Typically offered: periodically.

CHEM 323 Biophysics. This course provides a calculus based introduction to biophysics and physiological modeling. The course in an integrated lecture and computer lab experience that focuses on scientific modeling and hypothesis testing. Topics covered will be selected from: experimental data analysis; drug elimination (pharmacokinetics); single molecule biophysics. Poisson processes, ligand binding, enzyme kinetics and saturation, ion channel gating, motor proteins and dwell time distributions; molecular dynamics; transport diffusion and random walks; computational fluid dynamics; ion channel permeation and the action potential; osmosis, gastrointestinal and renal functioning; statistical thermodynamics and the second law; free energy transduction, passive transporters and active pumps; hemoglobin, oxygen transport and metabolism. Prerequisites: "C" or better in CHEM 113, CHEM 123, PHYS 212 and MATH 211 or 221. Cross-listed as BIOL/CHEM/PHYS 323. 4 semester credit hours. Typically offered: spring term.

CHEM 325 Materials Science. This course will explore many of the synthetic (high-temperature, solvothermal, solution, and flux crystal growth) and characterization (X-ray diffraction, Atomic Absorption) techniques common to solid-state/materials chemistry. Lecture and laboratory will be tightly integrated in a studio-style format. Individual, independent research projects aimed at the synthesis of novel inorganic materials will take the place of traditional experiments. On-site powder X-ray diffraction instrumentation will allow for immediate characterization of synthetic products. 3 semester credit hours. Typically offered: summer term. *Department consent required.*

CHEM 334 Bioanalytical Chemistry and Chemical Sensors. Selected lecture topics in spectroscopy, separations, and electrochemistry of biological macromolecules; immunoassays, enzymatic assays, nanomaterials, microfluildic systems, and development and optimization of biological/chemical sensors. CHEM 231 and 247. Prerequisite: "C" or better in CHEM 231 and 247. 3 semester credit hours. Typically offered: periodically.

CHEM 335 Advanced Chemical and Instrumental Analysis. Selected topics in spectroscopy, separations, ionic equilibria, electrochemistry, statistical analysis, and computer-aided instrument control, data acquisition and processing. Prerequisite: "C" or better in CHEM 232 and 247. 3 semester credit hours. Typically offered: periodically.

CHEM 340 Advanced Organic Chemistry. Selected topics in synthetic organic chemistry, emphasizing current reaction methodologies, catalysis and asymmetric transformations. Prerequisite: "C" or better in CHEM 231, 237 and 247. 3 semester credit hours. Typically offered: periodically.

CHEM 357 Molecular Dynamics and Kinetics. Electronic properties of molecules, molecular interactions, molecular motion, chemical kinetics and molecular reaction dynamics. Prerequisite: Credit or co-registration: CHEM/PHYS 315. Cross-listed with CHEM/PHYS 357. 3 semester credit hours. Typically offered: periodically.

CHEM 390 Selected Topics in Chemistry. Current advanced topics in Chemistry. 1-3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

CHEM 393 Chemical Internship. Practical experiences in chemistry under the supervision of the chemistry program. 1-6 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed:6.*

CHEM 398 Chemical Research. Original experimental research conducted under the supervision of a faculty or adjunct faculty member. Projects may be conducted on campus or at an affiliated research facility. Publication and public presentation of the research are course objectives. 1-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

CHEM 399 Research Capstone. This course is intended for final semester seniors finishing their research experience, where students will focus on writing a research thesis and engaging in a public presentation. 1 semester credit hour. Typically offered: fall and spring terms. *Department consent required.*

Chinese

CHIN 101 Elementary Mandarin I. Introduction to the pinyin Romanization system, writing Chinese characters, and the basic structures of the language. Designed to enable students to develop basic communicative skills in reading, writing, listening and speaking. No prerequisite. 3 semester credit hours plus one optional lab hour (required for minors). 3 semester credit hours. Typically offered: fall term.

CHIN 102 Elementary Mandarin II. Continuing study of the basic structures of the language. Designed to enable students to further develop basic communicative skills in reading, writing, listening, and speaking. 3 semester credit hours plus one optional lab hour (required for minors). Prerequisite: CHIN 101 or placement. 3 semester credit hours. Typically offered: spring term.

CHIN 105 Elementary Mandarin I through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on total contact hours.

CHIN 106 Elementary Mandarin II through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on total contact hours.

CHIN 108 Elementary Mandarin I Lab. Additional practice in reading, writing, speaking, and listening. Required for minors. Co-registration with CHIN 101. 0-1 semester credit hours (minors must take it as a 1 credit hour course). Typically offered: fall term.

CHIN 109 Elementary Mandarin II Lab. Additional practice in reading, writing, speaking and listening. Required for minors. Co-registration with CHIN 102. 0-1 semester credit hours (minors must take it as a 1 credit hour course). Typically offered: spring term.

CHIN 191 Conversation and Culture. Provides an introduction to basic conversational Chinese and highlights of Chinese culture. 1 semester credit hour. Typically offered: spring term.

CHIN 201 Intermediate Mandarin I. Continued study of basic structures of the language. Emphasis on extensive language practice in simulated cultural settings, which will enable students to further develop communicative skills in reading, writing, listening and speaking. Prerequisite: CHIN 102 or placement. 3 semester credit hours plus one optional lab hour (required for minors). 3 semester credit hours. Typically offered: fall term.

CHIN 202 Intermediate Mandarin II. Completion of study of basic structures of the language. Introduction to idiomatic expressions. Emphasis on extensive language practice in simulated cultural settings, which will enable students to further develop communicative skills in reading, writing, listening and speaking. Prerequisite: CHIN 201 or placement. 3 semester credit hours plus one optional lab hour (required for minors). 3 semester credit hours. Typically offered: spring term.

CHIN 205 Intermediate Mandarin I through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on contact hours.

CHIN 206 Intermediate Mandarin II through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on contact hours.

CHIN 208 Intermediate Mandarin I Lab. Additional practice in reading, writing, speaking, and listening. Required for minors. Co-registration with CHIN 201. 0-1 semester credit hours (minors must take it as a 1 credit hour course). Typically offered: fall term.

CHIN 209 Intermediate Mandarin II Lab. Additional practice in reading, writing, speaking, and listening. Required for minors. Co-registration with CHIN 202. 0-1 semester credit hours (minors must take it as a 1 credit hour course). Typically offered: spring term.

CHIN 211 Intermediate Mandarin III. Emphasis on intensive acquisition of vocabulary and developing expressive and discursive abilities in written and spoken Chinese. Course also aims to improve reading and listening skills. Prerequisite: CHIN 202 or placement. 3 semester credit hours. Typically offered: fall term.

CHIN 212 Intermediate Mandarin IV. Emphasis on intensive acquisition of vocabulary and developing expressive and discursive abilities in written and spoken Chinese. Course also aims to improve reading and listening skills. Prerequisite: CHIN 211 or placement. 3 semester credit hours. Typically offered: spring term.

CHIN 218 Lab. Additional practice in reading, writing, speaking and listening. Co-registration with CHIN 211. Typically offered: fall term.

CHIN 219 Lab. Additional practice in reading, writing, speaking and listening. Co-registration with CHIN 212. Typically offered: spring term.

CHIN 225 Intermediate Mandarin III through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on contact hours.

CHIN 226 Intermediate Mandarin IV through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on contact hours.

CHIN 291 Topics. Selected topics in Chinese Language, Literature, and Culture. Prerequisite: CHIN 211, placement or instructor consent. 1-3 semester credit hours.

CHIN 295 Independent Study. Designed for the intermediate student who wishes to explore an aspect of Chinese language, literature of culture beyond the scope of the regular course offerings. Prerequisite: CHIN 211, or department consent. *Course repeatable. Maximum number of units allowed: 99.*

CHIN 297 Internship. Professional experience designed to enhance language proficiency and cultural understanding by working in a human service agency, an educational institution or a business agency where Chinese is the primary language. Prerequisite: Approved application. 1-6 semester credit hours. *Department consent required.*

CHIN 302 Directed Studies in Chinese. Students undertake study of Chinese-language content in their own area of academic interest and specialization, including use of multimedia content. Delivered at least in part in Mandarin, using a Language Across the Curriculum model. Could be equivalent to advanced courses in study abroad. Prerequisite: CHIN 211 or Instructor consent. 3 semester credit hours. Typically offered: periodically.

CHIN 391 Advanced Topics in Chinese Language, Literature and Culture. Advanced level study of topics in Chinese language, culture, civilization and/or literature. Prerequisite: CHIN 212, or department consent. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

CHIN 395 Independent Study. Designed for the advanced student who wishes to explore an aspect of Chinese language, literature, civilization or culture beyond the scope of the regular course offerings. Prerequisite: CHIN 212, or department consent. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

CHIN 397 Internship. Advanced professional experience designed to enhance language proficiency and cultural understanding by working in a human service agency, an educational institution or a business agency in a country where Chinese is the primary language. Prerequisite: Approved application. 1-6 semester credit hours. *Department consent required.*

Clinical Laboratory Sciences

CLSC 354 Immunology. Includes structural and functional components of the immune system, as well as types and control of immune response. Prerequisite [Main Campus]: "C" or better in BIOL 208 or BIOL 340 and CHEM 123. Prerequisite [Springfield Campus]: BIOL 208 or BIOL 343. 3 semester credit hours. Typically offered: spring term.

CLSC 390 Hematology. Study of blood and bone marrow cells including the enumeration, identification, and classification of these cells. Comparison of normal structure and function versus the abnormal and malignant states in platelet, red cell, and white cells series. Includes lab. 5 semester credit hours. *Department consent required.*

CLSC 391 Clinical Microbiology. The various techniques, including Molecular Biology methodologies, involved in identification of normal human flora, the study and isolation techniques of aerobic and anaerobic pathogens, mycobacteria and viruses, and their relationship to disease. Includes lab. 6 semester credit hours. Department consent required.

CLSC 392 Clinical Biochemistry. The application of the principles of medical biochemistry and physiology related to the methodology and evaluation of clinical chemistry procedures. The correlation of chemistry data to disease manifestations. Includes lab. 8 semester credit hours. Department consent required.

CLSC 393 Immunoserology. Study of the principles and procedures involved in the humoral- and cell-mediated reaction in normal and abnormal states; including deficiency states, infectious states, autoimmune disease and transplantation. Includes lab.
3 semester credit hours. *Department consent required.*

CLSC 394 Immunohematology. Study of the many human blood antigens and antibodies, their identification by various standard techniques, cross-matching for transfusions and component therapy. Procurement and preparation of blood products and dispensing. Includes lab.
4 semester credit hours. *Department consent required.*

CLSC 395 Clinical Microscopy/Urinalysis. Study of principles and procedures of qualitative and quantitative urinalysis as related to renal function in health and disease. Examination of urine and other body fluids to correlate laboratory data to disease manifestations. Includes lab.
2 semester credit hours. *Department consent required.*

CLSC 396 Coagulation. Study of the coagulation mechanisms found in the normal and disease states, coagulation testing procedures, and their use in diagnosing bleeding disorders and hypercoagulable states. Includes lab. 2 semester credit hours. *Department consent required.*

CLSC 397 Special Topics. Designed to broaden the background of the medical technology students. 2 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed:4.*

Communications

COMM 150 Introduction to Media Studies and Mass Persuasion. A writing and speaking-intensive introduction to communication arts theory and research, with an emphasis on analyzing mass media messages and understanding their underlying cultural and historical contexts. 3 semester credit hours. Writing Intensive Course. 3 semester credit hours. Writing Intensive Course.

COMM 201 Advertising Persuasion and Consumer Society. A critical examination of Madison Avenue's advertising images and narratives. Students in the class learn how to recognize the hidden persuasion techniques that are used in advertising. Writing and speaking intensive Meets QLR mode of inquiry elective. 3 semester credit hours. Typically offered: spring term.

COMM 207 Editing for Publications. Introduction to the principles and practices of editing for books, magazines, and newspapers. Prerequisite: WRIT 102 or 103 or HNRS 190. 3 semester credit hours.

COMM 208 Layout and Design for Publication. Graphic design principles and professional processes are emphasized. Print projects may include advertising, newspaper, magazine and other projects using InDesign and Photoshop. 3 semester credit hours.

COMM 209 Newswriting and Reporting. Principles and practice in gathering and writing news as well as preparing copy for publication. IAI MC 919. Prerequisite: WRIT 101. 3 semester credit hours. Writing Intensive Course. Typically offered: fall term. 3 semester credit hours. Writing Intensive Course.

COMM 235 Photojournalism. Teaches the skills in creating and evaluating images for photojournalism purposes. 3 semester credit hours.

COMM 250 Masters of the American Cinema. A historical study of representative fiction film makers from D.W. Griffith to Spike Lee. IAI F2 908. 3 semester credit hours. Communications Core Elective. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Communications Core Elective.

COMM 251 History of Film. A cross-cultural study of the development of the cinema from its late 19th century origins to the present. IAI F2 909. Communications Core Elective. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours.

COMM 253 Public Relations Writing. Focuses on writing for print media. Students prepare news releases, newsletters and feature stories. Prerequisite: WRIT 102 or 103 or HNRS 190. 3 semester credit hours. Typically offered: fall term.

COMM 254 Writing for the Electronic Media. A practical course designed to expose students to the various approaches, forms and techniques of writing for the electronic media. IAI MC 917. Prerequisite: WRIT 102 or 103 or HNRS 190. 3 semester credit hours.

COMM 255 Television Production. Laboratory course introducing students to the technical and aesthetic principles utilized in preparing programming for television. IAI MC 916. Fee: $45. 3 semester credit hours. Typically offered: fall term.

COMM 256 International Film. A study of the film form as seen in the most important films produced outside the United States. 3 semester credit hours. Communications Core Elective. Typically offered: periodically.

COMM 259 Italian Cinema from 1945 to 1975. The course focuses on Italian cinema as a form of artistic expression and a critique of the existing social reality. QCA Mode of Inquiry Elective. 3 semester credit hours. Typically offered: fall term.

COMM 263 Advertising Copywriting. Covers the fundamentals of writing copy and designing advertising for all forms of print and electronic media. Prerequisite: WRIT 101. 3 semester credit hours. Typically offered: periodically.

COMM 264 Sports Journalism. This course is designed for students to adapt skills learned in COMM 209 toward a variety of sports environments and applications. The students will write press releases and do hard news reporting, and be informed of the inner workings of the sports communication environment. 3 semester credit hours.

COMM 265 Sports Broadcasting. Students will apply basic skills learned in COMM 254/255 to a variety of video and multimedia applications. Emphasis will be on writing effective sports stories, conducting professional-looking standups, and covering the sports beats on campus. Students will also produce a half-hour sports cable show. 3 semester credit hours.

COMM 291 Topics. Study of aspects of communication on the intermediate level not listed as regular course offerings. Prerequisite: WRIT 102. 3 semester credit hours. Fine Arts Core Elective. *Course repeatable. Maximum number of units allowed: 99.*

COMM 295 Independent Study. Designed for the student who wishes to explore aspects of communications not normally offered in the regular curriculum. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

COMM 297 Internship. Practical experience in public relations, electronic media, journalism, advertising or multimedia supervised by the Communication Arts department. Up to three internship hours may be applied toward the 39 hour major requirement. Up to 12 hours may apply toward the 120 hours for graduation. Prerequisite: Consent of internship coordinator, and at least 3.0 GPA. 2-6 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 12.*

COMM 301 Research Practicum. Students conduct original research and present their findings at a student conference. Prerequisite: completion of one COMM theory course at the 300 level with a grade of "B" or above and consent of the Instructor. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

COMM 302 Arts Practicum. Students create original communication arts works to present at student exhibitions. Prerequisite: completion of one COMM Arts applied course at the 300 level and consent of the Instructor. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

COMM 309 Global Journalism. Students will gain the skills needed to cover news stories in a foreign country along with the ability to analyze global media content. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

COMM 316 Advanced Television Production. Emphasis on development of directing and post-production skills, with focus on aesthetic and technical principles. Prerequisite: COMM 254 and COMM 255. 3 semester credit hours. Communications Core Elective. Typically offered: spring term.

COMM 317 Mass Media Law and Ethics. Examines the many legal and ethical issues related to the mass media. Prerequisite: WRIT 102 or HNRS 191. 3 semester credit hours. Typically offered: fall term.

COMM 337 Advanced Journalism Writing. Students practice the major styles of journalistic writing beyond newswriting: public affairs reporting, feature writing, magazine writing and editorial writing. Prerequisite: COMM 209. 3 semester credit hours. Writing Intensive Course. Typically offered: fall term.

COMM 353 Advanced Seminar in Writing, Editing, and Page Design for Publications. In this seminar, students work on a major publications project, engage in critical reading of media content, discuss writing, editing and page design strategies, have drafts of their work critiqued in class, and develop a professional portfolio of the work. Prerequisite: COMM 150, COMM 207, COMM 208 and COMM 209. 3 semester credit hours. Writing Intensive Course. Typically offered: periodically. *Department consent required.*

COMM 381 Multimedia Production for the Web. Students experiment with a variety of web-based materials, explore different uses of social media and learn to build web pages in HTML and CSS. 3 semester credit hours. Typically offered: spring term. *Department Consent Required.*

COMM 382 Nonlinear Editing for Audio and Video. Students learn and apply advanced computer editing skills in audio and video to produce a variety of video projects. Prerequisite: COMM 255. 3 semester credit hours.

COMM 384 Recording and Popular Music in America. An examination of American music over the past 125 years and its role in media and culture. There will also be a thorough examination of recording technology from Thomas Edison's first devices through the present day. Meets QLR mode of inquiry elective. 3 semester credit hours. Typically offered: periodically.

COMM 385 Television and Society. An in-depth investigation of the television industry and its impact on American and world culture. Prerequisite: WRIT 102. 3 semester credit hours. Typically offered: periodically.

COMM 386 Media and Government. Examines major theoretical models of a central problem in mass communications from historical and cross-cultural perspectives. Prerequisite: WRIT 102. 3 semester credit hours. Typically offered: periodically.

COMM 388 Studies in Film Theory and Criticism. Selected topics in film theory and criticism. 3 semester credit hours. Communications Core Elective. *Course repeatable. Maximum number of units allowed: 9.*

COMM 390 Images of Men and Women in Advertising. A critical investigation of how we are influenced in the way we think about gender and gender relationships. Prerequisite: WRIT 102. 3 semester credit hours. Typically offered: periodically.

COMM 391 Topics. Study of aspects of communications on the advanced level not covered in the above course offerings. Prerequisite: COMM 207, COMM 208, WRIT 102. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

COMM 392 Senior Project. Advanced applications in a focused area of communications beyond other upper level courses. Senior Project does not count towards the 39 hours required for a degree in communication arts. Prerequisite: Senior standing, completion of or concurrent enrollment in communications courses totaling 39 hours, and approval of proposal prior to semester in which the student is enrolled. 3 semester credit hours. *Department consent required.*

COMM 393 Senior Portfolio. Required of all Communication Arts majors, this course is designed to help the student improve the appearance, content and organization of their Senior Portfolio. Prerequisite: Senior Standing. 3 semester credit hours.

COMM 395 Independent Study. Designed for the superior student who wishes to explore an aspect of communication beyond the scope of undergraduate course offerings through guided independent study. Prerequisite: COMM 207 and GPA of 3.5 in major. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units: allowed 99.*

Computer Information Systems

CIS 127 Information Technology in Management. This course is designed to provide students with an awareness of the changing nature of technology and the related management issues. It will demonstrate solutions to business problems from a management, technical and organizational perspective. Finally it will provide familiarity with the language of technologists to ease the communication gap between business and technology. The technology covered in the class will include hardware, software, communications, database, emerging technologies, internet and intranets. Prerequisite: Acceptance into Adult Learning Team or Online Program. 3 semester credit hours.

CIS 180 Introduction to Computing. An introduction to the fundamental principles of computing and the computers relevance and impact on the world today with an overriding theme of algorithms. Topics include hardware, software, data representation, networks, and databases with applications in simulation, modeling, electronic commerce and artificial intelligence. Computational, Mathematical and Analytical Mode of Inquiry QCM). 2 semester credit hours. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CIS 181 Visual Programming Laboratory. Provides programming fundamentals, with applications developed in a visual programming language. Programming topics include variables, formatted output, looping, conditional execution, subroutines and functions. Prerequisite: co-registration or credit in CIS/CMSC 180. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 2 semester credit hours. Math Computer Science Core Elective. Typically offered: periodically.

CIS 182 Science Applications Laboratory. A laboratory experience for all students interested in analyzing, processing, graphing, displaying, and presenting scientific data through the use of spreadsheet software (Microsoft Excel). Co-registration or credit in CIS/CMSC 180. Computational, Mathematical and Analytical Mode of Inquiry (QCM). 1 semester credit hour. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CIS 183 Office Suite Laboratory. Introduction to the software applications of word processing, spreadsheets, and presentation software using the Microsoft Office Suite for Windows. Prerequisite: co-registration in CIS/CMSC 180. 1 semester credit hour. Math Computer Science Core Elective. Typically offered: periodically.

CIS 184 Microsoft Excel Laboratory. Introduction to the software application of spreadsheets using Microsoft Excel. Designed for students interested in manipulating, organizing, analyzing, and presenting numerical data and information within the context of business applications. Co-registration or credit in CIS/CMSC 180. Computational, Mathematical and Analytical Mode of Inquiry (QCM). 1 semester credit hour. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CIS 185 Python Programming Laboratory. An introduction to the fundamentals of programming in Python for students interested in engineering, physics, and computer science. Programming topics include problem solving, variables, calculations, I/O, conditions, looping and functions. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 2 semester credit hours. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CIS 186 Web Development Laboratory. An introduction to the fundamentals of web design and implementation of client side web applications geared for students in the arts and humanities and education. Topics include HTML and Javascript for webpage design and interactive applications. Computational, Mathematical and Analytical Mode of Inquiry (QCM). 1 semester credit hour. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CIS 200 Computer Programming. An introduction to software design, algorithm development and implementation with a high-level programming language. Elementary programming structures, functions, and text and file processing. Functional and object-oriented design and programming, real world and application modeling, testing and debugging. Prerequisites: CIS 181 or CMSC 181, MATH 105 or 110. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 4 semester credit hours. Math Computer Science Core Elective. Typically offered: spring term.

CIS 205 Data Structures and Algorithms I. The study of internal data structures, their applications and implementations including one and two dimensional arrays, lists, stacks, queues, linked lists, and tree structures. Introduction to object-oriented programming. Prerequisite: CIS 200 or CMSC 200. 3 semester credit hours. Typically offered: fall term.

CIS 220 Introduction to Computer Systems. Basic data representation, logic design, memory organization, CPU organization, bus structures, assembly language, arithmetic calculation, addressing modes, data organization, subprogram mechanisms, integer and floating point representations, instruction representation, pipelining, microprogramming, input and output, and interrupts. fall. Prerequisite: CIS 200 or CMSC 200. 3 semester credit hours. Writing Intensive Course. Typically offered: fall term.

CIS 264 Introduction to Web Application Development. An introduction to modern web application development with a focus on the client-side. Topics include: HTML, XML, JavaScript, PHP, CSS and RESTful Web services. Prerequisite: CIS 205 or CMSC 205. 2 semester credit hours. Typically offered: spring term.

CIS 274 Object-Oriented Design and Programming. Investigation of object-oriented design and programming through the use of the Java programming language. Includes classes, inheritance, binding, persistence and operator overloading. Prerequisite: CIS 205 or CMSC 205. 2 semester credit hours. Typically offered: spring term.

CIS 300 Information and File Storage Systems. Introduction to file systems and file processing. Data storage and access techniques for sequential, random and indexed file organizations. Hashing, index structures, B-trees and their derivatives. Inverted and embedded multilist file organizations. Data Mining. Prerequisite: CIS 205. 3 semester credit hours. Typically offered: periodically.

CIS 330 Database Management Systems. Designing, using, and implementing database systems and applications. Primary emphasis on the relational data model. ER diagrams, relational algebra, query languages, functional dependency theory, normalization techniques, query processing and optimization, concurrency control, recovery and security. Prerequisite: CIS 274 or CMSC 274. 3 semester credit hours. Typically offered: spring term.

CIS 331 Database Management Systems Practicum. A hands-on experience with current issues in database management systems. Topics may include Advanced SQL; database administration; and database connectivity through programming, windows applications, and the internet. Prerequisite: Credit or co-registration in CIS 330 or CMSC 330. 1 semester credit hour. Typically offered: spring term.

CIS 365 Computer Networks and Data Communication. An introductory course in computer networking and data communications. Theory of a computer network is presented and various types of networks including local area, wide area, and global networks are discussed. Detailed discussion of the Internet Protocol suite (TCP/IP) will be provided. Theory topics include network architecture, data transmission techniques, network topologies, network media, and network security. In addition, the student learns how to use network operating systems. Case studies cover Windows NT, Novell, the Internet, and intranet systems. Prerequisite: CIS 220 or CMSC 220 and junior standing. 3 semester credit hours. Typically offered: spring term, odd years.

CIS 366 Computer Networks Practicum. A hands-on experience with current issues in computer networks. Development and implementation of stand-alone and web-based client/server applications. Prerequisite: Credit or co-registration in CIS 365 or CMSC 365. 1 semester credit hour. Typically offered: spring term, odd years.

CIS 374 Advanced Web Application Development. An in-depth study of building large-scale Web Applications focusing on the MBC design pattern. Topics include: XML, Java Servlets, JSP, JSTL, EJB, SOAP, mobile application development, database APIs, AJAX, application frameworks and system load testing. 3 semester credit hours. Typically offered: periodically.

CIS 376 Systems Analysis and Design. Tools and techniques associated with the analysis and design of application systems are studied and evaluated. Traditional and state-of-the-art system development life-cycle methodologies are examined. Specific topics include construction and evaluation of user interviews, data flow diagrams, data dictionaries, decision tables and trees and use of prototyping techniques and computer-aided software engineering tools. The course project requires team analysis and design of a new application system. Prerequisite: CIS 205 and one of FINA 300, MGT 300, or MKTG 300. 3 semester credit hours. Typically offered: fall term, odd years.

CIS 391 Selected Topics. Various topics to supplement the curriculum. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 12.*

CIS 395 Independent Study. Designed to encourage superior students to continue the study of computer information systems beyond the scope of undergraduate course offerings, through guided independent study. Department consent needed. 1-3 semester credit hours. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed:3.*

CIS 396 ACCA Seminar. Evening seminar at Associated Colleges of Chicago Area schools dealing with advanced topics in computer science. Topics are announced in advance. 1 semester credit hour. Typically offered: fall term. *Department consent required. Course repeatable. Maximum number of units allowed:3.*

CIS 397 Undergraduate Project. Independent work on a project supervised by a faculty member in the program. 1-3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

CIS 398 Capstone Project. A team-oriented, software engineering project experience to implement a solution to an information-based problem. Prerequisite: Senior Standing, CIS 376 or CIS 388. 3 semester credit hours. Typically offered: spring term.

CIS 399 Internship. Prerequisite: GPA of 2.5 in information system coursework. 1-6 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

Computer Science

CMSC 100 Introduction to PC Software Applications. Introduction to the software applications of word processing, spreadsheet, and database management using the Microsoft Office Suite for Windows. For non-majors. 3 semester credit hours.

CMSC 180 Introduction to Computing. An introduction to the fundamental principles of computing and the computers relevance and impact on the world today with an overriding theme of algorithms. Topics include hardware, software, data representation, networks, and databases with applications in simulation, modeling, electronic commerce and artificial intelligence. Computational, Mathematical and Analytical Mode of Inquiry (QCM). 2 semester credit hours. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CMSC 181 Visual Programming Laboratory. Provides programming fundamentals, with applications developed in a visual programming language. Programming topics include variables, formatted output, looping, conditional execution, subroutines, functions. Prerequisite: co-registration in CIS/CMSC 180. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 2 semester credit hours. Math Computer Science Core Elective. Typically offered: periodically.co-registration

CMSC 182 Science Applications Laboratory. A laboratory experience for all students interested in analyzing, processing, graphing, displaying, and presenting scientific data through the use of spreadsheet software (Microsoft Excel). Co-registration or credit in CIS/CMSC 180. Computational, Mathematical and Analytical Mode of Inquiry (QCM). 1 semester credit hour. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CMSC 183 Office Suite Laboratory. Introduction to the software applications of word processing, spreadsheets, and presentation software using the Microsoft Office Suite for Windows. Prerequisites: co-registration or credit in CIS/CMSC 180. 1 semester credit hour. Math Computer Science Core Elective. Typically offered: periodically.

CMSC 184 Microsoft Excel Laboratory. Introduction to the software application of spreadsheets using Microsoft Excel. Designed for students interested in manipulating, organizing, analyzing, and presenting numerical data and information within the context of business applications. Co-registration or credit in CIS/CMSC 180. Computational, Mathematical and Analytical Mode of Inquiry (QCM). 1 semester credit hour. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CMSC 185 Python Programming Laboratory. An introduction to the fundamentals of programming in Python for students interested in engineering, physics, and computer science. Programming topics include problem solving, variables, calculations, I/O, conditions, looping, and functions. Co-registration or credit in CIS/CMSC 180. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 2 semester credit hours. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CMSC 186 Web Development Laboratory. An introduction to the fundamentals of web design and implementation of client side web applications geared for students in the arts and humanities and education. Topics include HTML and Javascript for webpage design and interactive applications. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 1 semester credit hour. Math Computer Science Core Elective. Typically offered: fall and spring terms.

CMSC 200 Computer Programming. An introduction to software design, algorithm development and implementation in a high-level programming language. Elementary programming structures, functions, and text and file processing. Functional design and programming, real world and application modeling, testing and debugging. Prerequisites: CIS 180 or CMSC 180, MATH 105 or MATH 110. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 4 semester credit hours. Math Computer Science Core Elective. Typically offered: spring term.

CMSC 205 Data Structures and Algorithms I. The study of internal data structures, their applications and implementations including one and two dimensional arrays, lists, stacks, queues, linked lists and tree structures. Introduction to object-oriented programming. Prerequisite: CMSC 200 or CIS 200. 3 semester credit hours. Typically offered: fall term.

CMSC 220 Introduction to Computer Systems. Basic data representation, logic design, memory organization, CPU organization, bus structures, assembly language, arithmetic calculation, addressing modes, data organization, subprogram mechanisms, integer and floating point representations, instruction representation, pipelining, microprogramming, input and output, and interrupts. Prerequisite: CIS 200 or CMSC 200. 3 semester credit hours. Writing Intensive Course. Typically offered: fall term.

CMSC 264 Introduction to Web Application Development. An introduction to modern web application development with a focus on the client-side. Topics include: HTML, XML, JavaScript, PHP, CSS and RESTful web services. Prerequisite: CIS 205 or CMSC 205. 2 semester credit hours. Typically offered: spring term.

CMSC 270 Data Structures and Algorithms II. The further study of internal data structures including AVL-trees, B-trees and graphs. Internal sorting algorithms, hashing, and recursion. Algorithm analysis techniques. Prerequisite: CMSC 205 or CIS 205. 3 semester credit hours. Typically offered: spring term.

CMSC 274 Object-Oriented Design and Programming. Investigation of object-oriented design and programming through the use of the Java programming language. Includes classes, inheritance, binding, persistence, and operator overloading. Prerequisite: CIS 205 or CMSC 205. 2 semester credit hours. Typically offered: spring term.

CMSC 310 Operating Systems. Process and thread management, multiprocessing, kernels and microkernels, mutual exclusion, semaphores, monitors, message passing, deadlock, memory management, paging, segmentation, interprocessor communication and multitasking. Prerequisites: CMSC 220 and CMSC 274 or CIS 220 and CIS 274. 3 semester credit hours. Typically offered: fall term, odd years.

CMSC 311 Operating Systems Practicum. A hands-on experience with current issues in operating systems. An internal view of the operating system using the Unix kernel. Inspecting the OS internal state, extending the OS, re-implementing existing data structures and designing new functionality. Linux kernel projects and programming. Prerequisite: Credit or co-registration in CMSC 310. 1 semester credit hour. Typically offered: fall term, odd years.

CMSC 315 Formal Language and Automata. Introduction to automata theory, relationships between regular expressions, finite state automata and grammars, pushdown automata, closure properties on grammars, and the Chomsky hierarchy of grammars. Prerequisite: CMSC 274 or CIS 274. 3 semester credit hours. Typically offered: periodically.

CMSC 330 Database Management Systems. Designing, using, and implementing database systems and applications. Primary emphasis on the relational data model. ER diagrams, relational algebra, query languages, functional dependency theory, normalization techniques, query processing and optimization, concurrency control, recovery and security. Prerequisite: CIS 274 or CMSC 274. 3 semester credit hours. Typically offered: spring term.

CMSC 331 Database Management Systems Practicum. A hands-on experience with current issues in database management systems. Topics may include Advanced SQL; database administration; and database connectivity through programming, windows applications, and the internet. Prerequisite: Credit or co-registration in CIS 330 or CMSC 330. 1 semester credit hour. Typically offered: spring term.

CMSC 350 Numerical Analysis. Numerical methods for isolating roots, solving systems of linear equations, interpolation, and evaluating derivatives and definite integrals. Prerequisite: "C" or better in MATH 211 and programming experience. 3 semester credit hours. Typically offered: periodically.

CMSC 351 Numerical Analysis Practicum. A hands-on experience with issues in numerical analysis. Topics may include the application of parallel processing capabilities to numerical problems, extend accuracy computations, computational aspects of large physical problem modeling, or experimental relationships between accuracy and complexity in numerical computations. Prerequisite: Credit or co-registration in MATH 380. 1 semester credit hour. Typically offered: periodically.

CMSC 365 Computer Networks and Data Communication. An introductory course in computer networking and data communications. Theory of a computer network is presented and various types of networks including local area, wide area, and global networks are discussed. Detailed discussion of the Internet Protocol suite (TCP/IP) will be provided. Theory topics include network architecture, data transmission techniques, network topologies, network media, and network security. In addition, the student learns how to use network operating systems. Case studies cover Windows NT, Novell, the Internet, and intranet systems. Prerequisite: CIS 220 or CMSC 220 and junior standing. 3 semester credit hours. Typically offered: spring term, odd years.

CMSC 366 Computer Networks Practicum. A hands-on experience with current issues in computer networks. Development and implementation of stand-alone and web-based client/server applications. Prerequisite: Credit or co-registration in CIS 365 or CMSC 365. 1 semester credit hour. Typically offered: spring term, odd years.

CMSC 370 Algorithm Design and Analysis. Methods of designing efficient algorithms including divide and conquer, backtracking, greedy approach, dynamic programming and branch-and-bound. Complexity analysis of algorithms including computational complexity and NP-complete problems. Prerequisite: CMSC 270. 3 semester credit hours. Typically offered: spring term, even years.

CMSC 374 Advanced Web Application Development. An in-depth study of building large-scale Web Applications focusing on the MBC design pattern. Topics include: XML, Java Servlets, JSP, JSTL, EJB, SOAP, mobile application development, database APIs, AJAX, application frameworks and system load testing. 3 semester credit hours. Typically offered: periodically.

CMSC 375 Software Engineering. Software development life cycle, the role of project management, software documentation, and software maintenance and support. Students will do a complete project from the concept phase through the software development cycle. Prerequisite: CMSC 274 or CIS 274. 3 semester credit hours. Writing Intensive Course. Typically offered: fall term.

CMSC 380 Artificial Intelligence. Problem solving methods such as logic programming and heuristic search strategies are applied to topics such as game playing, pattern recognition, natural language processing, theorem proving, and expert systems. Prerequisite: CMSC 270. 3 semester credit hours. Typically offered: periodically.

CMSC 385 Theory of Programming Languages. Organization of programming languages analyzed through representative languages. Introduction to concepts of programming language specification and analysis. Includes type issues, scope, subprograms, runtime behavior and models of programming. Prerequisite: CMSC 274 or CIS 274. 3 semester credit hours. Typically offered: fall term, even years.

CMSC 386 Programming Languages Practicum. A hands-on experience with current issues in programming languages. A more in-depth view of modern languages such as Perl, C#, VB Script and JavaScript and historical languages such as LISP, Prolog, FORTRAN and COBOL. Prerequisite: Credit or co-registration in CMSC 385. 1 semester credit hour. Typically offered: fall term, even years.

CMSC 387 Independent Study. Typically offered: fall and spring terms.

CMSC 388 Computer Graphics. Topics include point-plotting techniques, line-drawing displays, two-dimensional transformations, clipping and windowing, raster graphics, three-dimensional graphics, hidden-surface elimination, and ray tracing. Prerequisite: CMSC 270. 3 semester credit hours. Typically offered: periodically.

CMSC 391 Selected Topics. Various topics to supplement the curriculum. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 12.*

CMSC 396 ACCA Seminar. Evening seminar at Associated Colleges of Chicago Area schools dealing with advanced topics in computer science. Topics are announced in advance. 1 semester credit hour. Typically offered: fall term. *Department consent required. Course repeatable. Maximum number of units allowed:3.*

CMSC 397 Undergraduate Project. Independent work on a project supervised by a faculty member in the program. 1-3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

CMSC 398 Capstone Project. A team-oriented, software engineering project experience to implement a solution to an information-based problem. Prerequisite: Senior Standing, CMSC 375. 3 semester credit hours. Typically offered: spring term.

CMSC 399 Internship. Prerequisite: GPA of 2.5 in computer science course work and consent of instructor. 1-6 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

Criminal Justice

CJUS 150 Introduction to Statistics. Basic course in statistical techniques which includes measures of central tendency, probability, sampling, estimation and hypothesis testing. For non-business majors. IAI M1 902. Prerequisite: "C" or better in MATH 105 or MATH 110. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 3 semester credit hours. Typically offered: fall, spring and summer terms.

CJUS 195 Research Practicum. Participation in on-going departmental research. 1-3 semester credit hours. Typically offered: fall, spring, and summer terms. *Department consent required.*

CJUS 205 Racial and Ethnic Groups. The nature of prejudice. Studies of ethnic relations in America and other societies. IAI S7 903D. Cross-listed with Cjus 205. 3 semester credit hours. Typically offered: spring term.

CJUS 206 Juvenile Justice. Treatment of the juvenile offender in the Juvenile Justice System. Emphasis is on theory, research, principles of law as they apply to the juvenile, causation, prevention, the role of the police and the courts and juvenile corrections and treatment of the convicted offender. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: periodically.

CJUS 233 Police Systems. Historical overview of the development of policing systems from early societies to the present. Overview of different police systems throughout the modern world and how they operate. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: periodically.

CJUS 240 Social Problems. Effects of social change, disorganization and value conflict on family life, mental health, ethnic relations, crime and delinquency, related topics. IAI S7 901. Prerequisite: SOCL 100. 3 semester credit hours. Typically offered: spring term.

CJUS 243 Ethics in Policing. Ethical issues faced by law enforcement officers in the course of their personal and professional lives. Basic ethical theory is examined as it applies to selected issues and cases. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: periodically.

CJUS 250 Basic and Applied Statistics. Acquaints students with descriptive statistical techniques (including measures of central tendency and variability, correlation, regression and large and small sample estimation) as well as inferential statistical procedures (t, z and ANOVA designs, nonparametric tests and multiple regression). Focus will be on how these statistical procedures can be directly applied to real-life situations. Prerequisite: MATH 105, MATH 108 or MATH 110. 3 semester credit hours. Typically offered: Every semester.

CJUS 251 Statistics II. ANOVA designs, correlation, regression, non-parametric tests, survey and experimental research techniques, social and behavioral measurements and multivariate analysis. Prerequisite: PSYC 150 or SOCL 150 or CJUS 150. Fee: $35. 3 semester credit hours. Typically offered: fall and spring terms.

CJUS 252 Research Practicum. Goal of the course is to develop the student's research skills in a particular field (Psychology, Sociology or Criminal Justice) by involving him/her in an actual research project under the direction of a faculty member. Students will meet with the instructor on a regular basis and will write both a preliminary proposal and final paper in APA style, the latter to include identification of the subject of the study, a review of the literature, statement of a working hypothesis, construction of necessary operational definitions, delineation of variables, a description of the population (and sample) and statistical tests if appropriate. Prerequisite: Successful completion of basic skills courses. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

CJUS 260 Introduction to Criminal Justice. Examination of the criminal justice system: police, courts and corrections. Analysis of functions, jurisdiction, operation and relationships. IAI CRJ 901. 3 semester credit hours. Typically offered: annually.

CJUS 294 Criminal Procedure. In depth analysis of the criminal and juvenile justice process from arrest through adjudication. 3 semester credit hours. Typically offered: periodically.

CJUS 306 Correctional System. Theory and research relating to treatment, incarceration and rehabilitation of the offender. IAI CRJ 911. Prerequisite: SOCL/CJUS 260. 3 semester credit hours. Typically offered: annually.

CJUS 321 Crime and Delinquency. Social and psychological factors related to crime, theories of crime and delinquency, police and court systems and correctional institutions. 3 semester credit hours. Typically offered: fall term, even years.

CJUS 322 Criminal Law. An examination of criminal law including origins and developmental changes to the present. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: periodically.

CJUS 324 White Collar Crime. An analysis of crime as it relates to business and business practices. Examines occupational, political, economic and social variables that relate to white collar criminality. Theory of research will be examined. Emphasis is on causation, prevention, laws, arrest, adjudication, conviction, sentencing and treatment of white collar criminals. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: periodically.

CJUS 326 Introduction to Criminal Investigation. Fundamentals of investigation beginning with the discovery of a crime and including the preservation of the crime scene, the collecting of clues and information, physical and chemical analysis, case preparation and courtroom testing. Case studies will be used. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: fall term, odd years.

CJUS 330 Probation and Parole. Examination of probation and parole as components of the correctional system. Emphasis is on theory, research and the mechanisms of probation and parole as a means of treating adjudicated criminals. Prerequisite: CJUS 260 and CJUS 306. 3 semester credit hours. Typically offered: periodically.

CJUS 331 Organized Crime. Examination of the origins, models and explanations of organized crime and criminal groups, goods and services produced, and the role of the criminal justice system in the social system. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: periodically.

CJUS 351 Research Methods in the Social Sciences. An analysis of various theoretical approaches to the study of social sciences as well as discussion and completion of the first two chapters of an original research design. Prerequisite: PSYC 251 or SOCL 251 or CJUS 251. Fee: $35. 3 semester credit hours. Writing Intensive Course. Typically offered: fall and spring terms.

CJUS 352 Research Practicum. Goal of the course is to develop the student's research skills in a particular field (Psychology, Sociology or Criminal Justice) by involving him/her in an actual research project under the direction of a faculty member. Students will meet with the instructor on a regular basis and will write a scholarly paper in APA style, the latter to include identification of the subject of the study, a review of the literature, statement of a working hypotheses, construction of necessary operational definitions, delineation of variables, a description of the population (and sample) and statistical tests if appropriate, results of the study and a discussion on the results of the study. Student will present the results of the study at a scholarly meeting. Cross listed with PSYC 352 and SOCL 352. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

CJUS 356 Clinical Practicum Lab. Focus is on teaching interpersonal and primary-level skills of empathy, listening, and interviewing to the introductory level helping professional. Prerequisite: junior or senior in CJUS program. 4 semester credit hours. Typically offered: fall, spring and summer terms.

CJUS 371 Death and Dying. Dynamics of the grief process, the care of the terminally ill and the needs of survivors in the sociological and psychological context of death. 3 semester credit hours. Typically offered: annually.

CJUS 372 Current Issues in Criminal Justice. Contemporary critical issues that impact the Criminal Justice System including the legislative process, law enforcement, the judicial process and the correctional system. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: periodically.

CJUS 390 Criminal Justice Field Placement. This field placement provides experience in practice in a professional agency under the supervision of a trained practitioner. Prerequisite: CJUS 356, consent of field placement director prior to the 10th week of the semester preceding the field placement and a GPA of 2.5 or greater. 3-6 semester credit hours. Typically offered: fall, spring and summer terms. Department consent required. *Department consent required. Course repeatable. Maximum number of units allowed:6.*

CJUS 391 Topics in Criminal Justice. Relevant topics according to the needs and interests of the criminal justice students. Prerequisite: CJUS 260. 3 semester credit hours. Typically offered: periodically.

CJUS 395 Senior Thesis. Completion of an original research project under faculty supervision, involving either an original survey design, case study, or experimental analysis. Prerequisite: PSYC 351 or SOCL 351 or CJUS 351. Department consent required. 3 semester credit hours. *Department consent required.*

Diagnostic Medical Sonography

DMSC 301 Fundamentals of Sonography. Orientation to basic ultrasound equipment, instrumentation and transducers, acoustic energy, scanning planes and techniques, anatomy identification, image orientation, and terminology. This course must be passed to continue into the fall semester of the DMS program. 3 semester credit hours. *Department Consent Required.*

DMSC 302 Management and Methods of Patient Care. Review of patient care techniques for the healthcare professional. Medical emergencies and patient transfer, infection control and body substance isolation are discussed. Medical ethics and hospital administration lectures are included. 1 semester credit hour. *Department consent required.*

DMSC 303 Sectional Anatomy for Sonographers. Study of anatomy of the abdomen, pelvis, and thoracic cavities, the extremities, and the cervical area. Focus is on cross-sectional and 3-dimensional relationships. 2 semester credit hours. *Department consent required.*

DMSC 304 Abdomen Sonography w/Lab. Study of normal abdominal anatomy and sonographic appearances. Review of physiologic function and correlation of laboratory data. Integration of radiology reports, patient history and procedures to effectively perform a diagnostic exam of an organ. Sonographic methods to visualize pediatric and adult abdomen are discussed. Lab sessions with practicals in scanning techniques are an integral part of the course. 4 semester credit hours. *Department consent required.*

DMSC 305 Obstetrics-Gynecology Sonography. Study of obstetrical and gynecological anatomy with clinical applications and sonographic methods used to visualize pelvic organs, pregnant uterus and related structures. Discussion of embryogenesis and a review of the reproductive cycle are included. Normal sonographic patterns are studied. 3 semester credit hours. *Department consent required.*

DMSC 306 Clinical Education I. Application of the principles of ultrasound in a hospital setting under the supervision of a qualified registered sonographer. Emphasis on liver, pancreas, gallbladder, kidneys, obstetrics and pelvic areas. Pass/Fail grading. 2 semester credit hours. *Department consent required.*

DMSC 307 Principles of Ultrasound Physics I. Introduction and study of the fundamental principles of diagnostic ultrasound physics. Study of acoustic energy and diagnostic ultrasound equipment instrumentation, artifacts and quality control. 3 semester credit hours. *Department consent required.*

DMSC 308 Obstetrics-Gynecology Pathology. Presentation of sonographic appearances of pathology relating to the pelvic organs, pregnant uterus and related structures. Fetal congenital anomalies and sonographic appearances are examined. Review of female hormone and reproductive cycle. Interpretation of patient charts, relating clinical history, lab and radiology reports and surgical procedures to pathologic processes is studied. Discussion of differentiating characteristics of various pathologies and any related organ involvement. 4 semester credit hours. *Department consent required.*

DMSC 309 Pathophysiology. Review of organ physiology processes and cellular involvement in various pathologic conditions. Major organ systems and related pathologies are discussed. 2 semester credit hours. *Department consent required.*

DMSC 310 Abdomen Pathology. Sonographic appearances of pathology relating to abdominal organs and superficial parts are studied. Discussion of differentiating characteristics and pathologic processes of various diseases. Pathology related organ involvement is identified. Interpretation of patient charts, relating clinical history, lab and radiology reports and surgical procedures to pathologic processes. Pediatric pathologies are discussed. 3 semester credit hours. *Department consent required.*

DMSC 311 Clinical Education II. This course emphasizes clinical experience progression under the supervision of faculty, sonography staff, and clinical instructor. Continued practicum in the clinical applications of abdominal sonography, female pelvis, and obstetrical application. Effective communication, operation of equipment, patient care and technical skills developed. Pass-fail grading. 3 semester credit hours. *Department consent required.*

DMSC 312 Principles of Ultrasound Physics II. Continuation of the study of the fundamental principles of diagnostic ultrasound physics and instrumentation. Study of Doppler physics, spectral and color flow principles and instrumentation, artifacts and QA, plus a review of bioeffects, safety, and AIUM acoustic energy guidelines. 2 semester credit hours. *Department consent required.*

DMSC 313 Ultrasound Image Critique. Study of film critique, technical factors, and interpretation of quality sonographic images. Review of sonographic terminology, image quality factors, scanning protocols and techniques, and normal sonographic appearances of abdominal, OB_GYN, and vascular structures. Integration of clinical history and related organ systems to aid in the interpretation of images. Discussion of abnormal sonographic images and correlation of clinical data to develop diagnostic criteria. 1 semester credit hour. *Department consent required.*

DMSC 314 Clinical Education III. The student continues to improve scanning skills under the supervision of faculty, sonography staff and clinical instructor. Emphasis remains on abdominal, small parts, and obstetrical-gynecological sonography. The student will have an opportunity to refine skills and increase self-confidence through progressively more independent scanning. Pass-fail grading. 3 semester credit hours. *Department Consent Required.*

DMSC 315 Introduction to Pediatrics and Vascular Imaging. Introduction to neonatal and pediatric sonographic examinations and pathologies. Peripheral vascular anatomy, protocols, and pathologies are discussed. Included is the practice of carotid artery and lower extremity venous peripheral vascular exams under direct supervision in the laboratory setting. 1 semester credit hour. *Department consent required.*

DMSC 316 Speciality Sonography. Study of various obstetrical, abdominal, and superficial parts pathology, including neonatal procedures, GI tract, soft tissues, liver transplants, and invasive procedures. Presentation of pathologic processes, sonographic appearances, and clinical history. Administrative duties pertinent to managing a diagnostic ultrasound department are presented. 2 semester credit hours. *Department consent required.*

DMSC 317 Clinical Education IV. In this final period of clinical study, the student demonstrates full competency and progresses to full independence under the supervision of sonography staff, clinical instructor, and clinical coordinator. Emphasis on abdominal, small parts, OB_GYN pathology identification, diagnosis, and related organ involvement documentation. Rotations in the practice of peripheral vascular exams, pediatrics, breast imaging, and other specialties within the field may be arranged. Pass/fail grading. 4 semester credit hours. *Department consent required.*

DMSC 318 Registry Review. A review of abdomen, OB_GYN, and physics information pertinent to taking the American Registry of Diagnostic Medical Sonography national certification examinations. Registry applications are provided, and mock registry exams are part of the review process. 2 semester credit hours. *Department consent required.*

Economics

ECON 100 Introduction to Economics. This core course is a general introduction for non-majors into the operation of the economy. Includes the demand-supply model, and study of specific market structures (Microeconomics), and the aggregate demand-aggregate supply model, business cycles, unemployment, inflation and monetary and fiscal policy (Macroeconomics). IAI S3 900. MATH 095. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Economics Core Elective. Typically offered: fall and spring terms.

ECON 101 Principles of Macroeconomics. Determination of income, employment, and the price level. Effects of fiscal and monetary policies. IAI S3 901. Prerequisite: MATH 105, 108 or 110. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Economics Core Elective.

ECON 102 Principles of Microeconomics. Demand-Supply model, consumer and firm decision-making, market structures, price determination and resource allocation. IAI S3 902. Prerequisite: MATH 105, 108, 110. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Economics Core Elective.

ECON 201 Theory of Income and Economic Growth. Advanced analysis of determinants of growth, national income, employment, and price level; monetary and fiscal policy. Prerequisite: ECON 101, ECON 102. 3 semester credit hours.

ECON 202 Price Theory and Application. Analysis of consumer choices and of decision-making by firms under different market conditions. Prerequisite: "C" or better in ECON 101 and ECON 102. 3 semester credit hours.

ECON 227 Applied Microeconomics. This course surveys the broad concepts of microeconomics. Topics include supply-demand concepts, the production function, pricing analysis, resource allocations and market structures. The emphasis is on developing understand and mastery of skills required by managers of organizational units of all types. Prerequisite: ECON 100 or ECON 101 and ECON 102 and Admission to the Adult Learning Team or Online Program. 3 semester credit hours.

ECON 291 Topics. Advance coverage of selected topics in economics. Specific content will vary from year to year depending on which faculty member teaches the course. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

ECON 292 Economics Teaching. This course is a practicum in economics. 1-3 semester credit hours. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

ECON 297 Internship. Practical experiences in business related fields under the supervision of the program coordinator. 2-6 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

ECON 305 Comparative Economic Systems. A comparative analysis of the major world economic systems, including a critical appraisal of underlying philosophies, economic theories, structures and performance. 3 semester credit hours.

ECON 310 Money and Financial Markets. Study of money, the banking system, monetary theories, and relation of the monetary system to national income, employment, and price levels. Prerequisite: ECON 101, ECON 102. 3 semester credit hours. Typically offered: fall term.

ECON 320 Area Studies. Cultural, economic and business conditions of different world regions. Prerequisite: ECON 101. 3 semester credit hours. Business Core Elective. Typically offered: periodically. *Department consent required.*

ECON 331 Labor and Industrial Relations. Analysis of the structure and behavior of labor and business enterprises and implications of this behavior for resource allocation and individual welfare. Prerequisite: ECON 101, ECON 202. 3 semester credit hours. Writing Intensive Course.

ECON 340 Public Finance. This course examines the economics of the public sector, including the impact of the government budget on resource allocation, income distribution and economic stabilization; principles and problems of budget determination, including both tax and expenditure aspects; tax shifting and incidence; and fiscal and debt management policies. Prerequisite: ECON 101, ECON 202. 3 semester credit hours.

ECON 351 Global Development Issues. A study of the meaning, measurement and historical context of economic development and the issues underlying the vast differences in development between nations of the world. Topics covered include population, agriculture, industry, trade and foreign debt. 3 semester credit hours. Typically offered: periodically.

ECON 360 International Trade and Finance. Trade theory, trade barriers, balance of payments, exchange rates, open-economy macroeconomics. Prerequisite: ECON 101, ECON 310, and "C" or better in MATH 115. 3 semester credit hours.

ECON 370 Industrial Organization and Policy. Focuses on empirical studies in patterns of market structure, business behavior and performance. Applications in the fields of antitrust and regulation are stressed. Prerequisite: ECON 202. 3 semester credit hours.

ECON 391 Topics. Advance coverage of selected topics in economics. Specific content will vary from year to year depending on which faculty member teaches the course. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

ECON 395 Independent Study. Directed readings, independent research, or student projects on areas of individual academic interest; topics, meeting times, and outcomes arranged with instructor. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

ECON 397 Internship. Practical experiences in business related fields under the supervision of the program. 3 semester credit hours. *Department consent required.*

Education

EDUC 200 Preclinical Experience. Directed observation and participation in off-campus setting. Students participate in a 35 hour experience. Transportation needed. IAI EED 904; IAI SED 905. Prerequisite Main Campus: Cumulative GPA of 2.50, preclinical application and co-registration in EDUC 205. Prerequisite Springfield Campus: Cumulative GPA of 2.75, preclinical application and co-registration in EDUC 205. Student must have passed TAP test to enroll in class. 1 semester credit hour. Typically offered: fall, spring, and summer terms.

EDUC 205 History and Philosophy of Education. A survey of education in the United States from the Colonial period to the present with emphasis on the major philosophies which have influenced American education. Philosophies relative to each grade level, including middle grades, are presented. Prerequisite Main Campus: Cumulative GPA of 2.50 and co-registration in EDUC 200. Prerequisite Springfield Campus: Cumulative GPA of 2.75 and co-registration in EDUC 200. 3 semester credit hours. Typically offered: fall, spring and summer terms.

EDUC 206 Transfer Introduction to Education Seminar. A required seminar course for students who have been awarded transfer credit for Education 205 (History and Philosophy of Education). Registration is required during the first semester of matriculation in the School of Education. The seminar will meet for 5 sessions and will serve as introduction to the Benedictine University School of Education, LiveText, and the portfolio process. Students registering for this course will undergo a State of Illinois background check. Typically offered: fall, spring and summer terms.

EDUC 207 Introduction to Education Seminar. For all Education majors and minors who enter Benedictine University as of fall 2010. Typically offered: fall, spring and summer terms.

EDUC 210 Educational Psychology. Survey of theories of classroom learning processes including human growth and development, evaluation, the exceptional child and the disadvantaged child. Emphasis also on the developmental characteristics and nature and needs of the early adolescent. Cross-referenced as EDUC241/PSYC 241. IAI SED 902. 3 semester credit hours. Typically offered: fall, spring and summer terms.

EDUC 215 Technology for Teachers. This required course will cover topics relevant to use of technology in the classroom, lesson planning via technology, and use of the Internet for education purposes. Other topics include: LiveText, Powerpoint, WebCT, Inspiration, Dreamworks, design of web pages and user groups, spreadsheets for grade reports, and digital portfolios. Prerequisite Main Campus: co-registration in EDUC 200 and EDUC 205 (or EDUC 206); cumulative GPA of 2.5. Springfield Campus: co-registration in EDUC 200 and EDUC 205 (or EDUC 206); cumulative GPA of 2.75. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

EDUC 227 Aural Skill IV. Fourth course in training of musical skills relating to pitch and rhythmic recognition. Students will develop the ability to sing melodies in pitch and rhythm. Progression through Aural Skill courses dependent on proficiency testing. Prerequisites: MUSI 101/112, 102/113, and 201/212 or proficiency testing. Co-registration with MUSI 202 required. 1 semester credit hour. Typically offered: spring term.

EDUC 235 Children's Literature. Survey of forms of literature written for children. Emphasis on appreciation and evaluation of books and authors, choices for age groups, school and home settings and the importance of children’s literature as a basis for a lifelong enrichment. Prerequisite Main Campus: Cumulative GPA of 2.5. Springfield Campus: Cumulative GPA of 2.75. 3 semester credit hours. Typically offered: spring term.

EDUC 240 Reading and Language Arts. The development of total content in reading and language arts: emphasizes an holistic approach to teaching reading, writing, speaking and listening. Specific methods and philosophies are discussed relative to grades K-2, 3-5 and 6-8. Prerequisite Main Campus: EDUC 205 and cumulative GPA of 2.5. Springfield Campus: EDUC 205 and cumulative GPA of 2.75. 3 semester credit hours. Typically offered: fall term.

EDUC 257 Learning Behavior Characteristics of Individuals with Physical Disabilities and Mental Retardation. Reading and discussion regarding learning and behavioral characteristics of persons labeled with physical handicaps and mental retardation. Students will develop awareness of the diverse medical, physical, motor, communication, social-emotional and cognitive needs and defining characteristics of the population, as well as identify appropriate programming approaches. Prerequisite: EDUC 260(3), cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 260 Survey of Exceptional Children. Discussion of atypical development: characteristics of persons labeled as having mental retardation, learning disabilities, behavioral disabilities, sensory deficits, speech disorders and health/physical challenges. Diagnosis, referral, educational strategies and legal implications are reviewed. Cross-listed as EDUC 204/PSYC 204. IAI ECE 913; IAI SED 904. 3 semester credit hours. Typically offered: fall, spring and summer terms.

EDUC 265 Learning Behavior Characteristics of Individuals with Learning Disabilities. Includes: severe emotional disturbances history, definitions, assessment techniques, placement procedures and intervention techniques. Current research and theories are explored and analyzed. Focuses on supported education and collaborative learning. Prerequisite: EDUC 260, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 270 Learning Behavior Characteristics of Individuals with Emotional Disorders. A study of characteristics of people with severe emotional disturbances, including causes, characteristics and implications for therapeutic intervention. Educational approaches and philosophies, as well as diagnostic categories of SED will be explored. Prerequisite: EDUC 260, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 275 Working with Families of Persons with Disabilities. Designed to enable the future professional to work with families of persons who have exceptional needs. Emphasis is on family systems theory, legislation and formation of cooperative school and home partnerships with families. Prerequisite: EDUC 260 and cumulative GPA of 2.5. 3 semester credit hours. Typically offered: spring term.

EDUC 300 Professional Seminar for Teachers. This required module course is offered each semester and should be taken halfway through the professional sequence of education courses. It is designed to provide a discussion forum for topics such as understanding the school culture, boundary issues, important aspects of school law, relationships with colleagues, demeanor and dress, and classroom responsibilities. Prerequisite: Cumulative GPA of 2.5 and TEP. 1 semester credit hour. Typically offered: fall, spring, and summer terms.

EDUC 310 Measurement and Evaluation. Introduction to basic education statistics, K-12 assessments, understanding assessment issues and understanding educational research. Includes design of classroom tests and education assessments; portfolio assessment; and assessment strategies for exceptional children. Prerequisite Main Campus: EDUC 260 and cumulative GPA of 2.5. Prerequisite Springfield Campus: EDUC 260 and cumulative GPA of 2.75. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

EDUC 311 Assessment and Diagnosis for Special Education (LBSI). This course provides students with the background and skills essential to utilize diagnostic data to construct appropriate educational recommendations and to prepare comprehensive educational evaluations for students with special learning needs. Prerequisite: EDUC 260 and cumulative GPA of 2.5 or higher. 3 semester credit hours.

EDUC 312 Methods of Teaching Social Studies - Elementary. Methods and materials for teaching social studies in elementary and middle schools. Specific methods (e.g. reading in the content area) and philosophies are discussed relative to grades K-2, 3-5 and 6-8. Prerequisite Main Campus: EDUC 205, cumulative GPA of 2.5, and TEP. Prerequisite Springfield Campus: EDUC 205, cumulative GPA of 2.75, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 313 Linguistics for Educators. Linguistics for educators is a classroom focused introduction to the study of language and linguistics. The purpose of this class is to provide classroom teachers with a practical grasp of social and academic linguistic building blocks inherent in the English language and how they apply to teaching ESL. (Includes 15 clinical hours). 3 semester credit hours. Typically offered: fall, spring and summer terms.

EDUC 314 Theoretical Foundations of Teaching English as a Second Language. This course will help practicing and prospective teachers to understand current research and theories of second language acquisitions (SLA), specifically as they relate to teaching English as a second language. Through readings, critical analysis and thoughtful discussion, students will learn about the current theories of second language learning and acquisition. This class is intended to help prospective teachers create a rationale for their teaching by exposing them to a broad range of theory and research in psycholinguistics, applied linguistics, learning theory, sociolinguistics and the various teaching methodologies which are rooted in these fields. Students will examine the major theories, concepts and guiding hypotheses in the field of Applied Linguistics and Teaching English to Speakers of Other Languages (TESOL) in terms of English language learners' performance. Students will explore the many factors that affect school performance of second language learners. Students will investigate and develop useful and relevant models of SLA, engage and debate the merits of various theories, and learn the vocabulary of the field (Includes 20 clinical hours). 3 semester credit hours. Typically offered: fall, spring and summer terms.

EDUC 315 Methods of Teaching Mathematics - Elementary. Characteristics and concepts of programs in elementary and middle-grade mathematics. The patterns of meaningful instruction, curricular trends and teaching materials and philosophies relative to grade K-2, 3-5 and 6-8 are discussed. Students participate in a 35-hour preclinical experience. Transportation needed. Prerequisite Main Campus: EDUC 205, co registration in EDUC 316, cumulative GPA of 2.5, and TEP. Prerequisite Springfield Campus: EDUC 205, co registration in EDUC 316, cumulative GPA of 2.75, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 316 Preclinical Experience - Elementary Mathematics. Thirty-five hours in an off-campus setting. Transportation needed. Prerequisite Main Campus: Preclinical application, co-registration in EDUC 315, cumulative GPA of 2.5, and TEP. Prerequisite Springfield Campus: Preclinical application, co-registration in EDUC 315, cumulative GPA of 2.75, and TEP. Typically offered: fall term. *Department consent required.*

EDUC 317 Methods and Materials for ESL. Briefly overview the historical development and theoretical basis of a range of methodologies and approaches in Teaching English as a Second Language (TESL). Develops an understanding and critical appreciation of the advantages and disadvantages of current approaches, methods, techniques, activities and materials for teaching ESL to students K-12. Examines the relationship between TESL and No Child Left Behind (NCLB) mandated standards. Students will gain practical experience in developing curricula and materials appropriate to specific K-12 ESL teaching contexts (Includes 20 clinical hours). 3 semester credit hours. Typically offered: fall, spring, and summer terms.

EDUC 318 Methods of Teaching Science - Elementary. Methods and materials for teaching science in the elementary and middle school classrooms. Specific methods (e.g. reading in the content area) and philosophies are discussed relative to grades K-2, 3-5 and 6-8. Prerequisite Main Campus: EDUC 205, cumulative GPA of 2.5, and TEP. Prerequisite Springfield Campus: EDUC 205, cumulative GPA of 2.75, and TEP. 3 semester credit hours. Typically offered: spring term.

EDUC 320 Literacy and Assessment. Includes discussion of reading assessment in terms of diagnosing problems and prescribing instruction for children experiencing reading difficulties in grades K-2, 3-5 and 6-8. Students participate in a 35-hour clinical experience that affords the opportunity to apply theory into practice. Transportation needed. Prerequisite Main Campus: EDUC 240, co-registration in EDUC 321, cumulative GPA of 2.5, and TEP. Prerequisite Springfield Campus: EDUC 240, co-registration in EDUC 321, cumulative GPA of 2.75, and TEP. 3 semester credit hours. Writing Intensive Course. Typically offered: fall, spring and summer terms.

EDUC 321 Preclinical Experience: Reading. Thirty-five hours in an off-campus setting. Transportation needed. Prerequisite Main Campus: Preclinical application, co-registration in EDUC 320, cumulative GPA of 2.5, and TEP. Prerequisite Springfield Campus: Preclinical application, co-registration in EDUC 320, cumulative GPA of 2.75, and TEP. *Department consent required.*

EDUC 322 Reading, Writing and Thinking in the Middle and Secondary School Curriculum. Examines the relationship between reading, writing, oral communication and thinking and explores strategies for integrating these areas across the curriculum. Examines a variety of theoretical perspectives and instructional strategies involving simulation, role-playing, case studies, inquiry, problem-solving, critical thinking and environmental learning. Lesson and unit plan development emphasized. spring. Prerequisite: Cumulative GPA of 2.5 and TEP.
3 semester credit hours. Typically offered: spring term.

EDUC 330 Methods of Teaching Physical Science - Middle/Jr. and High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area for middle school and high school. fall. Prerequisite: EDUC 205, co-registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 331 Methods of Teaching Chemical Science - Middle/Jr. and High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area for middle school and high school. fall. Prerequisite: EDUC 205, co-registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 332 Methods of Teaching Biological Science - Middle/Jr. High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area for middle school and high school. fall. Prerequisite: EDUC 205, co registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 333 Assessment of English as a Second Language and Bilingual Students. Assessment is a systematic process that plays a key role in every aspect of programming for ESL and bilingual learners. Assessment of ESL and bilingual students provides educators with information and hands-on experience in dealing with the subject of formal and informal assessment/evaluation within cross-cultural settings, particularly in the education of ESL and bilingual learners (Includes 20 clinical hours). 3 semester credit hours. Typically offered: fall, spring, and summer terms.

EDUC 334 Cultural Diversity and English as a Second Language. This course examines the nature of culture and its impact on the political and social aspects of teaching and learning a second language in culturally and linguistically diverse settings. Related topics include biculturalism, race, ethnicity, gender and social class; the implications of government policies such as No Child Left Behind (NCLB); addressing diversity in the classroom; and interacting with immigrant parents and communities. Students will be involved in critical reflection on both theory and practical experience, with the goal of developing a deeper cultural awareness that can inform their teaching and interaction with diverse communities. (Includes 20 clinical hours). 3 semester credit hours. Typically offered: fall, spring, and summer terms.

EDUC 335 Methods of Teaching Mathematics - Middle/Jr. and High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area for middle school (grades 6-8) and high school (grades 9-12). fall. Prerequisite: EDUC 205, co-registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 337 Multicultural Literature for Children and Adolescents. This course will introduce students to a range of high quality multicultural literature for all grade levels. Students will immerse themselves in the texts as they learn how cultural, linguistic and ethnic diversity influence reading; how breadth and depth of reading experience influence vocabulary and comprehension development; a variety of ways to respond to literature; the analysis and evaluation of material; understanding dialect; and language differences and the implication for reading. Clinical Hours: 5 hours. 3 semester credit hours. Typically offered: fall, spring and summer terms.

EDUC 338 Methods of Teaching English - Middle/Jr. and High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area for middle school and high school. Prerequisite: EDUC 205, co-registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 340 Methods of Teaching Spanish-Elementary, Middle/Junior, and High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area for grades K-12. fall. Prerequisite: EDUC 205, co-registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

EDUC 342 Methods of Teaching History, Political Science and Economics-Middle/Jr. and High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area. Transportation needed. fall. Prerequisite: EDUC 205, co-registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 343 Methods of Teaching Business/Marketing/Computer Education - Middle/Junior and High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area for middle school and high school. fall. Prerequisite: EDUC 205, co-registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 345 Methods of Teaching Physical Education - Elementary, Middle/Jr. and High School. Emphasis is placed on the methods, content and instructional materials utilized in the subject area for elementary, middle school, and high school. Prerequisite: EDUC 205, co-registration in EDUC 350, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall term.

EDUC 350 Preclinical Experience - Middle/Junior and High School. Thirty-five hours in an off-campus classroom setting in the appropriate grade levels of middle/junior and high school (6-12) and elementary for designated certification areas (K-12). Transportation needed. Prerequisite: Preclinical application, cumulative GPA of 2.5, and TEP. *Department consent required. Course repeatable. Maximum number of units allowed: 0.*

EDUC 352 Young Adult and Multicultural Literature in the Middle and Secondary School Curriculum. Evaluation, selection and teaching of literature to serve the interests and reading needs of students from the middle-school through high school. The course includes literature which reflects the culture and heritage of America's multiethnic/multicultural population. The course emphasizes theory and research in reading comprehension, literary criticism, including reader response and curriculum and instruction. In addition, the course includes critical analysis, methods of teaching literature and the uses of literature in the curriculum. Prerequisites (Main Campus: Cumulative GPA of 2.5 and TEP. Prerequisites (Springfield Campus): Cumulative GPA of 2.75 and TEP. 3 semester credit hours. Typically offered: periodically.

EDUC 353 Methods and Principles of Middle School Education. Analysis of the philosophy and practices in middle-level education. Primary emphasis is placed on the unique needs of middle-level students and programs and instructional methods and practices designed to meet those needs, including content area reading instruction. Examination of teacher roles in the middle school and curricular reform movements, including strategies for teaching across the curriculum. Students participate in a 35-hour preclinical experience. Transportation is needed. Prerequisite: EDUC 205, co-registration in EDUC 354, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: fall and spring terms.

EDUC 354 Preclinical Experience: Methods and Principles of Middle School Education. Thirty-five hours in an off-campus setting. Transportation needed. Prerequisite: Preclinical application, co-registration in EDUC 353, cumulative GPA of 2.5 and TEP. *Department consent required.*

EDUC 355 Classroom Management. Identifies positive programming strategies for managing challenging behavior in elementary, middle school, secondary and special education classrooms. Prerequisite: EDUC 205, EDUC 260, cumulative GPA of 2.5, and TEP. 3 semester credit hours. *Department consent required.*

EDUC 356 Preclinical Experience: Classroom Management. Twenty hours in an off-campus setting. Transportation needed. Prerequisite: Preclinical application, co-registration in EDUC 355, cumulative GPA of 2.5, and TEP. *Department consent required.*

EDUC 357 Learning Behavior Methods of Teaching Individuals with Physical Disabilities and Mental Retardation. Techniques for arranging the instructional environment to provide for maximum learner participation; design of individualized adaptations and methods of ensuring learner acquisition, fluency, maintenance and generalization for those learners identified with physical handicaps and mental retardation. 35 hour preclinical experience required. Transportation needed. Prerequisite: EDUC 257, EDUC 205, EDUC 260, co-registration in EDUC 358, cumulative GPA of 2.5, and TEP. 4 semester credit hours. Typically offered: spring term.

EDUC 358 Preclinical Experience: Physical Disabilities and Mental Retardation Methods. Thirty-five hours in an off-campus setting. Transportation needed. Prerequisite: Preclinical application, co-registration in EDUC 357, cumulative GPA of 2.5, and TEP. *Department consent required.*

EDUC 360 Learning Behavior Methods of Teaching Individuals with Learning Disabilities. Focus is on the design, implementation and evaluation of data-based instruction for instructing students with learning disabilities. Students participate in a 35-hour preclinical experience. Transportation needed. spring. Prerequisite: EDUC 205, EDUC 260, EDUC 265, co-registration in EDUC 361, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: spring term.

EDUC 361 Preclinical Experience: Learning Disabilities Methods. Thirty-five hours in an off-campus setting. Transportation needed. Prerequisite: Preclinical application, co-registration in EDUC 360, cumulative GPA of 2.5, and TEP. *Department consent required.*

EDUC 365 Learning Behavior Methods of Teaching Individuals with Emotional Disorders. Designed to enable the teacher to implement environmental and contingency management principles. Teacher survival skills in relationship to children labeled as having social/emotional and behavior disorders will be studied. Emphasis will be placed on methods of educating within a functional, age-appropriate, community-based approach. Students participate in a 35-hour preclinical experience. Transportation needed. spring. Prerequisite: EDUC 205, EDUC 260, EDUC 270, co-registration in EDUC 366, cumulative GPA of 2.5, and TEP. 3 semester credit hours. Typically offered: spring term.

EDUC 366 Preclinical Experience: Emotional Disorder Methods. Thirty-five hours in an off-campus setting. Transportation needed. Prerequisite: Preclinical application, co-registration in EDUC 365, cumulative GPA of 2.5, and TEP. *Department consent required.*

EDUC 370 Student Teaching Elementary and Middle School. Full semester teaching experience under professional guidance. Includes observation, planning and supervised teaching. Each semester. Prerequisite Main Campus: Required professional education courses and approval by the Teacher Education Committee. Applications must be submitted one year in advance. Transportation needed. Cumulative GPA of 2.5, admitted into TEP, and ICTS content test. Prerequisite Springfield Campus: Required professional education courses and approval by the Teacher Education Committee. Applications must be submitted one year in advance. Transportation needed. Cumulative GPA of 2.75, admitted into TEP, and ICTS content test. 12 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

EDUC 371 Student Teaching - Middle/Junior and High School. Full semester teaching experience under professional guidance. Includes observation, planning and supervised teaching. Each semester. Prerequisite: Required professional education courses and approval by the Teacher Education Committee. Applications must be submitted one year in advance. Transportation needed. Cumulative GPA of 2.5, admitted into TEP and ICTS content test. 12 semester credit hours. Typically offered: fall, spring, and summer terms. *Department consent required.*

EDUC 372 Student Teaching - Elementary Special Education, Learning Behavior Specialist I. Half-semester student teaching under professional guidance. Includes observation, planning and supervised teaching in an elementary school. Each semester. Prerequisite: co-registration in EDUC 373, required professional education courses and approval by the Teacher Education Committee. Applications must be submitted one year in advance. Transportation needed. Cumulative GPA of 2.5, admitted into TEP and ICTS content test. 6 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

EDUC 373 Student Teaching - Secondary Special Education, Learning Behavior Specialist I. Half semester student teaching under professional guidance. Includes observation, planning and supervised teaching in a secondary school. Each semester. Prerequisite: co-registration in EDUC 372, required professional education courses and approval by the Teacher Education Committee. Applications must be submitted one year in advance. Transportation needed. Cumulative GPA of 2.5, admitted into TEP and ICTS content test. 6 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

EDUC 374 Student Teaching K-8 Elementary Music Education. Half-semester student teaching under professional guidance. Includes observation, planning, and supervised teaching in an elementary school. Transportation needed. Applications must be submitted one year in advance. Cumulative GPA of 2.5, admitted into TEP, and ICTS content test. 6 semester credit hours. *Department consent required.*

EDUC 375 Student Teaching 6-12 Secondary Music Education. Half-semester student teaching under professional guidance. Includes observation, planning and supervised teaching in a secondary school. Transportation needed. Applications must be submitted one year in advance. Cumulative GPA of 2.5, admitted into TEP, and ICTS content test. 6 semester credit hours. *Department consent required.*

EDUC 378 Student Teaching, Physical Education-Elementary, Middle and High School. Full semester teaching experience under professional guidance. Includes observation, planning and supervised teaching. Prerequisite: Required professional education courses and approval by the Teacher Education Committee. Applications must be submitted one year in advance. Transportation needed. Cumulative GPA of 2.75 admitted into TEP, ILTS Basic Skills and Content Area Examinations. 12 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

EDUC 391 Topics. Relevant topics according to the needs and interest of education students. Prerequisite: Cumulative GPA of 2.5 and TEP. 1-3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

EDUC 395 Independent Study in Education. Intensive independent study on a problem topic in education to fit the specific interests as well as needs of specific research problems. Work cannot be done in conjunction with another education course, nor in place of a required course. Prerequisite: Cumulative G.P.A. of 2.5., and TEP. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

Engineering

ENGR 100 Introduction to the Engineering Profession. This course is an introduction to the field of engineering and is designed for students entering or considering engineering as a career path. The course consists of hands-on projects, where students will learn the basics of the engineering design process, as well as presentation by outside speakers who will discuss specifics about the different fields of engineering. 1 semester credit hour. Typically offered: fall term.

ENGR 110 Engineering Design. A hands-on course where students learn about the engineering design process and problem solving through the implementation and completion of projects from different fields of engineering. During the course students will work in groups to develop skills in design, team work, technical writing, and presentations. Prerequisite: "C" or better in ENGR 100 or Instructor Consent. 3 semester credit hours. Typically offered: spring term.

ENGR 120 Engineering Graphics. Fundamentals of engineering communications employing applied geometry in instrument and CAD presentation and interpretation of orthographic, sectional, intersection, development and pictorial views. Introduction to basic machine elements and shop practices. 2 semester credit hours. Typically offered: fall term.

ENGR 220 Analytical Mechanics. This course presents an intermediate treatment of Newton's law in various coordinate systems, projectile motion including air resistance, momentum, angular momentum, energy and conservative forces, driven and damped oscillators, nonlinear mechanics and chaos, Lagrange's equations, two body central force problems, mechanics in non-inertial frames, rotational motion of rigid bodies, and coupled oscillators. The course introduces vector calculus, differential equations, complex numbers, Taylor series, and matrices in the solutions to problems. IAI EGR 943. Prerequisite: "C" or better in PHYS 211 and MATH 211. Cross listed as PHYS/ENGR 220. 3 semester credit hours. Typically offered: fall term.

ENGR 264 Electronics. An integrated laboratory and lecture course designed to cover the basic principles of modern electronics. Topics include AC and DC circuits, linear and non-linear devices, power supplies, operational amplifiers and logic circuits. Lecture and laboratory work are integrated allowing the students to test the theory through projects that the students design and build. Prerequisite: "C" or better in PHYS 118 or 212 or departmental consent. Cross-listed as PHYS/ENGR 264. 3 semester credit hours. Typically offered: spring term.

English for Academic Purposes

EAP 10 Beginning EAP. Beginning EAP is an entry level /lower intermediate course in English for Academic Purposes for non-native speakers of English. The course contextualizes language learning through integrated speaking, listening, reading, and writing activities. Development of basic skills in pronunciation, vocabulary, and grammar is highlighted. Graded. Pre requisite: University Placement Test. The course consists of 2 x 8 week sessions of 20 contact hours/week; summer intensive consists of 2 x 5 week sessions of 20 contact hours/week. 12 semester credit hours. Typically offered: fall, spring, and summer terms.

EAP 20 Intermediate EAP. A course in English for Academic Purposes for non-native speakers of English. The course continues on from beginner/lower intermediate level with intensified contextualized practice in listening, speaking, reading and writing. There is a focus on academic skills with extensive opportunity for critical thinking, discussion, and writing. Prerequisite: University Placement Test. The course consists of 2 x 8 week sessions of 20 contact hours/week; summer intensive consists of 2 x 5 week sessions of 20 contact hours/week. 12 semester credit hours. Typically offered: fall, spring, and summer terms.

EAP 30 High Intermediate EAP. A course in English for Academic Purposes for non-native speakers of English. The course builds on the Intermediate level with intensified contextualized practice in academic listening, speaking, reading, and writing. The focus is on developing academic skills with extensive opportunity for critical thinking, discussion, academic listening, and reading, and writing in academic genres. Prerequisite: University Placement Test. The course consists of 2 x 8 week sessions of 20 contact hours/week; summer intensive consists of 2 x 5 week sessions of 20 contact hours/week. 12 semester credit hours. Typically offered: fall, spring, and summer terms.

EAP 40 Advanced EAP. A course in English for Academic Purposes for non-native speakers of English. The course builds on the high intermediate level with highly intensive contextualized practice in academic listening, speaking, reading, and writing. The focus is on preparing students to transition to undergraduate or graduate courses. There is extensive opportunity for critical thinking, discussion, academic listening, reading and writing in academic genres. Students will also have the opportunity to sit in on some university classes in their discipline. Prerequisite: University Placement Test. The course consists of 2 x 8 week sessions of 20 contact hours/week; summer intensive consists of 2 x 5 week sessions of 20 contact hours/week. 12 semester credit hours. Typically offered: fall, spring, and summer terms.

Environmental Science

ENVS 105 Physical Geography. An introduction to hydrology and the physical processes operating in and on the planet earth. Topics of study will include ground and surface water, the hydrologic cycle, watershed models, groundwater recharge, geomorphology, tectonics, structural features, and geological processes relating to natural resource management, environmental processes and concerns. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: periodically.

ENVS 205 Environmental Science. A survey of environmental science with an emphasis on global concerns, biological and physical resources, resource use, conservation issues, and the interactions among science, society, and the environment. Prerequisite: "C" or better in: BIOL197, BIOL 198 and CHEM 123. Cross-listed BIOL 205/ENVS 205. 3 semester credit hours. Typically offered: fall term.

ENVS 210 OSHA Hazardous Waste Operation and Emergency Response Training. Forty classroom hours of training in recognition, evaluation, and proper work practices dealing with hazardous materials and wastes in compliance with 29CFR 1910.120. Students passing the course will receive a certificate renewable every year allowing them to work on sites in compliance with the federal statute. There will be an extra certification fee associated with the course. 1 semester credit hour. Typically offered: spring term. *Department consent required.*

ENVS 211 OSHA Hazardous Waste Operations and Emergency Response Training Refresher. Eight classroom hours of training in the recognition, evaluation, and proper work practices dealing with hazardous materials and hazardous waste evaluation. The class is for the annual recertification in compliance with 29CFR 1910.120 for students who have passed ENVS 210 or who have current valid certification through other institutions. There will be an extra certification fee associated with the course. Prerequisite: ENVS 210. 1 semester credit hour. Typically offered: spring term. *Department consent required.*

ENVS 291 Selected Topics. 1-4 semester credit hours. Typically offered: periodically.

ENVS 300 Ecology of Lakes and Streams. The study of the interrelations among the physical, chemical, and biological components of freshwater ecosystems. Includes taxonomy, adaptations, distributions, and abundance of aquatic organisms. Prerequisite: "C" or better in CHEM 123 and one of: BIOL 201, BIOL 203, or BIOL 250. Cross-listed ENVS / BIOL 300. 3 semester credit hours. Typically offered: periodically.

ENVS 305 Environmental Toxicology. A study of the toxic effects of chemicals on human and ecological populations. Includes the physiological, genetic, and teratogenic effects of chemicals on humans and the study of biomagnification of chemicals through the food chain. Case studies and risk modeling using computers will be included to integrate theory and regulatory compliance. Prerequisite: "C" or better in CHEM 123 and either BIOL 256 or BIOL 258. Cross-listed with ENVS/BIOL 305. 3 semester credit hours. Typically offered: periodically.

ENVS 398 Capstone Project. Projects (involving laboratory and field study) that integrate the principle and practice of environmental issues. The experience culminates in written and oral presentation of the findings. 1-3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:3.*

Finance

FINA 120 Financial Literacy. This course provides students of all majors, concentrations and levels of study, strategies to achieve good spending and savings habits, along with an opportunity to share their knowledge with others in the outside community. Students will create a personal budget and statement of net worth, keep track of their spending and learn how to better manage credit card debt and learn how to use benefit and savings plans to help achieve future financial goals. This course has a service learning component. Social-Scientific I Mode of Inquiry (QIO). 2 semester credit hours. Typically offered: fall and spring terms.

FINA 220 Personal Financial Planning. An introduction to personal financial planning. Topics covered include: time value of money, tax planning, cash management, credit cards, purchase of home, auto and health insurance, retirement and estate planning. Social-Scientific I Mode of Inquiry (QIO). 3 semester credit hours. Business Core Elective. Typically offered: spring term.

FINA 250 Introduction to Bloomberg System. The course will provide an introduction to the Bloomberg System. Students will learn how to navigate through the system to access the vast amount of data available through the application and will assist students in receiving Bloomberg certification. Prerequisite: FINA 300. 1 semester credit hour. Typically offered: annually.

FINA 255 Equities and Portfolio Management Using Bloomberg. The course will provide an introduction to the using the Bloomberg System to evaluate equities and equity portfolios. Students will gain knowledge necessary for one of the Bloomberg certifications. Prerequisites: FINA 250, FINA300. 1 semester credit hour. Typically offered: fall, spring and summer terms.

FINA 260 Fixed Income Analysis using Bloomberg. The course will provide an introduction to the using the Bloomberg System to evaluate fixed income instruments. Students will gain knowledge necessary for one of the Bloomberg certifications. Prerequisites: FINA 250, FINA 300. 1 semester credit hour. Typically offered: fall, spring, and summer terms.

FINA 297 Internship. Practical experiences in business related fields under the supervision of the program coordinator. 2-6 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

FINA 300 Managerial Finance. An analysis of the functions of financial management in the decision-making process of the firm. Prerequisite: ACCT 112, MATH 115. 3 semester credit hours. Typically offered: fall and spring terms.

FINA 310 Money and Financial Markets. Study of money, the banking system, monetary theories, and relation of the monetary system to national income, employment, and price levels. Prerequisite: ECON 101, ECON 102. 3 semester credit hours. Typically offered: fall term.

FINA 320 Investments. A framework useful to develop investment policy for individuals and institutions; security evaluation methods and portfolio management strategies are developed. Prerequisite: FINA 300. 3 semester credit hours. Typically offered: fall term.

FINA 325 Derivatives. An examination of the pricing and use of options, futures, forwards and swaps in the financial markets. Prerequisite: FINA300. 3 semester credit hours. Typically offered: annually.

FINA 330 Business and Economic Forecasting. Acquaints students with statistical forecasting methodologies, while placing special emphasis on the underlying assumptions. The emphasis is on time-series methods used for forecasting and includes techniques such as decomposition, smoothing, regression and ARIMA modeling. 3 semester credit hours.

FINA 335 Risk Management. This course will introduce students to risk management issues faced by all companies. The course will cover governance, types of risk, (market, credits, liquidity, operational, and reputational), how to calculate Value at Risk using simulation, portfolio Value at Risk and Stress Testing. Prerequisite: FINA 300 and MGT 251 or BALT 301. 3 semester credit hours. Typically offered: fall and spring terms.

FINA 340 Public Finance. This course examines the economics of the public sector, including the impact of the government budget on resource allocation, income distribution and economic stabilization; principles and problems of budget determination, including both tax and expenditure aspects; tax shifting and incidence; and fiscal and debt management policies. Prerequisite: ECON 101, ECON 202. 3 semester credit hours.

FINA 345 Fixed Income. This course will introduce students to international fixed income markets and debt securities. Topics covered include: interest rate measures, forwards, futures, duration and convexity, the yield curve, and yield spreads. Prerequisite: FINA 300 and MGT 251 or BALT 301. 3 semester credit hours. Typically offered: fall and spring terms.

FINA 360 International Trade and Finance. Trade theory, trade barriers, balance of payments, exchange rates, open-economy macroeconomics. Prerequisite: ECON 101, ECON 310, and "C" or better in MATH 115. 3 semester credit hours.

FINA 370 Multinational Corporate Finance. Stresses the financial decision-making of a firm in an international setting. Covers international financial markets, exchange risk management, asset and liability management and international banking. Prerequisite: ECON 101, ECON 102, ACCT 111. 3 semester credit hours. Typically offered: spring term.

FINA 380 Advanced Managerial Finance. A continuation of Managerial Finance with a focus placed upon corporate financial decisions. The case approach is used to analyze various advanced finance-related topics. This is the capstone course for the Finance major. Prerequisite: FINA 300. 3 semester credit hours. Typically offered: spring term.

FINA 391 Topics. Specially designed courses in various business topics to supplement the business curriculum. Prerequisite: Varies based upon the specific topic being explored. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

FINA 395 Independent Study. Provides an opportunity for an advanced student in the major to pursue study in a field of business related interest. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

FINA 397 Internship. Practical experiences in business related fields under the supervision of the program coordinator. 2-6 semester credit hours. *Department consent required.*

Fine Arts

FNAR 100 Art Appreciation. Introduction to the visual arts through lectures, discussions and field trips. IAI F2 900. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall and spring terms.

FNAR 101 Fundamentals of Design. Emphasizes the knowledge and application of basic design principles of two-dimensional images in representational and abstract forms. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall term.

FNAR 110 Three-Dimensional Design. A studio art course which explores the design principles when applied to the exploration and ordering of three-dimensional space. Using a variety of physical materials students will construct artworks which challenge their conceptual capacity of considering visual and tactile properties of form. No prerequisite. 3 semester credit hours.

FNAR 111 Drawing. Fundamental drawing from observation with emphasis on linear perspective and tonal modeling of the still life and human head. IAI ART 904. Fee $40. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall and spring terms.

FNAR 120 Lettering and Layout - Foundational. Introduction to calligraphic lettering with a broad-nib pen. Explores a variety of designs and techniques in italic and related cursive styles. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall term.

FNAR 121 Lettering and Layout - Italic. Introduction to calligraphic lettering with a broad-nib pen. Explores a variety of designs and techniques in italic and related cursive styles. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: spring term.

FNAR 203 Ancient and Medieval Art. Photographic presentations of significant paintings, sculptures and buildings with emphasis on religious concepts. IAI F2 901; ART 901. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall term.

FNAR 204 Renaissance to Modern Art. Pictorial survey of painting, sculpture and architecture in Western civilization with emphasis on religious concepts. IAI F2 902; ART 902. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: spring term.

FNAR 205 Non-Western Art History. Introduction to the history of the visual cultures of Africa, India and Southeast Asia, China and Japan. Emphasizes the arts in context, especially the world religions Buddhism, Christianity, Hinduism and Islam. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective.

FNAR 206 Modern and Contemporary Art History. Survey of major visual arts movements from 1865 to present. Emphasizes artists' contexts and audience reception. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective.

FNAR 210 Figure Drawing. Introduction to drawing the human figure from observation. IAI ART 906. 3 semester credit hours. Typically offered: fall term, odd years.

FNAR 211 Drawing II. This studio art course is a continuation and expansion of Drawing I which utilizes the representational tradition of drawing. Drawing II will give focus to the compositional and design aspects of picture making. Towards the conclusion of the course the nature of abstraction will be investigated. Reference to historical models of drawing is a constant factor of the course. A variety of materials will be included. Prerequisite: FNAR 111 Drawing I. 3 semester credit hours. Core Elective.

FNAR 240 Printmaking: Intaglio(Etching). A studio course emphasizing the etching medium. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: spring term, even years.

FNAR 241 Printmaking: Relief. Introduction to the woodcut and relief processes. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall term, even years.

FNAR 242 Printmaking: Silk-Screen. A studio course on silk-screen printing. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall term, odd years.

FNAR 243 Printmaking: Lithography. A studio course utilizing the traditional technique of printing on Limestones Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall term, odd years.

FNAR 244 Intermediate Printmaking. This is a printmaking course which expands on the techniques of any one, or in combination, of the four printmaking courses (i.e. 240, 241, 242 and 243). Investigations into color, advanced techniques, and an exploration of texture are key components of the course. Prerequisite: two printmaking courses. 3 semester credit hours.

FNAR 250 Oil Painting. An introductory studio course emphasizing color mixing as it relates to traditional representation. IAI ART 911. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: spring term.

FNAR 260 Intermediate Painting. This studio art course continues on the foundations of the beginning Oil Painting course which seeks to establish the groundwork for painting from life, the mechanics and craft of oil painting, which includes learning to conceptualize working with a pallet of color. Exploration of new genre, including the still life, will be a factor in the course. Prerequisite: FNAR 250 Oil Painting. 3 semester credit hours.

FNAR 291 Topics. Focuses on various topics relating to the needs of the students and recent events and/or topics of interest. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective. Typically offered: periodically.

FNAR 292 Black and White Photography. Foundations of photographic theory, shooting, and print developing. Core QCA. 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall term.

FNAR 293 Digital Photography. Emphasis on shooting and manipulation of digital camera imagery. Core. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Fine Arts Core Elective.

FNAR 294 Computer Art. Creation of artwork using the computer as medium. Core QCA. 3 semester credit hours. Fine Arts Core Elective. Typically offered: periodically.

FNAR 295 Educational Travel. Guided tour of religious and cultural monuments in various countries. Between semesters. 1-2 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

FNAR 296 Science Meets Art. The relationship between science and art will be studied in 8 two-week units to help science majors develop illustration skills and an appreciation for qualitative empirical evidence. Prerequisites: completion of one life science course and one physical science course. 3 semester credit hours. Fine Arts/Music Core Elective. Typically offered: spring term.

FNAR 305 Advanced Painting. An advanced 300 level studio art course that explores the meaning of Modernist abstraction in painting. The course will also consider the relevance of understanding contemporary art as it becomes pertinent to conceiving of a personal artistic vision. Having an aesthetic posture of creativity, invention and discovery is the primary attitude towards the course. This course is not a core elective. 3 semester credit hours.

FNAR 311 Advanced Drawing. An intensive investigation into the use of value and the compositional elements of picture making. Emphasis will be placed on the methods of representation as evidenced by the traditions of past masters. This is not a core elective. Prerequisite: FNAR 211 Drawing II. 3 semester credit hours. Typically offered: fall term, even years.

FNAR 340 Advanced Printmaking. An advanced 300-level studio art course that utilizes one, or more, of the traditional printmaking mediums. Students are expected to pursue a personal vision while being aware of the influences that contemporary printmaking can offer. Mastery of the printmaking material and techniques will remain a primary concern. Prerequisite: FNAR 244 Intermediate Printmaking. 3 semester credit hours.

FNAR 350 Senior Portfolio: Thesis Exhibition. This is a capstone course for Senior Art majors. Students are expected to produce a developed vision within their chosen medium of concentration, and then exhibit their artworks in the University Art Gallery. The course will also consider the development of a digital portfolio that can serve the student post-graduation. The critique process by Art faculty is a constant factor in the course. Prerequisite-One of three: FNAR 305, FNAR 340 or FNAR 394. 3 semester credit hours. *Department consent required.*

FNAR 360 Senior Seminar: Professional Portfolio. The students will analyze the job markets and prepare analyses of current issues in the performing arts. Analyses of demographics affecting the operations and organization of art programs in the United States will be studied. Students will be required to create a portfolio of personal data to prepare for job searches, prepare for mock interviews and present exhibition of works. Prerequisite: junior standing. 3 semester credit hours. Fine Arts Core and Writing Inten. Typically offered: spring term.

FNAR 381 Advanced Studio I. An advanced studio course that focuses on advanced issues in art making related to medium and content. The instructor may also introduce a theme for the course to further influence student work. Prerequisite: Any 100 or 200 level studio course. 3 semester credit hours. Typically offered: fall and spring terms.

FNAR 382 Advanced Studio II. An advanced studio course that focuses on advanced issues in art making related to medium and content. Students develop individual mastery in form and chosen subject matter. Prerequisite: Advanced Studio I (FNAR 381). 3 semester credit hours. Typically offered: fall and spring terms.

FNAR 383 Advanced Studio III. An advanced studio course that focuses on advanced issues in art making related to medium and content. Students continue to develop individual mastery in form and chosen subject matter. Prerequisite: Advanced Studio II (FNAR 382). 3 semester credit hours. Typically offered: fall and spring terms.

FNAR 384 Advanced Studio IV: Senior Exhibit. An advanced studio course that focuses on advanced issues in art making related to medium and content. Students focus their efforts on compiling art for their senior exhibit. Prerequisite: Advanced Studio III (FNAR 383). 3 semester credit hours. Typically offered: fall and spring terms.

FNAR 391 Topics. Focuses on various topics relating to the needs of the students and recent events and/or topics of interest. 1-3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

FNAR 394 Advanced Photography. An advanced, 300-level studio art course which would include developing a thesis with a selected concentration in the photographic discipline. This course could also have as a concentration topics related to photo journalism, documentary photography or event photography. The course begins the process of developing a body of work that leads to a professional portfolio. Prerequisite: FNAR 294 Intermediate Photography. 3 semester credit hours. Core Elective.

FNAR 395 Independent Study. A course designed to provide students with individual and focused coursework in some area of studio art. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

FNAR 397 Internship. A practical course intended to give those students who are qualified an opportunity to do some observing - either in a classroom or privately - or to perform any practical job associated with his or her field under the supervision of the faculty. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

FNAR 398 Senior Seminar: Art Criticism. This is a writing intensive course that focuses on the methods, theories, and imagery that contribute to the art of writing art criticism. Much emphasis will be placed on the act of interpretation. This course is also intended towards the fine artist who is serious about developing a personal artistic vision. 3 semester credit hours. Typically offered: fall term. *Course repeatable. Maximum number of units allowed: 99.*

French

FREN 291 Topics in French Language and Literature. Intermediate-level study of topics in French literature, culture and civilization. 1-3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

FREN 391 Topics in French Language and Literature. Advanced-level study of topics in French literature, culture and civilization. 1-3 semester credit hours.

Gender Studies

GENS 100 Gender and Literature. Introduction to gender issues in a variety of disciplines and exploration of international issues in the human social development that stem from the ways that gender is constructed, institutionalized and exacted in the contemporary world. Emphasis will be placed on understanding the biological, social and cultural bases of gender differentiation as they are understood and acted upon in our own and in other societies. Cross-listed with LITR 281. 3 semester credit hours. Literature Core Elective.

Geography

GEOG 105 Physical Geography. An introduction to hydrology and the physical processes operating in and on the planet earth. Topics of study will include ground and surface water, the hydrologic cycle, watershed models, groundwater recharge, geomorphology, tectonics, structural features, and geological processes relating to natural resource management, environmental processes and concerns. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: periodically.

GEOG 106 Geography and Cartography. An interdisciplinary offering that covers basic physical geography before moving to the study of cartography and then to cultural geography. Students will demonstrate an understanding of human population growth and its impact on the earth's resources, including food, energy, physical materials, water, and landscapes; the geography of resource availability and the limits of the earth as producer of resources. They will also be required to use computer software to explore connections between geography and contemporary political, social, and economic issues. 3 semester credit hours.

GEOG 107 Earth and Space Science. A physical science laboratory course that includes the study of key principles of Earth and Space Science through the investigation of real world problems. The earth science component includes the study of large-scale dynamic forces, events, and processes that affect the Earth's land, water, and atmospheric systems, identification and evaluation of the uses of the Earth's resources, and the processes involved in the life cycle. The space science component focuses on concepts that explain the composition, structure of and changes in the universe and Earth's place in it. By working and studying within the context of a real world problem, students learn how scientific principles are used and applied in everyday life. IAI P1 909. Physical-Scientific Mode of Inquiry (QPS). 4 semester credit hours. Typically offered: spring term.

Global Studies

GBLS 101 Introduction to Global Studies. This interdisciplinary course will survey and interrogate the major events and processes such as colonialism, imperialism and globalization that shape and inform the contemporary world. From the perspectives of selected regions, Latin America, non-Latin America, the Middle East and the Mediterranean, the course will explore the 21st century challenges they face and the solutions they offer for preserving and inhabiting the new, global, interdependent – world. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Global Studies Core Elective.

GBLS 102 Global Studies II. This course introduces students to research methods in various academic disciplines that are essential for conducting research in Global Studies topics. Students research topics related to global environmental issues. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Global Studies Core Elective.

GBLS 200 American Studies. This course uses elements of fiction and non-fiction in the study of various topics of race, class and gender in American Studies. Cross listed with HIST 200. 3 semester credit hours. Typically offered: fall term.

GBLS 201 Theories in Global Studies. 3 semester credit hours. Typically offered: annually.

GBLS 202 Theories in Global Studies. Course examines the major theoretical concepts in the field of Global Studies such as capitalism, communism, socialism, transnationalism and globalization. Cross-listed as GBLS 202/302. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Global Studies Core Elective. Typically offered: fall term.

GBLS 205 Ancient China. 3 semester credit hours. Typically offered: annually.

GBLS 220 Mediterranean World. Studies the ancient cultures located around the Mediterranean Sea and the contributions they made to the development of western civilizations to about 500 A.D. Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" as reflected in religion, art, philosophy, and social, political and economic institutions. 3 semester credit hours. Typically offered: spring term.

GBLS 269 The American Civil War. This course examines the era of the American Civil War with emphasis on the period from 1861-1865, four years during which the United States endured its greatest national trauma. The course examines the economic, social, cultural and political causes of the war as well as a detailed analysis of the military history of the war. The course moves through biological sketches of Frederick Douglas, Ulysses S. Grant, "Stonewall" Jackson, William Tecumseh Sherman, Robert E. Lee and Abraham Lincoln. Attention will be brought to the lives of everyday people consumed in the war and the enlisted men who fought. 3 semester credit hours. Typically offered: even years.

GBLS 291 Introduction to Global Studies. 3 semester credit hours.

GBLS 300 Junior Seminar: Topics in Global Studies. Junior year seminar which takes as its focus one topic of global significance (e.g. global poverty, AIDS, development). Topic varies by year and instructor. 3 semester credit hours. Typically offered: fall term.

GBLS 301 Advanced U. S. Literary and Cultural Studies. Explores critical questions, analytical categories, and common methodologies that structure the practice of U. S. literary and cultural studies. Students will work with primary literary texts as well as secondary sources and theoretical works. Students will also complete a research paper. Prerequisite: LITR 100 and GBLS 200. 3 semester credit hours. Global Studies Core Elective. Typically offered: spring term.

GBLS 302 Theories in Global Studies. Course examines the major theoretical concepts in the field of Global Studies such as capitalism, communism, socialism, transnationalism and globalization. Cross-listed as GBLS 202/302. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Global Studies Core Elective. Typically offered: fall term.

GBLS 391 Global Studies Topics. 3 semester credit hours. Typically offered: fall, spring and summer terms.

GBLS 395 Independent Study. Independent study of a global studies theme in consultation with department professors. 3 semester credit hours. *Department consent required.*

GBLS 399 Senior Thesis. Senior capstone experience. Prerequisite: GBLS 101 and GBLS 102 or senior standing. 3 semester credit hours. Typically offered: spring term.

Graphic Arts and Design

GAD 205 History of Graphic Design. 3 semester credit hours. Typically offered: spring term.

GAD 230 Typography. This course introduces typography as a vital element of visual communications. Typographic structure, terminology, expression, and strategy will be explored from the single letterform to an entire page layout. This studio course uses both computer and hands on skills to address the effective use of typography. 3 semester credit hours. Typically offered: spring term.

GAD 260 Graphic Design I. This course introduces students to the basic principles and elements of graphic design. Students will explore visual problem solving strategies in print media, and practice the industry standard graphic design programs such as Adobe Photoshop and Illustrator CS5 for design projects. 3 semester credit hours.

GAD 300 New Media and Design. This course introduces students to the essential techniques and procedures of computer animation. Students will learn and create storyboards, sequential compositions, and web animations by using Flash Professional CS5, the industry standard of web animation and interactive application. 3 semester credit hours.

GAD 301 Graphic Arts Practicum. Students create original graphic arts projects for presentation at a student or professional conference. Prerequisite: completion of GAD 360 and consent of the Instructor. Typically offered: periodically. *Department consent required.*

GAD 360 Graphic Design II. A continuation of Graphic Design I. The student will use painting and photo-editing programs and employ analytical skills for purposes of creation and critical appraisal. Prerequisite: GAD 260. $50 fee. 3 semester credit hours. Typically offered: spring term.

GAD 393 Senior Portfolio. 3 semester credit hours. Typically offered: spring term.

Health Science

HLSC 200 Applied Exercise Science. For PE Majors only. This course covers key exercise science core principles from exercise physiology, kinesiology, biomechanics, and preventive health related fitness. Special emphasis will be given to the scientific principles and importance of maintaining a physically active lifestyle. A secondary emphasis will be to develop a healthy lifestyle for others through lifetime health related physical activity. 4 semester credit hours. Typically offered: fall term. *Department consent required.*

HLSC 291 Medical terminology. Introduction of medical terms for each body system and specialty medical fields. Includes word roots, prefixes and suffixes commonly encountered in the health care field. 2 semester credit hours. Typically offered: fall, spring, and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

HLSC 300 Practicum Experience in Veterinary Medicine. The Practicum provides 75 hours of observation for the specific Healthcare career. The observation is in a variety of clinical sites and/or private practice offices. Prerequisite [Main Campus]: 3.4 GPA, 30 hours completed at Benedictine University. Prerequisite [Springfield Campus]: 3.2 GPA, 30 hours completed at Benedictine University. 2 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

HLSC 301 Practicum Experience: Medicine. The Practicum provides 75 hours of observation for the specific Healthcare career. The observation is in a variety of clinical sites and/or private practice offices. Prerequisite: Instructor Consent, 3.2 GPA, 30 hours completed at Benedictine University. 2 semester credit hours. Typically offered: fall, spring, and summer terms. *Department consent required.*

HLSC 302 Practicum Experience - Dentistry. The Practicum provides 75 hours of observation for the specific Healthcare career. The observation is in a variety of clinical sites and/or private practice offices. Prerequisite [Main Campus]: 3.4 GPA, 30 hours completed at Benedictine University. Prerequisite [Springfield Campus]: 3.2 GPA, 30 hours completed at Benedictine University. 2 semester credit hours. Typically offered: fall, spring, and summer terms. Department consent required.

HLSC 303 Practicum Experience - Occupational Therapy. The Practicum provides 75 hours of observation for the specific Healthcare career. The observation is in a variety of clinical sites and/or private practice offices. Prerequisite [Main Campus]: 3.4 GPA, 30 hours completed at Benedictine University. Prerequisite [Springfield Campus]: 3.2 GPA, 30 hours completed at Benedictine University. 2 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

HLSC 305 Practicum Experience - Podiatry. The Practicum provides 75 hours of observation for the specific Healthcare career. The observation is in a variety of clinical sites and/or private practice offices. Prerequisite [Main Campus]: 3.4 GPA, 30 hours completed at Benedictine University. Prerequisite [Springfield Campus]: 3.2 GPA, 30 hours completed at Benedictine University. 2 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

HLSC 307 Practicum Experience - Physical Therapy. The Practicum provides 75 hours of observation for the specific Healthcare career. The observation is in a variety of clinical sites and/or private practice offices. Prerequisite [Main Campus]: 3.4 GPA, 30 hours completed at Benedictine University. Prerequisite [Springfield Campus]: 3.2 GPA, 30 hours completed at Benedictine University. 2 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

HLSC 309 Practicum Experience - Optometry. The Practicum provides 75 hours of observation for the specific Healthcare career. The observation is in a variety of clinical sites and/or private practice offices. Prerequisite [Main Campus] 3.4 GPA, 30 hours completed at Benedictine University. Prerequisite [Springfield Campus]: 3.2 GPA, 30 hours completed at Benedictine University. 2 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

HLSC 310 Practicum Experience - Chiropractic. The Practicum provides 75 hours of observation for the specific Healthcare career. The observation is in a variety of clinical sites and/or private practice offices. Prerequisite [Main Campus]: 3.4 GPA, 30 hours completed at Benedictine University. Prerequisite [Springfield Campus]: 3.2 GPA, 30 hours completed at Benedictine University. 2 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

HLSC 321 Fitness Testing. Laboratory and field-based testing of selected physiological parameters of the human. Exercise leadership principles and skills are emphasized. fall. Prerequisite: Must be accepted into the 4 + 1 Clinical Exercise Physiology graduate program to register. Cross-listed with EXPH 521. 1 semester credit hour. *Department consent required.*

HLSC 322 EKG Lab. Practice in the measurement and interpretation of the 12-lead EKG: normal, changes with disease, changes with exercise and stress testing. Prerequisite: HLSC 321/EXPH 521. Cross-listed as EXPH 522/HLSC 322/NTR 522. 1 semester credit hour. Typically offered: spring term.

HLSC 358 Exercise Physiology. Provides an in-depth overview of how the body's physiological, hormonal, and biochemical systems acutely and chronically respond to various forms of physical activity and environmental conditions in untrained and trained individuals. Prerequisite: BIOL 258 or a human physiology course and CHEM 123. Cross-listed as BIOL 358/HLSC 358/EXPH 500. 3 semester credit hours. Typically offered: fall, spring and summer terms.

HLSC 360 Advanced Cardiovascular and Respiratory Physiology. In depth study of the normal functioning of the cardiovascular and respiratory systems. Emphasis is placed on the acute effects of exercise as well as the adaptations that occur as a result of exercise. Prerequisite: BIOL 258. Cross-listed with EXPH 560. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HLSC 361 Pathophysiology and Prevention. Study of the disease and progression of cardiovascular, respiratory, and metabolic system diseases. Programs for primary and secondary prevention will be discussed. Prerequisite: "B" or better in HLSC 360/EXPH 560. Cross-listed as HLSC 361/EXPH 561. 3 semester credit hours. Typically offered: spring term.

HLSC 381 Professional Experiences in Clinical Exercise Physiology. An introductory program class placing special emphasis on understanding the areas and options that define exercise physiology, with particular reference to clinical applications. Students will gain exposure to the field through observation visits where clinical exercise physiologists are employed. Students will also develop an understanding of clinical exercise physiology research design, statistical analysis, and epidemiology, providing the basis for literature discussion in other courses. Cross-listed with HLSC 381 and EXPH 581. 1 semester credit hour. Typically offered: fall term.

HLSC 382 Advanced Exercise Physiology I. A study of exercise physiology focusing on bioenergetics, exercise metabolism, hormonal responses to exercise, and immune system response. Prerequisite: BIOL 358/HLSC 358/EXPH 500. Cross-listed with EXPH 582 and HLSC 382. 1 semester credit hour. Typically offered: fall term.

HLSC 389 Health Sciences Research. Students desiring more intensive original research, with extensive requirements for laboratory or clinical facilities may use this as an extension of practicum, internship and other courses in this section. 1-3 semester credit hours. *Department consent required.*

HLSC 390 Internship. Practical experience in exercise physiology in various settings such as Villa St. Benedict, hospitals, rehabilitation centers, YMCAs, colleges and corporations under the supervision of an experienced on-site professional. Internships available in wellness/fitness, rehabilitation, or research. 1-2 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

HLSC 391 Selected Topics in Health Sciences. Special courses in the health fields with which the student has not become aquatinted in formal course work. May be an extension of or a supplement to material previously encountered, or lectures from a completely new area. 1-3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

HLSC 392 Exercise Biochemistry and Metabolism. Principles of biochemistry and metabolism of biomolecules as they pertain to rest and exercise. Interconversion of nutrients and their usage, integration of hormones and their metabolic effects on each organ system will be emphasized. Prerequisite: BIOL 358/HLSC 358/EXPH 500, a biochemistry course, and "B" or better in EXPH 582/HLSC382. Cross-listed with HLSC 392. 3 semester credit hours. Typically offered: spring term.

HLSC 395 Independent Study. 1-3 semester credit hours. Typically offered: periodically. *Department consent required.*

History

HIST 101 Western Civilization to 1715. An integrated survey of the development and interaction of the centers of civilization throughout the Western world to 1715. IAI H2 901. 3 semester credit hours. Typically offered: periodically.

HIST 111 American History to 1865. Covers the Colonial era, the revolutionary age, internal growth of the Republic, and causes of the Civil War. IAI H2 904; S2 900; HST 911. Historical Mode of Inquiry (QHT). 3 semester credit hours. Typically offered: fall term.

HIST 112 American History since 1865H. Covers the industrialization of America; the organization of labor; the development of imperialism; the growth of foreign policy. IAI H2 905; S2 901; HST 912. Historical Mode of Inquiry (QHT). 3 semester credit hours. Typically offered: spring term.

HIST 180 Survey of East Asia: Ancient to 1600. New spring 15 course. 3 semester credit hours.

HIST 200 Introduction to American Studies. This course uses elements of fiction and non-fiction in the study of various topics of race, class and gender in American Studies. (Topics vary). Cross-listed with GBLS 200. 3 semester credit hours. Typically offered: fall term.

HIST 203 Historiography. Introduction to the methodology and practice of history and to some of the great historians. Includes an emphasis on world history. Prerequisite: HIST 111, HIST 112. 3 semester credit hours. Writing Intensive Course.

HIST 205 American Economic History. Analysis of the growth of the U.S. economy and the role of government, business and labor. 3 semester credit hours.

HIST 206 Modern European Economic History. Analyzes the evolution of manufacturing, agriculture, demography and international trade of Europe since 1500. 3 semester credit hours.

HIST 210 Africa to 16th Century. Surveys early African civilization and formation and development of major kingdoms. 3 semester credit hours.

HIST 211 Modern Africa. Surveys the major historical and cultural developments in Africa from the 19th century to the present. 3 semester credit hours.

HIST 212 Colonial Latin America, 1492-1821. Surveys the pre-colonial societies (Olmec, Toltec, Aztec, Maya, Inca) that shaped the Americas prior to the coming of the Europeans, the European conquest of the Americas, the establishment of colonial societies in the Americas, through the nineteenth century wars of independence and ending with the demise of the Spanish empire in the Americas, the Cuban-Spanish War (1895-1898). 3 semester credit hours.

HIST 213 Contemporary Latin America, 1898-2000. Beginning with the creation of independent nation states in Latin America, this course will survey the social processes, issues and events that have given rise to contemporary Latin America as well as the impact of Latin America on the wider world. 3 semester credit hours.

HIST 214 The African Diaspora in Latin America, 1492-1899. An interdisciplinary course that explores the African diaspora in Latin American from the conquest of the Americans by Europeans through the end of the century. Examines how Africans and their descendants in conflict and in concert with Native Americans, Europeans and Asians have created new cultures, religions and societies in the Americas. 3 semester credit hours.

HIST 215 The African Diaspora in Latin America, 1899-2000. An interdisciplinary course that explores the experiences of people of African descent in Latin America focusing on the fight for independence of Latin American and the continuing struggle for economic and social equality in contemporary Latin America. 3 semester credit hours.

HIST 220 The Mediterranean World. Studies the ancient cultures located around the Mediterranean Sea and the contributions they made to the development of western civilizations to about 500 A.D. Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" as reflected in religion, art, philosophy, and social, political, and economic institutions. Counts as HUMN 220. IAI H9 900. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HIST 223 Constitutional History of England. The growth and change of the English constitution from late Roman times to the present. 3 semester credit hours.

HIST 230 The Baptism of Europe. Studies the development and Christianization of Europe in the Middle Ages (500-1500 A.D.). Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" through social structures (religious, political, economic) and through the interactions and/or conflicts between people and cultures (Eastern and Western Christianity; Christianity, Judaism, Islam). Counts as HUMN 230. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

HIST 240 Converging Hemispheres. Studies the increasingly global encounter of peoples, ideas, and cultures from the Age of Exploration (from 1400 A.D.) into the Twentieth century. Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the shift in emphasis from "person in community" the values of freedom, equality, and responsibility. Examines the construction of the modern era focusing on scientific revolutions, economic transformation, religious reformations, and revolution, resistance and republicanism. 3 semester credit hours.

HIST 242 19th Century Church History. Studies the European Church's reaction to the French Revolution and scientific theories and the social questions of the 19th century. Analyzes the roots of contemporary developments in the church. 3 semester credit hours.

HIST 243 20th Century Church History. Analyzes the impact of 19th century developments, the world wars, decolonization, intellectual trends, and Vatican II's origins and results. 3 semester credit hours.

HIST 251 The French Revolution in the Wider World. Examines the intellectual and political dimensions of the French Revolution as well as the intellectual and political ramifications of that revolution in the wider world. The course will focus on the French Revolution as a generative factor in the wars of independence in the Americas, the Haitian Revolution, the European revolutions of 1848 and the Paris Commune. 3 semester credit hours.

HIST 252 19th Century Europe. Covers the political, military, economic, social and cultural development of Europe from the French Revolution to 1900. 3 semester credit hours.

HIST 253 20th Century Europe, 1900 - Present. Covers the political, military, economic, social, and cultural development of Europe, including the Soviet Union, from 1900 to the present. 3 semester credit hours.

HIST 254 Modern Eastern Europe. Survey of the cultural and historical development of the peoples of Eastern Europe. Covers nationalism, independent states in the inter-war period. Communist control of Eastern Europe, collapse of communism, and the struggle for democracy. 3 semester credit hours.

HIST 255 Modern Russia. Surveys Russia in the 20th century, including the rise of the Communist Party, the 1917 revolution, Stalinism, de-Stalinization, Gorbachev, perestoika, and the break-up of the Soviet Union. 3 semester credit hours.

HIST 257 20th Century Social and Political Movements in a Global Context. Explores the major social and political movements that have shaped the world in the twentieth century, such as the Mexican, Russian, Chinese and Cuban Revolutions, populist, revolutionary nationalist and liberation movements in Africa and Latin America as well as the contemporary civil rights and women's movements in the United States. 3 semester credit hours.

HIST 260 Women in American Society. Examines women's roles in American life and the ways in which they have shaped society, culture and politics. Topics include the major experience of women from the colonial era to the present; gender ideology and the changing images of women; the diversity of race, class and religion. Historical Mode of Inquiry (QHT). 3 semester credit hours.

HIST 261 Revolutionary and Jeffersonian Eras: 1763 -1828. Analyzes the causes of the Revolution, origins of the Constitution and early development of the new nation. 3 semester credit hours.

HIST 262 Antebellum America, 1824-1877. This course examines the economic, political and cultural changes in the United States, culminating in the Civil War. The primary focus of the course is slavery and the battle to dismantle the peculiar institution. 3 semester credit hours.

HIST 263 20th Century America to World War II. Analyzes the impact of the later industrialization, reform movements, World War I, Depression and New Deal, World War II. 3 semester credit hours.

HIST 264 America Since World War II. Discusses the impact of World War II, the Cold War, the affluent society, and contemporary society. 3 semester credit hours.

HIST 265 African-American History. Surveys the major events in Black history from 1619 to present. Topics include origins of slavery, Blacks in the American Revolution, Civil War and Reconstruction, Harlem Renaissance, Depression, and the modern Civil Rights movement. Historical Mode of Inquiry (QHT). 3 semester credit hours.

HIST 266 Vietnam at War. An intensive, holistic study of the United States' involvement in South East Asia. The course examines the war from the Vietnamese, French and American perspectives, taking into account Vietnamese culture and history, French colonialization, and Cold War ideology and strategy. The course also addresses the anti-war movement and the influence of the counter-culture on US policy. 3 semester credit hours.

HIST 267 Diplomatic History of the United States. The evolution of American foreign policy, emphasizing the domestic and international background of the U.S. expansion from the American Revolution to America's rise as a great power. 3 semester credit hours.

HIST 268 Colonial America to 1763. Course examines the early European settlement of North America and the economic, political and social consequences of colonization for Europe, Africa and the Native Americans. 3 semester credit hours.

HIST 269 The American Civil War. 3 semester credit hours. Typically offered: annually.

HIST 270 Labor and the State, 1877-Present. Examines the growth of industrial America and the struggle of workers to organize. The course follows the labor movement in and its various constituencies, from the AFL-CIO to more radical groups such as the IWW, and their impact on American policy and culture. 3 semester credit hours.

HIST 271 Modern Middle East. An intensive study of 19th and 20th century Middle-East. 3 semester credit hours.

HIST 272 Early Islamic Middle East 500-1258. The first of a three course sequence studying the history of the Middle East. The course covers the pre-Islamic Middle East including the conflict between the Eastern Roman and Sasanian empires and focuses on the development of an Islamic civilization that spread throughout the Middle East, North Africa and into Spain under the rule of the two most important Islamic dynasties of this period, the Umayyads and the Abbasids. Relations with neighboring regions including Europe are highlighted including the crusades which began in the late eleventh century and continued in Syria/Palestine through the 13th century. Historical Mode of Inquiry (QHT). 3 semester credit hours. Typically offered: spring term.

HIST 273 Gun Powder Empires: Middle East 1200-1800. Introduction to the history of the Islamic world in the half-millennium before the rise of Europe following a chronological and thematic frame. Beginning with the Mongol invasions of the 13th century then the emergence of Turkish war bands of the 14th and 15th centuries while the era of bubonic plague (the 'Black Death') in the middle of the 14th century influences economic and social policies. The final chronological segment is the "imperial age" (from its zenith in the late 16th century to its passing the 18th). Cross-listed with HIST 373. 3 semester credit hours. Typically offered: spring term.

HIST 275 Ancient China. 3 semester credit hours. Typically offered: annually.

HIST 280 The World of Alexander the Great. Course examines the major economic, cultural and political developments during the age of Alexander the Great. The course places Alexander within a global context and also explores the enduring legacy of the period in art, architecture and the development of the ancient world. 3 semester credit hours. Typically offered: fall term, even years.

HIST 281 Survey of East Asia 1600-Present. An introductory survey of the modern history of East Asia, examining the efforts of traditional states, particularly China and Japan, to respond to Western intrusion into the region after 1600. Focus on social and cultural problems created by attempts to modernize yet defend tradition and on the differing results of Chinese and Japanese approaches. Offered yearly, spring term. 3 semester credit hours. Typically offered: spring term.

HIST 282 Modern China. 3 semester credit hours. Typically offered: spring term.

HIST 291 Topics. A study of various persons, events, trends, and institutions in European, American or non-Western History. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

HIST 292 Selected Topics: European/American/Non-Western. A study of various persons, events, trends, and institutions in European, American or non-Western History. 1-3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

HIST 295 Independent Study. Designed to encourage the superior student to study in-depth and to research an area beyond the undergraduate course offerings. 3 semester credit hours. *Department consent required.*

HIST 303 Historiography. Introduction to the methodology and practice of history and to some of the great historians. Includes an emphasis on world history. Prerequisite: HIST 111, HIST 112. 3 semester credit hours. Writing Intensive Course.

HIST 305 American Economic History. Analysis of the growth of the U.S. economy and the role of government, business and labor. 3 semester credit hours.

HIST 306 Modern European Economic History. Analyzes the evolution of manufacturing, agriculture, demography and international trade of Europe since 1500. 3 semester credit hours.

HIST 310 Africa to 16th Century. Surveys early African civilization and formation and development of major kingdoms. 3 semester credit hours.

HIST 311 Modern Africa. Surveys the major historical and cultural developments in Africa from the 19th century to the present. 3 semester credit hours.

HIST 312 Colonial Latin America, 1492-1821. Surveys the pre-colonial societies (Olmec, Toltec, Aztec, Maya, Inca) that shaped the Americas prior to the coming of the Europeans, the European conquest of the Americas, the establishment of colonial societies in the Americas, through the nineteenth century wars of independence and ending with the demise of the Spanish empire in the Americas, the Cuban-Spanish War (1895-1898). 3 semester credit hours.

HIST 313 Contemporary Latin America, 1898-2000. Beginning with the creation of independent nation states in Latin America, this course will survey the social processes, issues and events that have given rise to contemporary Latin America as well as the impact of Latin America on the wider world. 3 semester credit hours.

HIST 314 The African Diaspora in Latin America, 1492-1899. An interdisciplinary course that explores the African diaspora in Latin American from the conquest of the Americans by Europeans through the end of the century. Examines how Africans and their descendants in conflict and in concert with Native Americans, Europeans and Asians have created new cultures, religions and societies in the Americas. 3 semester credit hours.

HIST 315 The African Diaspora in Latin America, 1899-2000. An interdisciplinary course that explores the experiences of people of African descent in Latin America focusing on the fight for independence of Latin American and the continuing struggle for economic and social equality in contemporary Latin America. Prerequisite: Social Science or History major 3 semester credit hours.

HIST 320 The Mediterranean World. Studies the ancient cultures located around the Mediterranean Sea and the contributions they made to the development of western civilizations to about 500 A.D. Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" as reflected in religion, art, philosophy, and social, political, and economic institutions. 3 semester credit hours.

HIST 323 Constitutional History of England. The growth and change of the English constitution from late Roman times to the present. 3 semester credit hours.

HIST 342 19th Century Church History. Studies the European Church's reaction to the French Revolution and scientific theories and the social questions of the 19th century. Analyzes the roots of contemporary developments in the church. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 343 20th Century Church History. Analyzes the impact of 19th century developments, the world wars, decolonization, intellectual trends, and Vatican II's origins and results. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 351 The French Revolution in the Wider World. Examines the intellectual and political dimensions of the French Revolution as well as the intellectual and political ramifications of that revolution in the wider world. The course will focus on the French Revolution as a generative factor in the wars of independence in the Americas, the Haitian Revolution, the European revolutions of 1848 and the Paris Commune. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 353 20th Century Europe, 1900 - Present. Covers the political, military, economic, social, and cultural development of Europe, including the Soviet Union, from 1900 to the present. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 354 Modern Eastern Europe. Survey of the cultural and historical development of the peoples of Eastern Europe. Covers nationalism, independent states in the inter-war period. Communist control of Eastern Europe, collapse of communism, and the struggle for democracy. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 355 Modern Russia. Surveys Russia in the 20th century, including the rise of the Communist Party, the 1917 revolution, Stalinism, de-Stalinization, Gorbachev, perestoika, and the break-up of the Soviet Union. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 357 20th Century Social and Political Movements in a Global Context. Explores the major social and political movements that have shaped the world in the twentieth century, such as the Mexican, Russian, Chinese and Cuban Revolutions, populist, revolutionary nationalist and liberation movements in Africa and Latin America as well as the contemporary civil rights and women's movements in the United States. 3 semester credit hours.

HIST 360 Women in American Society. Examines women's roles in American life and the ways in which they have shaped society, culture and politics. Topics include the major experience of women from the colonial era to the present; gender ideology and the changing images of women; the diversity of race, class and religion. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 361 Revolutionary and Jeffersonian Eras: 1763 -1828. Analyzes the causes of the Revolution, origins of the Constitution and early development of the new nation. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 362 Antebellum America, 1824-1877. This course examines the economic, political and cultural changes in the United States, culminating in the Civil War. The primary focus of the course is slavery and the battle to dismantle the peculiar institution. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 363 20th Century America to World War II. Analyzes the impact of the later industrialization, reform movements, World War I, Depression and New Deal, World War II. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 364 America Since World War II. Discusses the impact of World War II, the Cold War, the affluent society, and contemporary society. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 365 African-American History. 3 semester credit hours. Typically offered: spring term.

HIST 368 Colonial America to 1789. Course examines the early European settlement of North America and the economic, political and social consequences of colonization for Europe, Africa and the Native Americans. 3 semester credit hours. Typically offered: spring term.

HIST 370 Labor and the State, 1877-Present. Examines the growth of industrial America and the struggle of workers to organize. The course follows the labor movement in and its various constituencies, from the AFL-CIO to more radical groups such as the IWW, and their impact on American policy and culture. Prerequisite: Social Science or History major. 3 semester credit hours.

HIST 371 Modern Middle East. 3 semester credit hours.

HIST 372 Early Islamic Middle East 500-1258. The first of a three course sequence studying the history of the Middle East. The course covers the pre-Islamic Middle East including the conflict between the Eastern Roman and Sasanian empires and focuses on the development of an Islamic civilization that spread throughout the Middle East, North Africa and into Spain under the rule of the two most important Islamic dynasties of this period, the Umayyads and the Abbasids. Relations with neighboring regions including Europe are highlighted including the crusades which began in the late eleventh century and continued in Syria/Palestine through the 13th century. 3 semester credit hours. Typically offered: spring term.

HIST 373 Gun Powder Empires: Middle East 1200-1800. Introduction to the history of the Islamic world in the half-millennium before the rise of Europe following a chronological and thematic frame. Beginning with the Mongol invasions of the 13th century then the emergence of Turkish war bands of the 14th and 15th centuries while the era of bubonic plague (the 'Black Death') in the middle of the 14th century influences economic and social policies. The final chronological segment is the "imperial age" (from its zenith in the late 16th century to its passing the 18th). Cross-listed with HIST 273. 3 semester credit hours. Typically offered: spring term, even years.

HIST 380 The World of Alexander the Great. Course examines the world of the Mediterranean 360 BC-320 BC and the rise and fall of Alexander the Great. Course focuses on the cultural, economic, political and social history of the period. 3 semester credit hours. Typically offered: fall term, odd years.

HIST 391 Topics. Directed readings and research to be used in discussions pertaining to specific topics in European, American or non-Western history. Prerequisite: Social Science or History major, junior or senior standing. 3 semester credit hours. Writing Intensive Course. *Department consent required. Course repeatable. Maximum number of units allowed:3.*

HIST 395 Independent Study. Designed to encourage the superior student to study in-depth and to research an area beyond the undergraduate course offerings. Prerequisite: Social Science or History major. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

HIST 397 Internship. Practical experiences in a related career field under the supervision of the History Department. Prerequisite: 3.00 GPA, Social Science or History major. 3 semester credit hours. *Department consent required.*

HIST 399 Senior Thesis. Senior capstone experience. Prerequisite: GBLS 101 and GBLS 102 or senior standing. 3 semester credit hours. Typically offered: spring term.

Honors

HNRS 190 First-Year Colloquium I. Students develop oral and written communication, research, and leadership skills and engage in the study of world classics and other culturally significant texts. Grade of "C" or better meets WRIT 101 Basic Skills requirement. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HNRS 191 First-Year Colloquium II. Students develop oral and written communication, research, and leadership skills and engage in the study of world classics and other culturally significant texts. Grade of "C" or better meets WRIT 102 and SPCH 110 Basic Skills requirements. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

HNRS 195 Organizational and Group Dynamics. Presents leadership theory and helps students understand themselves as leaders. Topics include group dynamics, assertiveness, trust and risk-taking, problem solving, delegation, and motivation. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HNRS 201 Catholic and Benedictine Intellectual Traditions. Interdisciplinary seminar focused on various religious and philosophical traditions, including one or more Catholic or Benedictine hallmarks. Counts as IDS 201. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

HNRS 220 The Mediterranean World. Studies the ancient cultures located around the Mediterranean Sea and the contributions they made to the development of western civilizations to about 500 A.D. Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" as reflected in religion, art, philosophy, and social, political, and economic institutions. Counts as HUMN 220. IAI H9 900. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HNRS 230 The Baptism of Europe. Studies the development and Christianization of Europe in the Middle Ages (500-1500 A.D.). Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" through social structures (religious, political, economic) and through the interactions and/or conflicts between people and cultures (Eastern and Western Christianity; Christianity, Judaism, Islam). Counts as HUMN 230. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

HNRS 291 Electronic Portfolio Workshop. This course is a workshop designed to enable students to begin to compile the electronic portfolio that is required for graduation as a Benedictine University Scholar. Includes training in the use of the Desire2Learn "electronic portfolio" and "presentation" tools and the study of texts that provide excellent models of the academic intellectual biography. (3 semester credit hours for freshman students entering fall 2014 or later.) 1 semester credit hour. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HNRS 294 Creativity, Art and Culture. A critical examination of classic and contemporary works of art, generating theories concerning artistic creativity. Focus is on works of art and the culture from which art comes. 3 semester credit hours. Fine Arts Core Elective. Typically offered: spring term. *Department consent required.*

HNRS 301 Human Dignity or the Common Good. Interdisciplinary seminar focused on issues of social responsibility, stewardship of self and environment, civic engagement, and personal and intellectual development. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HNRS 320 Converging Hemispheres. Studies the increasingly global encounter of peoples, ideas, and cultures from the Age of Exploration (from 1400 A.D.) into the twentieth century. Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the shift in emphasis from "person in community" to "individual and society" in terms of social identity and the values of freedom, equality, and responsibility. Examines the construction of the modern era, focusing on scientific revolutions, economic transformations, religious reformations, and revolutions, resistance, and republicanism. Counts as HUMN 240. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HNRS 393 Global Interdependence. Upper-level study of political themes, with special attention to the 20th century. Counts as HUMN 250. 3 semester credit hours. Anthropology/Political Science Core Elective. Typically offered: spring term. *Department consent required.*

HNRS 395 Independent Study. Students with interest in independent study of topics not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval based on academic appropriateness and availability of resources. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

HNRS 397 Internship. Practical experiences in a prospective career field under the supervision of the Scholars Program. Prerequisite: Approval of Scholars Program Director. 3 semester credit hours. *Department consent required.*

Humanities

HUMN 100 Critical Reasoning. Discussion sessions on gaining critical understanding of readings in the first-year seminar. Integrates critical thinking and study strategies in a meaningful context. Emphasis on: analyzing, synthesizing, and evaluating terminology, concepts and arguments. 1 semester credit hour. *Department consent required.*

HUMN 200 Climate Change - Semester Interdisciplinary Course. A Meta Course taught by instructors participating in the Climate Change Semester and open only to those students enrolled in participating classes. Course starts mid-semester and covers varied topics related to climate change. A service learning component is included. 2 semester credit hours. *Department consent required.*

HUMN 201 Climate Change: Interdisciplinary Seminar. A Meta Course taught by instructors participating in the Climate Change Semester and open only to those students enrolled in participating classes. Course starts mid-semester and covers varied topics related to climate change. A service learning component is included. 1 semester credit hour.

HUMN 210 Cultural Heritage Seminar. This seminar course is designed around the great books and texts of the Benedictine, Judeo-Christian and Abrahamic tradition(s). It can provide HUMN 220, HUMN 230 or HUMN 240 humanities credit for transfer students only. Prerequisite: Must be a transfer student. 3 semester credit hours. Typically offered: fall, winter, and summer terms.

HUMN 220 The Mediterranean World. Studies the ancient cultures located around the Mediterranean Sea and the contributions they made to the development of western civilizations to about 500 A.D. Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" as reflected in religion, art, philosophy, and social, political, and economic institutions. Counts as HUMN 220. IAI H9 900. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

HUMN 230 The Baptism of Europe. Studies the development and Christianization of Europe in the Middle Ages (500-1500 A.D.). Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" through social structures (religious, political, economic) and through the interactions and/or conflicts between people and cultures (Eastern and Western Christianity; Christianity, Judaism, Islam). Counts as HUMN 230. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

HUMN 240 Converging Hemispheres. Studies the increasingly global encounter of peoples, ideas, and cultures from the Age of Exploration (from 1400 A.D.) into the Twentieth century. Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the shift in emphasis from "person in community" the values of freedom, equality, and responsibility. Examines the construction of the modern era focusing on scientific revolutions, economic transformation, religious reformations, and revolution, resistance and republicanism. 3 semester credit hours.

HUMN 250 The Contemporary World. Drawing upon the resources of the Catholic and Benedictine traditions, this course examines a variety of interpretations of the current world situation in light of the theme "person in community." Have the notions of person and community changed, or are they being changed through current political, economic, cultural and technological challenges? Must have completed over 60 credit hours. 3 semester credit hours. Writing Intensive Course.

HUMN 291 Topics in Humanities. Special topics offered by visiting lecturers and/or practitioners in the arts and humanities. Content will vary depending on the topic and instructor. 1-3 semester credit hours.

HUMN 391 Topics in Humanities. Special topics offered by visiting lecturers and/or practitioners in the arts and humanities. Content will vary depending on the topic and instructor. 1-3 semester credit hours.

Intercultural Engagement

INQ 198 Intercultural Engagement I. Restricted to students living in the Intercultural House. Involves intercultural communication and interaction within groups representing diverse ethnic heritages, worldviews, faiths, languages, and historical environmental influences, as well as experiential learning involving diversity and multiculturalism in local and global communities. Required activities may include field trips, film screenings, workshops, presentations, and blogging. (Intercultural House Learning Community) fall term. Typically offered: fall term.

INQ 199 Intercultural Engagement II. Restricted to students living in the Intercultural House. Involves intercultural communication and interaction within groups representing diverse ethnic heritages, worldviews, faiths, languages, and historical environmental influences, as well as experiential learning involving diversity and multiculturalism in local and global communities. Required activities may include field trips, film screenings, workshops, presentations, and blogging. (Intercultural House Learning Community) spring term. Typically offered: spring term, odd years.

Interdisciplinary Seminar

IDS 201 Catholic/Benedictine Traditions. Interdisciplinary seminar focused on various religious and philosophical traditions, including one or more Catholic or Benedictine hallmark(s). Must have Sophomore Standing. 3 semester credit hours. Typically offered: fall and spring terms.

IDS 301 Human Dignity/Common Good. Interdisciplinary seminar focused on issues of social responsibility, stewardship of self and environment, civic engagement, and personal and intellectual development. Students with 60+ hours. 3 semester credit hours. Typically offered: spring term.

International Business

INTB 101 The Global Economy. This core course examines the concept of globalization from an international business and economic perspective. Special attention is paid to the political, legal, cultural and technological forces that affect and are affected by this phenomenon. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Business Core Elective.

INTB 220 Area Studies. Cultural, economic and business conditions of different world regions. Prerequisite: ECON 101, junior standing. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

INTB 291 Topics. This course examines such topics as globalization, international trade and investment, offshoring of production, and the impact of international business on culture. 3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

INTB 292 Business Anthropology: Culture and International Business. Introduction to the impact of cultural variation on the functional areas of business with emphasis on globalization and the development of the world system. 3 semester credit hours. Anthropology Core Elective.

INTB 297 Internship. An internship with a company, not-for-profit organization, or government agency in an international business capacity. This may involve companies in the U.S. or abroad. Students that complete internships in the United States must arrange an internship that involves some aspects of international operations. 2-6 semester credit hours. *Department consent required.*

INTB 300 Introduction to International Business. This course is designed to introduce students to the importance and role of international business. Predominant themes will be culture and business opportunities. Topics include international trade, balance of payments, multinational corporations and the functional areas of international business. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Typically offered: fall term.

INTB 302 International Management. Study of the dynamics involved in international business management. Explores key issues such as political, legal and labor environments, strategic planning and organizational design. Emphasis is placed on the role of managers and others in successful international operations. 3 semester credit hours. Typically offered: spring term. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Typically offered: spring term.

INTB 320 Area Studies. Cultural, economic and business conditions of different world regions. Prerequisite: ECON 101. 3 semester credit hours. Business Core Elective. Typically offered: periodically. *Department consent required.*

INTB 330 Global Human Resource Management. Analyzes effect of human resource practices on the global corporation's strategy and structure, and demonstrates the complexity of recruitment, selection, training, evaluation, compensation, and labor relations in global organizations. 3 semester credit hours. Typically offered: periodically.

INTB 340 Global Logistics. This course introduces students to the changing and increasingly important role of logistics in the global business arena. Students will explore the areas of inventory planning and management, supply chain integration, transportation and distribution, and warehousing; logistics information systems architectures and implementation strategies; and logistics organization design alternatives. 3 semester credit hours. Typically offered: periodically.

INTB 350 International Marketing. Studies strategic issues in marketing products and services across national borders. Examines cultural, legal, ethical and economic constraints. Prerequisite: INTB 300 or MKTG 300. 3 semester credit hours.

INTB 351 Global Development Issues. A study of the meaning, measurement and historical context of economic development and the issues underlying the vast differences in development between nations of the world. Topics covered include population, agriculture, industry, trade and foreign debt. 3 semester credit hours. Typically offered: periodically.

INTB 360 International Trade and Finance. Trade theory, trade barriers, balance of payments, exchange rates, open-economy macroeconomics. Prerequisite: ECON 101, ECON 310, and "C" or better in MATH 115. 3 semester credit hours.

INTB 370 Multinational Corporate Finance. Stresses the financial decision-making of a firm in an international setting. Covers international financial markets, exchange risk management, asset and liability management, and international banking. Prerequisite: ECON 101, ECON 102, ACCT 111. spring. 3 semester credit hours. Typically offered: spring term.

INTB 371 International Negotiations. This course aims to introduce students to the theoretical basics of joint problem-solving negotiation, with a particular emphasis on cross-cultural negotiation. As the emphasis here is on learning by doing, students will be lead through a variety of simulations that represent a variety of negotiation settings. 3 semester credit hours. Typically offered: periodically.

INTB 375 Global Interdependence. Politics of international economics and economic determinants of international politics in a globally interdependent world. 3 semester credit hours. Typically offered: periodically.

INTB 380 Global Strategic Management. This course, as the capstone to the International Business and Economics major, should come after students have studied all basic aspects of international business. The course focuses on multinational corporate strategies. Using a computer simulation and the case study method, students will apply the concepts of accounting, finance, marketing, and management to the development of an international strategic plan. Prerequisite: Senior standing. 3 semester credit hours. Writing Intensive Course. *Department consent required.*

INTB 391 Topics. This course examines such topics as globalization, international trade and investment, offshoring of production, and the impact of international business on culture. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

INTB 395 Independent Study. Directed readings, independent research, or student projects on areas of individual academic interest; topics, meeting times, and outcomes arranged with instructor. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

INTB 397 Internship. An internship with a company, not-for-profit organization, or government agency in an international business capacity. This may involve companies in the U.S. or abroad. Students that complete internships in the United States must arrange an internship that involves some aspects of international operations. 2-6 semester credit hours. *Department consent required.*

International Student Orientation

IPO 100 International Student Orientation. This class will introduce international students to practical cultural differences that exist between the United States and many countries. Topics to be discussed include health care, university facilities and resources, income taxes and employment. Prerequisites: enrollment as an international student. Cross-listed with IPO 400. Typically offered: fall, spring and summer terms. *Course repeatable. Maximum number of units allowed: 0.*

International Student Orientation Undergraduate

ISOU 100 International Student Orientation Undergraduate. ISO provides an introduction to student life, resources, and immigration rules and regulations to all incoming international students/scholars with F-1 and J-1 visas. This course is designed to help new international students/scholars learn about the Student and Exchange Visitor Program (SEVIS), to understand how to maintain status and the required government reporting process, and help new students to adjust at BENU. Visa regulation orientation is required for visa holders. Typically offered: fall, spring and summer terms.

Linguistics

LING 301 Introduction to Linguistics. Addresses research in linguistics as it relates to educational theory and practice, specific to teaching and learning of English as a second language. Topics include phonology, morphology, syntax, semantics, and discourse analysis, as well as an introduction to the history of linguistics, and psycholinguistic and sociolinguistic approaches. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

LING 302 Second Language Acquisition. Provides an introduction to second language learning and acquisition theories that can be applied in various language learning contexts, including ESL, EFL and bilingualism. Explores the relationship between language development and the social, emotional, cognitive and physical development of children, and issues in second language learning in adults. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

LING 303 Methods and Materials. Provides an overview of the historical development of language learning materials and methodology. Explores a range of current methods and materials which can facilitate second language learning for general or specific purposes, at beginning, intermediate and advanced levels, and in different contexts. 3 semester credit hours. *Department consent required.*

LING 304 Assessment of ESL and Bilingual Students. Provides a general background in language and academic content assessment issues, opportunities to examine assessment instruments, and practical experience developing and using formal and informal assessment measures. Students critically select and analyze evaluation tools and techniques for measuring ESL students' performance in academic settings. Addresses the relationship between TESOL and state-mandated standards and methods for assessing English Language Learners (ELLs). 3 semester credit hours. *Department consent required.*

LING 305 Sociocultural Studies in ESL. Considers the impact of social, cultural, and political factors on second language learning and teaching in linguistically diverse communities. Examines ways in which the political and social context support language differences and affect literacy practices. Examines how factors such as ethnicity, gender, and social class affect language and literacy learning. 3 semester credit hours. *Department consent required.*

LING 306 World Englishes. Examines the uses of English in a variety of global and local contexts (colonialism and its legacy, English-medium education around the world, business, science, popular culture, and social media). Addresses research that problematizes the notions of "native speaker" and "mother tongue" and explores their changing meaning in an increasingly globalized world. 3 semester credit hours. *Department consent required.*

LING 307 Modern English. A systematic and rigorous survey of the structure and functions of contemporary English language. Examines how English grammar (including vocabulary) is used in different registers of contemporary speech and writing including conversation, fiction, news reporting and academic writing. Introduces some contemporary linguistic theories on the nature of language and different approaches to teaching grammar; topics include first and second language acquisition, differences between spoken and written English, the effects of language change on English grammar and usage, the concept of Standard English and how cultural attitudes affect our ideas of "correctness." Prerequisite: LITR 100. 3 semester credit hours. Typically offered: periodically. *Department consent required.*

LING 308 Style. Examines why some textual artifacts are valued over others, why some texts are perceived as more effective than others and how writers and speakers achieve particular rhetorical effects on their audiences. The course explores these questions through the lenses of a number of related sociolinguistic approaches including genre theory, semiotics, and pragmatics. Students investigate how the words we choose to use, and the way we put them together in sentences and larger units of text combine to produce stylistic effects. Tools of stylistic analysis such as corpus analysis and systemic functional analysis will be introduced and used in the course. (May be cross-listed with LITR 291). 3 semester credit hours. Typically offered: periodically. *Department consent required.*

Literature

LITR 100 Introduction to Literary Analysis. Introduction to literary study and criticism. Focus on genres, techniques and development of literature. Emphasis on critical reading and writing. Introductory course for Literature majors; prerequisite for 300-level Literature courses. Not a literature Core elective or QLR course. 3 semester credit hours. Typically offered: spring term.

LITR 150 Themes in Literature: Arthurian Legend. This course is designed primarily for non-majors who are approaching literature as a life skill to be enjoyed. Students will be introduced to literary methods and theories, but the focus will be on transferable skills, like literary analysis, close reading, and essay writing. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Typically offered: periodically.

LITR 210 Literature and Film. Selected literary texts and their representation on film; analysis of the relationship between the two genres, and differences between written texts and visual media. Literature Core elective and QLR course. 3 semester credit hours. Literature Core Elective. Typically offered: spring term, odd years.

LITR 241 Environmental Literature. Study of the connections between humans and their environment, between the imagined landscapes and the real. Authors studied may include Thoreau, Silko, Leopold, Steingraber and Kolbert. Course will combine literary analysis with cultural analysis, informed by science-based activism, and is suited to both Literature majors and others with an interest in the environment. Literature Core elective. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Typically offered: periodically.

LITR 250 Medieval Literature. Study of literature from the medieval era of British history. Students will learn to read Old English and/or Middle English; texts to be studied may include work by Chaucer, the Gawain poet, Langland, medieval dramatists, and other major writers. Counts as pre-1800. 3 semester credit hours. Literature Core Elective. Typically offered: fall term, odd years.

LITR 255 American Literature I. Survey of American literature from its Colonial roots, particularly the influence of the Puritans, to its flowering in New England. Counts as pre-1800. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: fall term.

LITR 256 American Literature II. Survey of American literature since the Civil War. Emphasis on development of Realism and Naturalism in the nineteenth century, and modernism in the twentieth. Counts as post-1800. 3 semester credit hours. Literature Core Elective. Typically offered: spring term.

LITR 257 British Literature I. Historical survey of representative British literary texts from the Anglo-Saxon period to 1800, with attention to modes of critical reading and development of important genres. Counts as pre-1800. IAI H3 912. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: fall term.

LITR 258 British Literature II. Historical survey of representative British and Anglophone literary texts from 1800 to the present, with attention to the larger cultural context and contemporary modes of literary analysis. Counts as post-1800. IAI H3 913. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: spring term.

LITR 259 World Literature. Comparative study of major works of the Ancient World, Middle Ages, Renaissance, Enlightenment, Romantic Age, periods of Realism and Naturalism, and Modern World. IAI H3 907. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: fall term, even years.

LITR 263 Literature of the Early Modern Period. Selected literary and cultural texts drawn from the late sixteenth to the eighteenth centuries. Places these texts in the context of emerging modernity. Counts as pre-1800. QLR course. 3 semester credit hours. Literature Core Elective. Typically offered: spring term, odd years.

LITR 264 Global/Postcolonial Literature and Theory. A comparative study of literature and theory concerning colonial, postcolonial, third world, and diasporic cultures and communities. The course may include such topics as education and the colonial/postcolonial condition; intellectual culture and imperialism; the politics of tourism, identity and diaspora; travel, migration, and globalization; and trauma, genocide, and historical fiction. Counts as diversity elective for majors. Cross-listed with LITR 364. QLR course. 3 semester credit hours. Literature Core Elective. Typically offered: spring term, odd years.

LITR 265 Shakespeare. Critical reading of representative comedies, tragedies, and histories. Emphasis on such issues as his dramatic art, critical response, and role in constructions of literary culture. Counts as pre-1800. IAI H3 905. 3 semester credit hours. Literature Core Elective. Typically offered: spring term, even years.

LITR 266 Studies in the Novel. Critical study of selected novels, with emphasis on British and American writers and forms in English; theories of the novel as literary genre. Topics will vary. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core and Writing Intensive. Typically offered: spring term, odd years.

LITR 267 Studies in Poetry. Critical study of selected poetry, with attention to both formal and interpretive issues; theories of poetry as literary genre. Topics will vary. IAI H3 903; EGL 915. 3 semester credit hours. Literature Core & Writing Intensive. Typically offered: spring term, even years.

LITR 268 Studies in Drama. Critical study of selected dramatic literature from a range of cultures and periods; theories of drama as literary genre. Topics will vary. IAI EGL 916. 3 semester credit hours. Literature Core and Writing Intensive. Typically offered: fall term, odd years.

LITR 269 Introduction to Creative Writing. Writing workshop for students; introduction to various forms of modern fiction and poetry. Students will have the opportunity to create original poetry and fiction. 3 semester credit hours. Fine Arts Core Elective. Typically offered: fall term, odd years.

LITR 279 U. S. Multiethnic Literature. A comparative study of literature reflecting the diversity of American culture. In our exploration of just a sampling of the multiple voices of U.S. literature, we will consider these narratives within specific historical, cultural, rhetorical, and literary contexts. Counts as diversity elective for majors. IAI H3 910D; EGL 918. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: fall term, even years.

LITR 280 African-American Literature. Historical and critical exploration of African-American writers' contributions to American fiction, poetry, drama, and non-fiction, from the oral tradition to the present. May include an Afrocentric approach. Counts as diversity elective for majors. 3 semester credit hours. Literature Core Elective. Typically offered: spring term, even years.

LITR 281 Gender and Literature. Introduction to gender studies as a mode of literary analysis, and to the role of literary texts in shaping gender constructions. Counts as diversity elective for majors. IAI H3 911D. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: fall term, even years.

LITR 291 Topics in Literature. Intermediate-level study of authors, themes, movements, and genres; attention to historical context. Sample topics: American Renaissance, Nineteenth-Century British Women Writers, Gothic, Science Fiction, Lyric. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

LITR 301 Advanced U.S. Literary and Cultural Studies. Explores critical questions, analytical categories, and common methodologies that structure the practice of U.S. literary and cultural studies. Students will work with primary literary texts as well as secondary sources and theoretical works. Students will also complete a research paper. Prerequisite: LITR 100. 3 semester credit hours. Typically offered: fall term, even years.

LITR 305 Critical Theory. Survey and application of contemporary theories of literature and language. Covers the intersection of modern literary theory with philosophy, linguistics, psychology, anthropology, and other humanistic fields. Prerequisite: LITR 100. 3 semester credit hours. Typically offered: fall term, odd years.

LITR 307 Modern English Language. A systematic and rigorous survey of the structure and functions of contemporary English language. Examines how English grammar (including vocabulary) is used in different registers of contemporary speech and writing including conversation, fiction, news reporting and academic writing. Introduces some contemporary linguistic theories on the nature of language and different approaches to teaching grammar; topics include first and second language acquisition, differences between spoken and written English, the effects of language change on English grammar and usage, the concept of Standard English and how cultural attitudes affect our ideas of "correctness." Prerequisite: LITR 100. Cross-listed with LING 307. 3 semester credit hours. Typically offered: fall term, even years.

LITR 315 American Literary Realism and Naturalism. This course provides advanced study of U.S. realist and naturalist literature of the nineteenth and twentieth centuries. Counts as Post-1800. Prerequisite: LITR 100. 3 semester credit hours. Typically offered: spring term, even years.

LITR 322 Reading , Writing and Thinking in the Middle and Secondary School Curriculum. Examines the relationship between reading, writing, oral communication and thinking and explores strategies for integrating these areas across the curriculum. Examines a variety of theoretical perspectives and instructional strategies involving simulation, role-playing, case studies, inquiry, problem-solving, critical thinking and environmental learning. Lesson and unit plan development emphasized. Prerequisite: Cumulative GPA of 2.5 and TEP. 3 semester credit hours. Typically offered: periodically.

LITR 352 Young Adult and Multicultural Literature in the Middle and Secondary School Curriculum. Evaluation, selection and teaching of literature to serve the interests and reading needs of students from the middle-school through high school. The course includes literature which reflects the culture and heritage of America's multiethnic/multicultural population. The course emphasizes theory and research in reading comprehension, literary criticism, including reader response and curriculum and instruction. In addition, the course includes critical analysis, methods of teaching literature and the uses of literature in the curriculum. Prerequisites (Main Campus: Cumulative GPA of 2.5 and TEP. Prerequisites (Springfield Campus): Cumulative GPA of 2.75 and TEP. 3 semester credit hours. Typically offered: periodically.

LITR 357 The Nineteenth Century. Advanced study of nineteenth-century fiction, poetry, and/or drama. Topics may include Victorian literature, the nineteenth-century novel, and Romanticism. Counts as post-1800. Prerequisite: LITR 100. 3 semester credit hours. Typically offered: spring term, odd years.

LITR 362 Modern Literature. Examines the evolution of poetic and narrative forms since the late nineteenth century. Emphasis on major British and/or American poets and novelists; may also include translated works from other cultures. Counts as post-1800. Prerequisite: LITR 100. 3 semester credit hours. Typically offered: spring term, even years.

LITR 364 Global/Postcolonial Literature and Theory. A comparative study of literature and theory concerning colonial, postcolonial, third world, and diasporic cultures and communities. The course may include such topics as education and the colonial/postcolonial condition; intellectual culture and imperialism; the politics of tourism; identity and diaspora; travel, migration, and globalization; and trauma, genocide, and historical fiction. Counts as diversity elective for majors. Prerequisite: LITR 100. Cross-listed with LITR 264. 3 semester credit hours. Literature Core Elective. Typically offered: spring term, odd years.

LITR 369 Creative Writing: Fiction. Advanced writing workshop with focus on writing and revision of fiction: includes group discussions and individual conferences. Students will produce a professional portfolio of fiction. Prerequisite: LITR 269. 3 semester credit hours. Typically offered: fall term, even years.

LITR 370 Creative Writing: Poetry. Advanced writing workshop with focus on writing and revision of poetry: includes group discussions and individual conferences. Students will produce a professional portfolio of poetry. Prerequisite: LITR 269. 3 semester credit hours. Typically offered: spring term, even years.

LITR 381 Theories of Gender in Literary Analysis. Advanced readings in literature and in selected gender-based modes of textual analysis, as well as theories of the relationship between gender and language. Counts as diversity elective for majors. Prerequisite: LITR 100. 3 semester credit hours. Typically offered: spring term, odd years.

LITR 385 Major Authors and Genres. 3 semester credit hours.

LITR 391 Advanced Topics in Literature. Advanced study of authors, themes, movements, and genres; attention to historical context. Sample topics: Literature and the Environment, Women Writers of Color, Satire, focused study of major author. Prerequisite: LITR 100. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

LITR 395 Independent Study. Students with interest in independent study of topics not offered in the curriculum may propose a plan of study in conjunction with a faculty member. Approval based on academic appropriateness and availability of resources. Prerequisite: LITR 100 and junior or senior standing. 3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

LITR 399 Senior Seminar. Group workshop and individual instruction in literary research and critical writing, leading up to the completion of a major paper in a literary field of the student's choice. Prerequisite: Senior standing, LITR 100. 3 semester credit hours. Typically offered: fall term.

Management and Organizational Behavior

MGT 110 Business Principles and Skills for Academic Success. Introductory course for adults pursuing an associate degree. Academic success topics include learning styles, group interaction, written and oral communication skills, research and critical thinking skills, and time management. This course also includes a survey of business structures and operations. Other topics include the role of consumers in business, social responsibility within business organizations, and specialized business fields. Prerequisite: Admission into the Adult Associate of Arts Program. 3 semester credit hours.

MGT 120 "Going Green" in the Business World. How can workers on the job influence their employers to adopt green practices? What business tools can you use to take great ideas and make them into sustainable programs? This course shows what can work, depending on the type of business, using case examples. These tools include implementing the LEED program in new and existing buildings (i.e. insulation, solar panels, lighting, recycling, composting, landscaping, etc.), transportation programs for employees (i.e. carpooling, mass transit, bicycling, walk to work) and cap and trade markets for emission credits to reduce energy consumption. You will learn a variety of business frameworks and tools to influence business leader's decisions about environmental sustainability. As a result of this course, you will better understand how you can make a difference! 1 semester credit hour. Typically offered: fall and spring terms.

MGT 125 Business Sustainability Topics. Traces the historical evolution of present day expectations on corporations and other organizations for taking on environmental and social responsibilities that may seem unrelated to their core mission. Present-day imperatives such as climate change, food vs. fuel production, consumerism and resource depletion, renewable energy technologies and employment opportunity trends will be discussed. Students will be acquainted with the initiatives of several organizations that have integrated sustainability-focused business practices into their operations. Students will study specific topics that are important components of sustainability initiatives. These topics include building design and construction, energy conservation and management, substitution of renewable for non-renewable resources, carbon reduction, waste reduction, and sustainability measurement and reporting. 3 semester credit hours. Typically offered: fall and spring terms.

MGT 150 Business Statistics I. Basic course in statistical technique; includes measures of central tendency, variability, probability theory, sampling, estimation, and hypothesis testing. IAI M1 902; BUS 901. Prerequisite: MATH 105 or MATH 110. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 3 semester credit hours. Typically offered: fall term.

MGT 210 Management. An overview of the fundamentals of management and leadership and their impact on the modern corporation. The course is a combination of theory and practical application, offering the student an opportunity to learn about the nature of management, leadership, and cultural diversity issues. Prerequisite: sophomore standing. 3 semester credit hours. Typically offered: fall and spring terms.

MGT 217 Group Dynamics and Learning Strategies. This course provides an overview of organizational structure, group dynamics, and learning strategies. Prerequisite: Admission to the Adult Bachelor of Arts Learning Team or Online Program. 3 semester credit hours.

MGT 220 Entrepreneurship. Application of business principles to planning, organizing and operating the entrepreneurial enterprise.3 semester credit hours.

MGT 234 Organizational Planning and Analysis. Provides a basic understanding of key concepts and an ability to use basic analytical tools related to financial, economic and marketing planning. Topics include revenues, costs, supply and demand, pricing and the development of products and services to meet market needs. 3 semester credit hours.

MGT 235 Business Law I. Introduction to the role of the legal system in our society with an emphasis on the law of contracts, sales, and agency. 3 semester credit hours.

MGT 236 Business Law II. Introduction to the role of the legal system in our society with an emphasis on the law of commercial paper, partnership, and corporations. 3 semester credit hours.

MGT 237 Business Communications. Theory and practice of communication within and between business organizations of all types. Focus on the training for and development of entry-level skills in communication and its related technology. 3 semester credit hours. Writing Intensive Course. *Department consent required.*

MGT 247 Ethical Leadership. This course is an overview of management at the strategic and tactical levels. It reviews various models of leadership, ethics involved in that leadership, strategies, and skills. Prerequisite: Admission to the Adult Bachelor of Arts Learning Team or Online Program. 3 semester credit hours. Writing Intensive Course.

MGT 251 Business Statistics II. Covers: Regression and correlation, analysis of variance, and nonparametric statistics. Prerequisite: MGT 150. 3 semester credit hours. Typically offered: spring term.

MGT 252 Business Ethics in the Context of Catholic Social Teaching. This course is designed to give the student knowledge of the range of ethical theories that currently govern behavior in business, how Catholic Social Teaching provides a guide to business, why ethics are necessary to business and how ethics influence corporate success. Cross-listed as THEO 252. Theological/Religious Mode of Inquiry (QRT). 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall and spring terms.

MGT 255 Readings in Organizational Research. Introduces methods of systematic investigation which are needed to provide continued development of the body of knowledge upon which the disciplines of management and organizational behavior are based. Focus is on an understanding of the research process in organizations, its value and its limitations. 3 semester credit hours.

MGT 260 Fundamentals of Human Resource Management. This course will focus on: developing, contributing to, and supporting the organization's mission, vision, values, strategic goals, and objectives; formulating policies; guiding and leading the change process; and evaluating HR's contributions to organizational effectiveness. 3 semester credit hours. Typically offered: annually.

MGT 262 Employee Recruitment Strategies. This course will focus on developing, implementing and evaluating sourcing, recruitment, hiring, orientation, succession planning, retention and organizational exit programs necessary to ensure the workforce's ability to achieve the organization's goals and objectives. 3 semester credit hours. Typically offered: fall, spring and summer terms.

MGT 264 Employee Performance and Appraisal Management. This course will focus on developing, implementing and evaluating activities and programs that address employee training and development, performance appraisal, talent and performance management, and the unique needs of employees to ensure that the knowledge, skills, abilities and performance of the workforce meet current and future organizational and individual needs. 3 semester credit hours. Typically offered: fall, spring and summer terms.

MGT 266 Essentials of Compensation and Benefits. This course will focus on developing, selecting, implementing, administering, and evaluating compensation and benefits programs for all employee groups that support the organization's strategic goals, objectives, and values. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

MGT 268 Managing Workplace Relationships. This course will focus on analyzing, developing, implementing, administering and evaluating a broad range of workplace relationships. Functional areas include techniques for facilitating positive employee relations, positive employee relations strategies, and non-monetary rewards, motivation concepts and applications, and employee involvement strategies. (For example: employee management committees, self-directed work teams and staff meetings). 3 semester credit hours. Typically offered: fall, spring, and summer terms.

MGT 270 Employment Law and Risk Management. This course will focus on developing, implementing, administering, and evaluating programs, plans, and policies which provide a safe and secure working environment and to protect the organization from liability. Additional focus will be placed on the workplace relationship between employer and employee in order to maintain relationships and working conditions that balance employer and employee needs and rights in support of the organization's strategic goals, objectives, and values. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

MGT 275 Accounting and Financial Analysis. This course surveys a broad range of financial and managerial accounting techniques used by managers as applied to business and organizational planning, reporting, and control. The financial accounting topics dealt with, from the perspective of the financial statement user, include the basic processes of the accounting information system, transaction analysis, the form and content of financial statements, and financial analysis tools. In the managerial accounting topics we explore the tools of management decision making, including variable costing, cost-volume-profit analysis, performance reporting, and capital budgeting. The emphasis is on understanding rather than on mathematical rigor. The focus is on the analysis and solution of problems that managers normally deal with. Prerequisite: ACCT 112 and Admission to the Adult Bachelor of Arts Learning Team or Online Program. 3 semester credit hours.

MGT 287 Why Work? This 3-semester hour course is a two-part course and is cross-listed with THEO 287A. The first part of the two-part course examines the life of a business leader - why work? It will examine why business is viewed as a calling to not only make a living but improve lives - co-workers, customers, and the wider community. In the second part, students will explore their own vocation, leadership strengths, write their dream job description, and find companies and careers toward a meaningful life. 3 semester credit hours. Typically offered: spring term.

MGT 291 Topics. 3-6 semester credit hours.

MGT 297 Internship. Practical experiences in business related fields under the supervision of the program coordinator. 2-6 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

MGT 300 Management. Fundamental principles and practices of the corporate enterprise are utilized to consider planning, organizing, implementing and controlling in management. Prerequisite: Sophomore standing. 3 semester credit hours. Business Core and Writing Intensive. Typically offered: fall and spring terms.

MGT 301 Entrepreneurship. Application of business principles to planning, organizing and operating the entrepreneurial enterprise. 3 semester credit hours.

MGT 302 International Management. Study of the dynamics involved in international business management. Explores key issues such as political, legal and labor environments, strategic planning and organizational design. Emphasis is placed on the role of managers and others in successful international operations. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Typically offered: spring term.

MGT 303 Management Labor Relations. The course focuses on the evolution of employer-employee relations in union and non-union organizations. The emphasis is on union, governmental and workplace policies and practices, history, functions, forecasted changes relating to labor and management in both public and private sector. 3 semester credit hours.

MGT 305 Introduction to Sports Culture in America. This course introduces students to the business side of sports in America. It provides an overview for the opportunities in the sports and leisure industry. The course emphasizes critical thinking skills. Topics covered include ethics, social concerns and the economic impact of sports and leisure upon America. 3 semester credit hours.

MGT 310 Applied Innovation. This course is a senior level interested in entrepreneurship focusing on applying innovation methods to real world problems by helping local start-up company become successful. Students will work in teams of 5 who have qualified for the positions through an interview process. The team will work to help a designated start-up company from the "1871" incubator business community develop their value proposition, business model, and go to market strategies for consideration as part of their business plan. Each section will have a series of questions the team must answer and use to formulate and defend a recommended path forward. Course composition will consist of a blend of on campus meetings, on-site conversations with the start-up and field work with stakeholders. Undergraduate Senior Status and Instructor Consent Required.

Course composition will consist of a blend of on campus meetings, on-site conversations with the start-up and field work with stakeholders. 3 semester credit hours. Typically offered: fall and spring terms. Department consent required.

MGT 320 Organizational Behavior. Overview of organizational structures and group dynamics. Examines job satisfaction, motivation, performance evaluation, decision-making and goal setting. 3 semester credit hours. Typically offered: fall, spring and summer terms.

MGT 323 Group Processes. Provides the basic theory necessary to understand the components of the group process. The course gives the opportunity to participate in functioning groups for decision making and to practice newly developed skills in class groups. 3 semester credit hours.

MGT 324 Global Sustainability Topics. This course presents mainstream environmental and corporate sustainability challenges faced by business. Topics include the concept of Shared Value, greenhouse gas (GHG) abatement programs; mitigation discussions on global climate change; consumerism; renewable energy technologies; state of adoption of Triple Bottom Line sustainability reporting; accounting for Externalities through Natural Capital accounting methods. Supporting topics: What business tools can one use to take ideas and make them into sustainable programs? Overview of LEED building practices; recycling; alternative transportation programs, how to account for carbon emissions; employment trends in the green economy. Senior Status. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

MGT 330 Human Resource Management. Relationship of internal and external labor market concepts to organizational manpower planning. 3 semester credit hours.

MGT 331 Labor and Industrial Relations. Analysis of the structure and behavior of labor and business enterprises and implications of this behavior for resource allocation and individual welfare. Prerequisite: ECON 101, ECON 202. 3 semester credit hours. Writing Intensive Course.

MGT 333 Operations Management. A study of theory, principles and computational procedures as applied to such areas as strategic planning, forecasting, capacity planning, productivity and quality control. 3 semester credit hours.

MGT 334 Training and Development. This course covers corporate training and development including assessment, training design, training evaluation, management and executive training. Prerequisite: MGT 330. 3 semester credit hours. Typically offered: fall term.

MGT 335 Compensation and Performance Management. A study of the historical development of compensation theory and its applications to the design and implementation of benefit/reward structures in modern organizations. Prerequisite: MGT 330. 3 semester credit hours. Typically offered: spring term.

MGT 347 Project Management. The art and science of project management as applied to a variety of business and technology settings. Discusses how to initiate, plan, execute and control, and close projects, within budget and on schedule. Includes management of project scope, time, cost, quality, human resources, communications, and risks. A project planning software tool is utilized, usually MS Project. Prerequisite: junior or senior standing. 3 semester credit hours. Typically offered: spring term.

MGT 370 Industrial Organization and Policy. Focuses on empirical studies in patterns of market structure, business behavior and performance. Applications in the fields of antitrust and regulation are stressed. Prerequisite: ECON 202. 3 semester credit hours.

MGT 380 Strategic Management. Management capstone course enabling business students to use the disciplines and techniques learned throughout their program of study. Case studies stress the importance of basing management decisions on a strategic view of organizations. Prerequisite: Senior standing, FINA 300, MGT 300, MKTG 300. 3 semester credit hours. Typically offered: fall and spring terms.

MGT 387 Management Capstone. This is the management capstone course enabling students to integrate and use the disciplines and techniques learned throughout the program of study. Case studies are utilized to stress the importance of basing management decisions on a strategic view of organizations. The focus is on the role of management in the development of organizational strategy, on the practice of the decision-making process and in the development of an appropriate organizational structure. Prerequisite: MGT 275, 302, 330, 347 and admission to the adult B.A. in Management Program. Writing Intensive Course. 3 semester credit hours.

MGT 389 Senior Seminar. Capstone course for organizational leadership major. Focus on an analysis of the leadership role in complex organizations. Case-based approach will integrate previous knowledge and emphasize use of critical thinking. 3 semester credit hours.

MGT 391 Topics. Specially designed courses in various business topics to supplement the business curriculum. Prerequisite: Varies based upon the specific topic being explored. 1-3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

MGT 395 Independent Study. Provides an opportunity for an advanced student in the major to pursue study in a field of business related interest. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*
MGT 397 Internship. Practical experiences in business related fields under the supervision of the program coordinator. 2-6 semester credit hours. *Department consent required.*

Marketing

MKTG 230 Fundamentals of Selling. This course provides a comprehensive approach to the fundamentals of selling, focusing on effective strategies throughout the sales cycle, including: identifying customer needs; developing relationships; product presentations and qualifying sales; and closing and servicing a sale. Students apply these concepts through preparation of sales proposals and presentations that sell. 3 semester credit hours.

MKTG 232 Managing Sales Relationships for Productivity. The course is an introduction to aspects of professional sales relations that affect sales productivity. Participants are introduced to various patterns for analyzing the dynamics of the professional selling process and customer service which determine the dynamics of sales relationships. 3 semester credit hours.

MKTG 234 Psychology of Sales. This course provides a practical approach to the key component of the sales effort – "the close." Emphasis is given to consumer objectives, demonstration strategies, and closing techniques. 3 semester credit hours.

MKTG 236 Negotiating Skills in Business. This course focuses on the process and practice of effective negotiations in the sales and marketing environment. The impact of negotiating on management and other business practices is also addressed. 3 semester credit hours.

MKTG 238 Sales Management. This course is designed to prepare prospective sales managers for the challenges they face in corporate sales settings. It deals with the critical impact management has on sales, as well as the effective team-building strategies and leadership skills needed for success in these key positions. 3 semester credit hours.

MKTG 240 Business Ethics in Sales. This course deals with the ethical implications of management decision-making in society. It places emphasis on the ethical impact of contemporary social, political and economic issues. 3 semester credit hours.

MKTG 291 Topics. Specially designed courses in various business topics to supplement the business curriculum. Prerequisite: Varies based upon the specific topic being explored.
3 semester credit hours.

MKTG 297 Internship. Practical experiences in business related fields under the supervision of the program coordinator. 2-6 semester credit hours. Typically offered: periodically.
Department consent required. Course repeatable. Maximum number of units allowed:12.

MKTG 300 Marketing. An investigation of the basic principles of marketing, with an emphasis on the practical application of those principles to formulate marketing plans that will deliver value to customers and meet the goals of the organization. Prerequisite: Sophomore standing. Social-Scientific I Mode of Inquiry (QIO). 3 semester credit hours. Typically offered: fall and spring terms.

MKTG 305 Sports Marketing. A case study approach will be used to explore and analyze situations that pertain to sports marketing. Prerequisite: MKTG 300. 3 semester credit hours. Typically offered: spring term.

MKTG 310 Consumer Behavior. This course examines consumers' needs, wants, and market behavior as a foundation for the formulation of effective marketing strategies by organizations. The course also provides an understanding of consumer behavior that can be used by all students to enhance their ability to consume wisely and to enable them to appreciate the critical role consumers play in our economic system. Prerequisite: MKTG 300. Social-Scientific I Mode of Inquiry (QIO). 3 semester credit hours. Business Core Elective. Typically offered: spring term.

MKTG 320 Data and Text Mining. Knowledge discovery and business analytics are core tools used by organizations to direct business decisions, improve strategies, reduce risk and create new business opportunities. This course focuses on algorithm techniques that can be used for knowledge discovery such as classification, association rule mining, clustering, and heuristics. Successful applications of this methodology have been reported in areas such as credit rating, fraud detection, database marketing, customer relationship management, and stock market investments. This course will cover data mining for business intelligence and will cover applications to both data and text. The focus is on several techniques that aim at discovering patterns that can bring value or "business intelligence" to organizations. Examples of such patterns include fraud detection, consumer behavior, and credit approval. The course will cover the most important data mining techniques including: classification, clustering, association rule mining, prediction - through a hands-on approach using SAS Data and Text Miner. 3 semester credit hours. Typically offered: fall and spring terms.

MKTG 330 Promotional Strategy. An integrated marketing communications (IMC) approach to the study of the strategies organizations use to promote their products and services. The course goes beyond the traditional study of advertising, sales promotion, personal selling, direct marketing, and public relations to show how all four elements of the marketing mix – product, price, promotion, and distribution – must blend together to present a unified message to customers. Prerequisite: MKTG 300. 3 semester credit hours. Typically offered: fall term.

MKTG 331 Internet Marketing Communications. Internet marketing is reshaping the way businesses and consumers interact with each other. This course studies how the Internet as a communication channel can be valuable to marketing decision makers eager to understand and utilize Internet technology to grow their businesses. Examining the Internet and its evolution from a research tool to a marketing communications medium, this course shows how the Internet offers an array of one-to-one, real-time, personalized marketing communications. Through various exercises and projects, students will explore how the Internet affords decision makers the opportunity to customize their marketing approaches to meet individual customers' needs and to make the Internet an effective part of an overall Integrated Marketing Communications Strategy. Prerequisite: MKTG 300. 3 semester credit hours.

MKTG 332 Web 2.0 Tools in Business. Consumers have embraced Web 2.0 technologies including, for example, social networking applications—Facebook, LinkedIn, Twitter; YouTube; wikis; blogs; tags; mashups; and virtual worlds. How are organizations using these applications? How might organizations use these applications? Specific topics will include an overview of Web 2.0 technologies, how these tools may be leveraged in an organization, how to align these tools with business goals, how to foster collaboration, and how to ensure security. 1 semester credit hour. Typically offered: spring term.

MKTG 333 Personal Selling and Sales Management. This course examines the role personal selling plays in an organization's overall integrated marketing communications program. Students will explore how personal selling works with other elements of the promotional mix (advertising, publicity, sales promotion) to create a uniformed, integrated marketing message. In addition to gaining knowledge of traditional personal selling practices and techniques, students will learn how the Internet is increasingly factoring into an organization's personal selling strategy. Prerequisite: MKTG 300. 3 semester credit hours.

MKTG 334 E-Commerce. This course presents the state-of-the-art in electronic commerce. Its focus is on the current and future impact of e-commerce. Students will learn how to create new business opportunities; identify new customers and additional value in existing customers; realign the organization for this new environment; address contemporary uncertainties such as government regulation, taxation, security, privacy, and intellectual rights; create a market presence; measure success, return on investment and profitability; and sustaining the pace of change through appropriate staffing, hiring, outsourcing and partnering. Students examine recent successes and failures in e-commerce through case studies and other readings and will develop an e-commerce business plan for an organization. Elective. Prerequisite: MIS 546 or MBA 641. 4 semester credit hours. Typically offered: annually.

MKTG 342 Web Intelligence and Analytics. This course will focus on developing an understanding of web analytics and web intelligence. Students will learn how to: leverage Web site effectiveness and marketing; and measure, identify, and interpret key Web metrics and KPIs. Additionally, students will gain an understanding of main data collection techniques, their impact on metrics, and their limitations. Insight into the potential of data mining and predictive analytics in the context of the Web will be explored as well as web spiders, web bots, and social listening software. Prerequisite: MKTG 320. 3 semester credit hours. Typically offered: periodically.

MKTG 345 Introduction to Web Analytics. Web Analytics, one of the core skills for online marketing, is becoming increasingly important to companies, as they seek to evaluate the performance of their websites and advertising campaigns, with the ultimate goal of tracking the return on investment. Students will learn about Google Analytics, one of the top tools, starting with creating a blog and then monitoring the number of people who see the blog posts and where they come from. The students doesn't need any required skills and doesn't need to be "numbers person" – the course is for anyone who wants to get a job in online marketing or who wants to learn how the performance of websites fits into business. Skills that will be learned in this course connect to other areas, such as search engine marketing and social media marketing, and provide a "network effect" to help students become more effective online marketers and more employable. The course also includes working towards a Google Analytics "Individual Qualification," which is like a certification, and is a great thing for students to have on their resumes. Web Analytics can be a competitive differentiator in the job market, either as a skill set or as a dedicated role. 3 semester credit hours. Typically offered: fall and spring terms.

MKTG 347 Social Media Marketing. LinkedIn listed Social Media Marketing as the #1 skill that got people hired in 2013. Social Media Marketing continues to grow and be an important area, as a dedicated role or skill set. In this course, students will learn how to create and monitor the performance of social media marketing campaigns, with a focus on the three main platforms - Facebook, Twitter, and YouTube. Coverage also includes establishing and maintaining an organization's presence on LinkedIn, and using tools such as Hoot suite, to post content to multiple networks (e.g., Facebook, Twitter, and LinkedIn). Other topics include social media monitoring, and looking at the performance of social media campaigns with built-in tools such as Facebook Insights and You Tube Analytics. Students will gain an understanding of not just how to manage social media, but how to look at return on investment (ROI). This emphasis on ROI provides a competitive edge, and students can also participate in an experiment that may eventually become a social media certification. 3 semester credit hours. Typically offered: fall and spring terms.

MKTG 348 Content Development & Search Engine Optimization. An interdisciplinary course focusing on helping students capture, preserve and share digital stories. Students will learn how to develop content telling the story of an organization to boost the relevance of a website and support the overall marketing efforts of the organization. Prerequisite: MKTG 300. 3 semester credit hours. Typically offered: spring term.

MKTG 349 Search Engine Marketing. This course introduces search engine marketing, the process of creating and managing ads on Google, which is a core skill in digital marketing that can also be a dedicated role. Students work on live campaigns and work towards Adwords certification. Prerequisite: MKTG 300. 3 semester credit hours. Typically offered: spring term.

MKTG 350 International Marketing. Studies strategic issues in marketing products and services across national borders. Examines cultural, legal, ethical, and economic constraints. Prerequisite: INTB 300 or MKTG 300. 3 semester credit hours.

MKTG 351 Global Development Issues. A study of the meaning, measurement and historical context of economic development and the issues underlying the vast differences in development between nations of the world. Topics covered include population, agriculture, industry, trade and foreign debt. 3 semester credit hours. Typically offered: periodically.

MKTG 360 Marketing Research. This course presents the principles of marketing research primarily from the perspective of the users of that research, with a focus on the practical and applied aspects of the subject. Emphasis will be placed on how marketing researchers apply the various concepts and techniques, as well as how business decision makers implement the findings to improve marketing practices. Topics covered will include research design, sampling techniques, questionnaire design, measurement and scaling, data collection and analysis, and report preparation. Prerequisite: MKTG 300, MGT 150, junior standing. 3 semester credit hours. Typically offered: fall term.

MKTG 380 Marketing Strategy. A comprehensive study of major topics in strategic marketing, the components of a marketing plan, and financial analysis for marketing management. Case studies are used as the approach for utilizing marketing concepts and practices to analyze marketing problems in a wide variety of industry settings and to develop marketing strategies based on those analyses. Prerequisite: MKTG 300, Senior standing. 3 semester credit hours. Typically offered: spring term.

MKTG 391 Topics. Specially designed courses in various business topics to supplement the business curriculum. Prerequisite: Varies based upon the specific topic being explored. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

MKTG 395 Independent Study. Provides an opportunity for an advanced student in the major to pursue study in a field of business related interest. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

MKTG 397 Internship. Practical experiences in business related fields under the supervision of the program coordinator. 2-6 semester credit hours. *Department consent required.*

Mathematics

MATH 104 Advanced Business Mathematics. This course is designed to provide the student with a good understanding of proper problem-solving techniques; simplifying algebraic expressions; solving first-degree equations; the properties of lines, graphs and functions; modeling and analysis of functions; and solving finance problems. The TI-83 Plus graphing calculator is used throughout the course. Prerequisite: Admission to the Adult Learning Team or Online Program. 3 semester credit hours.

MATH 105 Finite Mathematics. A survey of algebra, functions, graphs, and linear equations as applied to problems in economics and business. Topics include mathematics of finance, linear, polynomial, exponential and logarithmic functions. Credit will not be granted for both MATH 105 and MATH 110. Prerequisite: Placement exam or a "C" or better in MATH 095. 3 semester credit hours. Typically offered: fall, spring and summer terms.

MATH 108 Quantitative Reasoning. Develops conceptual understanding and computational skills in unit analysis, uses of percentages, and dealing with quantities and their magnitudes. Includes formulas of finance for simple interest, compound interest and loan payments; functions and their graphs; linear equations; exponential growth and decay; principles of counting; fundamentals of probability; and estimation and approximation techniques to judge the reasonableness of answers. Also includes representing and analyzing data using statistical tools such as histograms; measures of central tendency; variance and standard deviation; linear regression and scatter plots; normal distributions; and margin of error and confidence intervals. IAI M1 904. Prerequisite: Placement exam or a "C" or better in MATH 095. 3 semester credit hours. Typically offered: fall and spring terms.

MATH 110 College Algebra. Topics include equations, inequalities, functions, graphs, polynomial and rational functions, exponential and logarithmic functions, equations, and systems of equations and inequalities. Credit will not be granted for both MATH 105 and MATH 110. Prerequisite: Placement exam or a "C" or better in MATH 095. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

MATH 111 College Trigonometry. General study of the trigonometric functions and their graphs, trig identities, and equations, inverse trig functions, applications of trigonometry, vectors, polar coordinates, and parametric equations. IAI MTM 901. Prerequisite: Placement exam or a "C" or better in MATH 105 or MATH 110. 3 semester credit hours. Typically offered: fall and spring terms.

MATH 112 Mathematics for Elementary Teachers I. This course explores the mathematical content of elementary school mathematics from the perspective of future elementary school teachers. Topics include mathematical thinking, problem solving, sets, representations of functions, numeration, standard and non-standard arithmetic algorithms, mental arithmetic and estimation, number theory, integers, fractions and rational numbers, decimals, and real numbers. Graphing calculators and manipulatives are used throughout the course. This course is required for elementary education majors. Prerequisite: "C" or better in MATH 095 or placement exam. (Elementary Education students). 4 semester credit hours. Math Computer Science Core Elective. Typically offered: fall term.

MATH 115 Business Calculus. A survey of mathematical techniques used in the managerial, social and life sciences. Topics include systems of linear equations and matrices, linear programming, differential calculus, and applications of the derivative. Prerequisite: "C" or better in MATH 110 or MATH 105, or placement exam. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 3 semester credit hours. Math Computer Science Core Elective. Typically offered: fall, spring and summer terms.

MATH 150 Introduction to Statistics. Basic course in statistical techniques which includes measures of central tendency, probability, sampling, estimation and hypothesis testing. For non-business majors. IAI M1 902. Prerequisite: "C" or better in MATH 105 or MATH 110. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 3 semester credit hours. Typically offered: fall, spring and summer terms.

MATH 170 Introduction to Calculus I. An introduction to limits and differentiation. Topics in algebra, functions, and trigonometry will be reviewed as necessary for calculus. Further study includes the chain rule, Newton's approximations, plane analytic geometry, and applications of velocity and marginal cost. The computer algebra system Maple will be employed. Prerequisite: Placement exam or a "C" or better in MATH 111. QCM Mode of Inquiry. 5 semester credit hours. Math Computer Science Core Elective. Typically offered: fall term.

MATH 200 Applications of Calculus I. A continuation of MATH 170. Topics include curve sketching, plane analytic geometry, maxima and minima, related rates, and other applications of the derivative. Study concludes with definite and indefinite integrals, numeric integration, elementary differential equations, parametric functions, and the Fundamental Theorems of Integral Calculus. The computer algebra system Maple will be employed. Credit will not be granted for both MATH 200 and MATH 210. Prerequisite: "C" or better in MATH 170. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 4 semester credit hours. Typically offered: spring term.

MATH 210 Calculus for Physical Sciences I. Topics include differentiation, and antidifferentiation of algebraic, trigonometric and transcendental function, the fundamental theorem of calculus, applied problems on maxima and minima, plane analytic geometry, and simple differential equations. The computer algebra system Maple will be used to illustrate calculus concepts. Credit will not be granted for both MATH 200 and MATH 210. IAI M1 900-1; EGR 901; MTH 901. Prerequisite: Placement exam or "B" or better in MATH 111. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 5 semester credit hours. Math Computer Science Core Elective. Typically offered: fall, spring, and summer terms.

MATH 211 Calculus for Physical Sciences II. Topics include applications of the definite integral, methods of integration, sequences and series and numeric integration. The computer algebra system Maple will be used to illustrate calculus concepts. IAI M1 900-2; EGR 902; MTH 902. Prerequisite: "C" or better in MATH 200, MATH 205, MATH 210, MATH 220. 4 semester credit hours. Math Computer Science Core Elective. Typically offered: fall, spring and summer terms.

MATH 212 Calculus III. Topics include solid analytic geometry and vectors, partial differentiation, multiple integrals and vector calculus. The computer algebra system Maple will be used to illustrate calculus concepts. IAI M1 900-3; EGR 903; MTH 903. Prerequisite: "C" or better in MATH 206, MATH 211, MATH 221 or MATH 224. 4 semester credit hours. Math Computer Science Core Elective. Typically offered: fall and spring terms.

MATH 220 Calculus for Life Sciences I. This is the first course in a two-semester sequence in calculus with biological applications. There is a strong emphasis on biological models using real biological data. Topics include semi-log and log-log plots, sequences, basic difference equations, discrete time models, limits, continuity, differentiation and antidifferentiation of algebraic, trigonometric, and transcendental functions, applied problems on maxima and minima, equilibria and stability, basic differential equations, and the fundamental theorem of calculus. The course uses the computer algebra system Derive, Excel, and modeling software to explore calculus concepts and biological models. Prerequisite: Placement exam or "B" or better in MATH 111. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 5 semester credit hours. Math Computer Science Core Elective. Typically offered: fall term.

MATH 222 Mathematics for Elementary Teachers II. This course is a continuation of MATH 112. This course explores additional mathematical content of elementary school mathematics from the perspective of future elementary school teachers. Topics include proportional reasoning, percents, basic concepts of geometry, two- and three-dimensional geometric figures, transformational geometry, coordinate geometry, symmetry, tessellations, similarity, and direct and indirect measurement. Graphing calculators, manipulatives, and, dynamic geometry software are used throughout the course. This course is required for elementary education majors. MATH 112 and MATH 222 together satisfy IAI M1 903. Prerequisite: "C" or better in MATH 112. 4 semester credit hours. Math Computer Science Core Elective. Typically offered: spring term.

MATH 224 Calculus for Life Sciences II. This is the second course in a two-semester sequence in calculus with biological applications. There is a strong emphasis on biological models and examples using real biological data. Topics include applications of the definite integral, methods of integration, differential equations, systems of linear equations, matrices, eigenvalues and eigenvectors, analytic geometry, functions of several variables, partial derivatives, differentiability, tangent planes and linearization, systems of difference equations, systems of linear and nonlinear differential equations, equilibria and stability, and an introduction to probability. Applications may include allometric growth, age-structured population matrix models, epidemic models, competition models, host-parasitoid models, and models for neuron activity. The course uses computer applications to explore calculus concepts and biological models. Prerequisite: "C" or better in MATH 200, MATH 205, MATH 210, or MATH 220. 4 semester credit hours. Natural Sciences Core Elective. Typically offered: spring term.

MATH 230 The Mathematical Universe. This course allows the student to discover the beauty and elegance of mathematics, its strength and value to everyday life. Includes topics such as zero, infinity, fractals, the golden ratio, clock arithmetic, matrices, cryptology, etc., that have helped shape the modern world. Students would be required to understand the techniques discussed to levels that would enable them to think abstractly beyond specific examples covered. Prerequisite: "C" or better in MATH 110 or MATH 105, or placement exam. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 3 semester credit hours. Math Computer Science Core Elective.

MATH 240 Discrete Mathematics. Basic concepts of finite and discrete algebraic structures, with emphasis on applications in computer science. Sets, relations, and functions, boolean algebra, computer arithmetic, combinatorics, matrix algebra, directed and undirected graphs, and methods of proof. IAI M1 905; CS 915. Prerequisite: "C" or better in MATH 115 or placement or credit in MATH 200, MATH 210, MATH 220. 4 semester credit hours. Typically offered: fall and spring terms.

MATH 252 Introduction to Differential Equations. IIT course. 4 semester credit hours. Typically offered: Offered at North Central Coll. *Department consent required.*

MATH 260 Differential Equations. Includes an introduction to 1st and 2nd order ordinary differential equations with an emphasis on linear equations and techniques to solve them, applied problems in various fields, the Laplace transform, a brief introduction to chaos theory, systems of 1st order linear equations and power series solutions 2nd order linear ODEs. IAI EGR 904; MTH 912. Prerequisite: Credit or co-registration in MATH 212. 4 semester credit hours. Writing Intensive Course. Typically offered: spring term.

MATH 280 Introduction to Proofs. An introduction to methods of formal mathematical proof, with emphasis on improving the student's ability to both read and write such proofs. Topics include logic, set theory, relations, functions, induction and cardinality. Course serves as a transition from beginning mathematics courses to the higher level courses. Prerequisite: "C" or better in MATH 211. 3 semester credit hours. Typically offered: periodically.

MATH 300 Linear Algebra. Topics include matrix algebra, theory of determinants, introduction to vector spaces, linear independence and span, and properties of linear transformations on finite dimensional vector spaces. IAI MTH 911. Prerequisite: Credit or co-registration in MATH 212 or MATH 240. 3 semester credit hours. Typically offered: spring term.

MATH 310 Modern Geometry. Euclidean and non-Euclidean geometries, geodesics, triangle congruence theorems, area and holonomy, parallelism, symmetry, and isometries. Prerequisite: "C" or better in MATH 211. Writing Intensive Course. 3 semester credit hours. Writing Intensive Course. Typically offered: spring term, even years.

MATH 312 Mathematics for Middle and Secondary Teachers. Topics include analyses of alternate definitions, languages, and approaches to mathematical ideas; extensions and generalizations of familiar theorems; discussions of the history of mathematics and historical contexts in which concepts arose; applications of mathematics in various settings; analyses of common problems of high school mathematics from a deeper mathematical level; demonstrations of alternate ways of approaching problems, including ways with and without calculator and use of technology; connections between ideas that may have been studied separately in different courses; and relationships of ideas studied in school to ideas students may encounter in later study. Prerequisite: "C" or better in MATH 212 and MATH 240. 3 semester credit hours. Typically offered: fall term, odd years.

MATH 331 Abstract Algebra I. Rings and elementary theory of rings: internal domains, fields, homomorphism, isomorphism, polynomial rings, quotient rings and ideals. We will also include an introduction to other algebraic groups and the elementary theory of groups: subgroups, isomorphism, Lagrange's theorem, normal subgroups and quotient groups. Prerequisite: "C" or better in MATH 300. 3 semester credit hours. Typically offered: fall term, odd years.

MATH 332 Abstract Algebra II. Euclidean Domains, Principal Ideal Domains, Unique Factorization domains, Field Extensions, Galois Theory and Sylow Theorems. Other topics on application of abstract algebra will also be included. Prerequisite: "C" or better in MATH 331. 3 semester credit hours. Typically offered: spring term, even years.

MATH 341 Real Analysis I. Topological properties of Euclidean spaces, limits of sequences and functions and continuity and differentiability for functions of one variable. Prerequisite: "C" or better in MATH 212, and in MATH 240 or MATH 300. 3 semester credit hours. Typically offered: fall term, even years.

MATH 342 Real Analysis II. Integrability, sequences of functions and infinite series. Prerequisite: "C" or better in MATH 341. 3 semester credit hours. Typically offered: spring term, odd years.

MATH 350 Complex Variables. Complex numbers and their geometric representation, analytic functions, elementary functions, transformations, complex integration, Taylor and Laurent series, and the calculus of residues, conformal mapping, and applications to hyperbolic geometry. Prerequisite: "C" or better in MATH 212. 3 semester credit hours. Typically offered: fall term, odd years.

MATH 361 Fourier Analysis & Boundary Value Problems. Fourier series and their applications; Fourier Integral Representation; Sturm-Liouville Problems; techniques for solving partial differential equations (PDE's); heat equation, wave equation, and potential equation in Cartesian, polar, and cylindrical coordinates; Laplacian operator; and Bessel functions and their applications. Prerequisite: "C" or better in MATH 260. 3 semester credit hours. Typically offered: fall term, even years.

MATH 365 Vector Analysis. Vector algebra; vector integration and differentiation; the del operator; the gradient, divergence and curl; line and surface integrals; the main integral theorems of vector analysis – Stokes' Thm., Green's Thm. and Divergence Thm.; tensor notation; and curvilinear coordinates. Prerequisite: "C" or better in MATH 212. 3 semester credit hours. Typically offered: periodically.

MATH 370 Theory of Interest. Topics include measurement of interest, various types of annuities, yield rates, amortization schedules, sinking funds, bonds and securities. Prerequisite: "C" or better in MATH 211. 3 semester credit hours. Typically offered: spring term, odd years.

MATH 371 Probability and Statistics I. Discrete and continuous probability distributions, moments and mathematical expectation, moment generating functions, conditional probability and expectation, and multivariate distributions. Prerequisite: Credit or co-registration in MATH 212. 3 semester credit hours. Typically offered: fall term, even years.

MATH 373 Probability and Statistics II. Sampling distributions, estimation, tests of hypotheses, least squares and regression, correlation, introduction to Bayesian analysis and analysis of variance. Prerequisite: "C" or better in MATH 371 and MATH 212. Writing Intensive Course. 3 semester credit hours. Writing Intensive Course. Typically offered: spring term, odd years.

MATH 380 Numerical Analysis. Numerical methods for isolating roots, solving systems of linear equations, interpolation, and evaluating derivatives and definite integrals. Prerequisite: "C" or better in MATH 211 and programming experience. 3 semester credit hours. Typically offered: periodically.

MATH 381 Numerical Analysis Practicum. A hands-on experience with issues in numerical analysis. Topics may include the application of parallel processing capabilities to numerical problems, extend accuracy computations, computational aspects of large physical problem modeling, or experimental relationships between accuracy and complexity in numerical computations. Prerequisite: Credit or co-registration in MATH 380. 1 semester credit hour. Typically offered: periodically.

MATH 385 Introduction to Modern Cryptology. Cryptology concerns communicating in the presence of an adversary, with goals like preservation of privacy and integrity of communicated data. Topics include rigorous mathematical description of various symmetric (i.e., private key) and symmetric (i.e., public key) cryptographic methods including substitution ciphers, block ciphers, RSA, the discrete logarithm problem, and other applications, with emphasis on "provable security". Prerequisite "C" or better in MATH 212 or MATH 240. 3 semester credit hours. Typically offered: spring term, even years.

MATH 390 Selected Topics. Lectures on miscellaneous topics with which the student has not become acquainted in formal course work. May be an extension of, or a supplement to, material previously encountered, or material from a completely new area. 3 semester credit hours. *Department consent required.*

MATH 395 Independent Study. Designed to encourage superior students to continue the study of mathematics beyond the scope of undergraduate course offerings, through guided independent study. 1-3 semester credit hours. *Department consent required.*

MATH 397 Mathematical Research. Original research in mathematics or mathematics education conducted under the supervision of a faculty member. 1-3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:3.*

MATH 399 Internship. Practical experience in mathematics or related career fields under the supervision of the Mathematics faculty. 3-6 semester credit hours. *Department consent required.*

MATH 95 Intermediate Algebra. Topics include real numbers, linear equations, exponent, polynomials, rational expressions, radicals, and quadratic equations. Prerequisite: Placement exam. 3 semester credit hours. Typically offered: fall and spring terms.

Medical Humanities

MDHM 200 Introduction to Medical Humanities. Provides an introduction to the interdisciplinary fields of study that characterize the discipline, as well as to the Benedictine major program. Required for all Medical Humanities majors. 3 semester credit hours.

MDHM 399 Medical Humanities. Group or independent research and coursework to culminate in a senior project with a hands-on experiential component. Offered periodically. 3 semester credit hours. Typically offered: periodically.

Military Science

MSCI 101 Foundations of Officership. This course is an introduction to fundamental components of service as an officer in the United States Army. These initial lessons form the building blocks of progressive lessons in values, fitness, leadership and officership. This course also addresses "life skills" including fitness, communications theory and practice (written and oral), interpersonal relationships, and the ethics of Christian service. Emphasis on "hands-on" learning also includes blocks of instruction map reading, orienteering, marksmanship, and rappelling as well as weekly leadership laboratories, one weekend field trip, and physical training. Upon completion of this semester, the cadets should be prepared to receive more complex leadership instruction. 2 semester credit hours.

MSCI 102 Basic Leadership. Builds upon the fundamentals introduced in the previous semester by focusing on leadership theory and decision making. "Life skills" lessons in this semester include: problem solving, critical thinking, leadership theory, followership, group interaction, goal setting, and feedback mechanisms. Upon completion of this semester, cadets should be prepared to advance to more complex leadership instruction concerning the dynamics of organizations. Additionally, they will be increasingly required to demonstrate knowledge of leadership fundamentals and communications (written and oral). Again, "hands-on" learning also includes blocks of instruction on map reading, orienteering, marksmanship, and rappelling as well as weekly leadership laboratories, one weekend field trip, and physical training. 2 semester credit hours. Typically offered: annually.

MSCI 123 Military Science Leadership Lab. Practical application of military skills taught in MSCI basic and advanced courses. Hands on training in basic soldier's skills, squad and platoon tactics, weapons, communications and organizational leadership.

MSCI 201 Individual Leadership Studies. This course builds on the fundamentals introduced in the first year curriculum. Using practical exercise, cadets must increasingly apply communications and leadership skills to solve increasingly complex problems. The course concludes with a major leadership and problem solving case study which draws on virtually all of the classroom instruction received in the first three semesters of the Basic Course. The course also includes one weekend field trip, weekly leadership laboratories, and physical training. Upon completion of this semester, cadets should be well grounded in the fundamental principles of leadership, and be prepared to intensify the practical application of their studies during the Advanced Course. 2 semester credit hours. *Department consent required.*

MSCI 202 Leadership and Teamwork. Basic Course capstone course focuses principally on officership, providing an extensive examination of the unique purpose, roles, and obligations of commissioned officers. It includes a detailed look at the origin of our institutional values and their practical application in decision making and leadership. Introduces fundamentals and principles of small unit tactics. Upon completion of this semester, cadets should possess a fundamental understanding of both leadership and officership, demonstrate the ability to apply this understanding in real world situations, and be excited about the aspect of shouldering the responsibility of a commissioned officer in the United States Army. Includes one weekend field trip, weekly leadership laboratories and physical training. 2 semester credit hours. *Department consent required.*

MSCI 211 American Military History. Taught at Wheaton College by the Professor of Military Science for a $25 cross enrollment fee. Introduces cadets to American military history using principles of warfare, threads of continuity, battle analysis, and oral biographies. This course is required for commissioning. 2 semester credit hours. *Department consent required.*

MSCI 225 Leader's Training Course (LTC). An alternative to the Basic Course above, LTC offers a possibility for students who have not considered ROTC until late in their sophomore year an opportunity for a scholarship and entry into the Advanced Course. The sole purpose for attending LTC is to qualify for the Advanced Course. Students contract prior to attending, and, therefore, must be American citizens to attend. LTC is a 28-day summer training course conducted at Fort Knox, Kentucky, designed to teach the fundamentals of soldiering and leadership and to enhance personal confidence using practical, hands-on exercises including: land navigation, rifle marksmanship, first aid, individual and unit tactics, obstacle courses, and rappelling. Military pay approximately $750. (optional 4 hours credit incurs special tuition charge.) 4 semester credit hours. *Department consent required.*

MSCI 301 Leadership and Problem Solving. Focus of instruction is on leadership competencies using small unit operations as the primary mode of instruction. Cadets assume leadership positions within the Rolling Thunder Battalion, and actually apply the theory they have learned in the basic Course by planning and executing small unit training. The semester begins with instruction in the Leadership Development Process (LDP) used throughout the academic year and at NALC to assess and develop leadership. Cadets will focus on troop leading procedures, motivational theory, small unit training, operations orders, and risk assessment. Course includes weekly leadership lab, one weekend field trip, and physical training. 4 semester credit hours. *Department consent required.*

MSCI 302 Leadership and Ethics. A continuation of MSCI 331emphasizing doctrinal leadership and tactical operations at the small unit level. It includes opportunities to plan and conduct individual and collective skill training for offensive operations to gain leadership and tactical experience. This critical semester synthesizes the various components of training, leadership and team building taught over the last three years, and prepares cadets for their summer experience at NALC. Course includes weekly leadership lab, one weekend field trip and physical training. 4 semester credit hours. *Department consent required.*

MSCI 303 Leadership and Management. Focusing on leadership, management, and ethics, MSCI 401 begins the final transition from cadet to lieutenant. The course focuses cadets, early in the year, on attaining apprentice level knowledge and proficiency in several critical areas they will need to operate effectively as Army officers including coordinating activities with staffs, counseling theory and practice within the "Army Context," training management, and ethics. Cadets will continue to sharpen these skills as they perform their roles as cadet officers in the Rolling Thunder Battalion and after commissioning. At the end of this semester cadets should possess the fundamental skills, attributes, and abilities to operate as competent leaders in the cadet battalion and confidently communicate to subordinate cadets their preparedness to shoulder the responsibilities entrusted to them. Course includes weekly leadership lab, one weekend field trip and physical training. 4 semester credit hours. *Department consent required.*

MSCI 304 Officership. A continuation of MSCI 303, MSCI 304 completes the transition from cadet to lieutenant. As a follow-on to the Ethics instruction in MS 303, the course starts with a foundation in the legal aspects of decision making and leadership. The next modules reinforce previous instruction on the organization of the Army, introduce how we organize for operations from the tactical to strategic level, and introduce administrative and logistical management issues that focus on the fundamentals of soldier and unit level support. The final module that introduces new information focuses on the often confusing process of changing duty stations and reporting to a new unit. Upon completion of this semester the cadets will be prepared to shoulder the responsibility of being a commissioned officer in the United States Army. Course includes weekly leadership lab, one weekend field trip, and physical training. 4 semester credit hours. *Department consent required.*

MSCI 335 National Advanced Leadership Camp (NALC). Approximately 3,500 cadets nationwide will attend NALC at Fort Lewis, Washington each year. An Advanced Course requirement, NALC provides an opportunity to live and work with other cadets from around the country for 35 days. NALC is a performance based environment in which cadets can exercise their leadership skills in a variety of field and garrison activities, and cadre can assess leadership potential. Military pay approximately $1,100. Prerequisite: MSCI 302. (Optional four hours credit incurs special tuition charge.) 4 semester credit hours. *Department consent required.*

MSCI 343 American Military History. Taught at Wheaton College by the Professor of Military Science for a $25 cross enrollment fee. Introduces cadets to American military history using principles of warfare, threads of continuity, battle analysis, and oral biographies. This course is required for commissioning. 2 semester credit hours. *Department consent required.*

MSCI 401 Leadership and Management. Focusing on leadership, management, and ethics, MSCI 401 begins the final transition from cadet to lieutenant. The course focuses cadets, early in the year, on attaining apprentice level knowledge and proficiency in several critical areas they will need to operate effectively as Army officers including coordinating activities with staffs, counseling theory and practice within the "Army Context," training management, and ethics. Cadets will continue to sharpen these skills as they perform their roles as cadet officers in the Rolling Thunder Battalion and after commissioning. At the end of this semester cadets should possess the fundamental skills, attributes, and abilities to operate as competent leaders in the cadet battalion and confidently communicate to subordinate cadets their preparedness to shoulder the responsibilities entrusted to them. Course includes weekly leadership lab, one weekend field trip, and physical training. 4 semester credit hours. *Department consent required.*

MSCI 402 Officership. A continuation of MSCI 303, MSCI 304 completes the transition from cadet to lieutenant. As a follow-on to the Ethics instruction in MS 303, the course starts with a foundation in the legal aspects of decision making and leadership. The next modules reinforce previous instruction on the organization of the Army, introduce how we organize for operations from the tactical to strategic level, and introduce administrative and logistical management issues that focus on the fundamentals of soldier and unit level support. The final module that introduces new information focuses on the often confusing process of changing duty stations and reporting to a new unit. Upon completion of this semester the cadets will be prepared to shoulder the responsibility of being a commissioned officer in the United States Army. Course includes weekly leadership lab, one weekend field trip, and physical training. 4 semester credit hours. *Department consent required.*

MSCI 403 American Military History. Taught at Wheaton College by the Professor of Military Science for a $25 cross enrollment fee. Introduces cadets to American military history using principles of warfare, threads of continuity, battle analysis, and oral biographies. This course is required for commissioning. 2 semester credit hours. *Department consent required.*

MSCI 495 Independent Study. A self-paced study at the advanced level focusing on Military Science. 1-4 semester credit hours. *Course repeatable. Maximum number of units allowed:4.*

Music

MUSI 100 Introduction to Music Theory, Composition and Performance. A survey course intended to develop the understanding of musical elements and form with the goal of preparing the student for the study of applied music. Basic skills in theory, composition, and performance will be taught. Awareness and understanding of how music as a subject relates to other arts and sciences will also be developed. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Music Core Elective.

MUSI 101 Music Theory I. Reviews fundamentals of music theory. Examines basic theoretical elements in music including major and minor scales, chord progressions, and form as they apply to musical specific examples. Co-registration MUSI 112 and MUSI 194 required for music majors. Co-registration MUSI 112 required for music minors. 3 semester credit hours. Music Core Elective. Typically offered: fall term. *Department consent required.*

MUSI 102 Music Theory II. Works with basic theoretical elements applying them to harmonization and simple modulations. Introduces simple forms including binary and ternary. Co-registration with MUSI 113 and MUSI 195 are required. 3 semester credit hours. Typically offered: spring term.

MUSI 104 Music Appreciation: Medieval to Contemporary. This course explores the history of Western Classical Music by focusing on each of its eras. It also offers access to various ways to listen to music and how to take full advantage of concert attendance. Provides detailed explanations and sound demonstrations of the basic musical elements and performing media. periodically. IAI F1 900. Artistic and Creative Mode of Inquiry (QCA). 3 semester credit hours. Music Core Elective. Typically offered: periodically.

MUSI 105 Music Appreciation: Medieval to Baroque. Eight week modular course - Student cannot receive credit for MUSI 105 or 106 if MUSI 104 has been completed. Artistic and Creative Mode of Inquiry (QCA). 2 semester credit hours. Music Core Elective.

MUSI 106 Music Appreciation: Classical to Contemporary. Eight week modular course - Student cannot receive credit for MUSI 105 or 106 if MUSI 104 has been completed. Artistic and Creative Mode of Inquiry (QCA). 2 semester credit hours. Music Core Elective.

MUSI 112 Aural Skills I. Begin training of musical skills relating to pitch and rhythmic recall and recognition. Students will develop the ability to sing melodies in pitch and rhythm. Progression through Aural Skill courses dependent on course sequence or proficiency testing. Co-registration with MUSI 101 and MUSI 194. 1 semester credit hour. Music Core Elective. Typically offered: fall term.

MUSI 113 Aural Skills II. Second course in training of musical skills relating to pitch and rhythmic recall and recognition. Students will develop the ability to sing melodies in pitch and rhythm. Progression through Aural Skill courses dependent on course sequence or proficiency testing. Prerequisite: MUSI 101/112 or proficiency. Co-registration with MUSI 102 required. 1 semester credit hour.

MUSI 121 Concert Band. A performing ensemble dedicated to the study and performance of the wind band repertoire. Standard and new compositions will be performed in concerts each semester. IAI MUS 908. Artistic and Creative Mode of Inquiry (QCA). Music Core Elective. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed:14.*

MUSI 122 Concert Choir. A performing ensemble utilizing practical work and study of choral literature of all periods of music in concerts each semester. IAI MUS 908. Artistic and Creative Mode of Inquiry (QCA). Music Core Elective. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed:14.*

MUSI 125 Chamber Music Ensemble. Chamber Music Ensemble: Performing ensemble dedicated to the mastery of performance technique through intimate ensemble experiences. Heightened teamwork, communication, and music reading skills are stressed. A closer association with the audience is developed providing the music student, vocal or instrumental the ability to have and increased understanding of the impact their music making has on the community. Co-registration in 200 or 300 level applied music. 1 semester credit hour. Music Core Elective. *Course repeatable. Maximum number of units allowed:14.*

MUSI 126 Percussion Ensemble. A performing ensemble consisting of mixed percussion instruments. Performances each semester. IAI MUS 908. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed:1.*

MUSI 128 Jazz Eagles. A small mixed ensemble that performs standards of the jazz repertoire, improvisation, and ensemble skills. Prerequisite: Audition required. Concurrent registration in applied instruction with an emphasis in jazz techniques. Artistic and Creative Mode of Inquiry (QCA). Music Core Elective. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

MUSI 129 Chamber Orchestra. Music Core Elective.

MUSI 130 Woodwind Methods. Study of the technical and artistic aspects of playing instruments in the woodwind family with emphasis on the repertoire used in teaching applied lessons in the elementary, junior high and high schools levels. Students are required to perform basic pieces to show their competency in each of the instruments. 2 semester credit hours.

MUSI 131 Brass and Percussion Methods. Study of the technical and artistic aspects of playing instruments in the Brass and Percussion families with emphasis on the repertoire used in teaching applied lessons in the elementary, junior high, and high schools levels. Students are required to perform basic pieces to show their competency in each of the instruments. 2 semester credit hours.

MUSI 132 String Methods. Study of the technical and artistic aspects of playing instruments in the string family with emphasis on the repertoire used in teaching applied lessons in the elementary, junior high, and high schools levels. Students are required to perform basic pieces to show their competency in each of the instruments. 2 semester credit hours.

MUSI 133 Vocal Methods. Study of the technical and artistic aspects of playing instruments in the voice family with emphasis on the repertoire used in teaching applied lessons in the elementary, junior high and high schools levels. Students are required to perform basic pieces to show their competency in each of the instruments. 2 semester credit hours.

MUSI 140 Applied Instrumental: Non-Keyboard. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. IAI MUS 909. 1 semester credit hour. Music Core Elective. *Course repeatable. Maximum number of units allowed: 4.*

MUSI 144 Applied Keyboard. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. IAI MUS 909. 1 semester credit hour. Music Core Elective. *Course repeatable. Maximum number of units allowed: 4.*

MUSI 148 Applied Voice. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. IAI MUS 909. 1 semester credit hour. Music Core Elective. *Course repeatable. Maximum number of units allowed: 4.*

MUSI 190 Class Instruction in Voice. For the student who wants to learn to sing but has never studied voice or cannot read music. 2 semester credit hours. Music Core Elective. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 4.*

MUSI 191 Class Instruction in Voice II. For the student who wants to continue to learn to sing but has never studied voice other than MUSI 190. 2 semester credit hours.

MUSI 194 Keyboard Skills. Class instruction in Piano: For the beginning piano student who prefers to learn in a group setting. 2 semester credit hours. Music Core Elective. *Course repeatable. Maximum number of units allowed: 4.*

MUSI 195 Class Instruction in Piano II. To be taken after the completion of MUSI 194. Prerequisite: MUSI 194. 2 semester credit hours.

MUSI 196 Class Instruction in Voice. Instruction in Voice: For the beginning vocal student who prefers to learn in a group setting. 2 semester credit hours.

MUSI 198 Class Instruction in Guitar. For the beginning guitar student who prefers to learn in a group setting. 2 semester credit hours. Music Core Elective.

MUSI 199 Class Instruction in Guitar II. For the beginning student who wants to continue to learn to play the acoustic guitar. Student must supply the instrument. Prerequisite: MUSI 198. 2 semester credit hours.

MUSI 201 Theory III. An advanced theory course designed to cover chordal structures, formal analyses, development of aural skills, inversions, non-diatonic harmony and sight-singing. IAI MUS 903. Prerequisite: MUSI 102. Co-registration with MUSI 212 required. 3 semester credit hours. Typically offered: fall term.

MUSI 202 Music Theory IV. A continuation of MUSI 201. With emphasis on twentieth century procedures and theoretical concepts. IAI MUS 904. Co-registration with MUSI 213 required. 3 semester credit hours. Typically offered: spring term.

MUSI 204 Music Literature. The study and exploration of the Western Music composed during the Baroque, Classical, Romantic, and Contemporary periods. This music literature (i.e. musical scores) will be examined according to each significant genre, utilizing the composers from these periods as a frame of reference and discussion. Significant non-musical areas that influenced changes (such as religion, politics, technology, and historical events) will also be investigated. Emphasis will be placed upon developing listening skills, score analysis and the ability to generalize music listening activities to music not previously encountered from these periods. IAI MUS 905. 3 semester credit hours. Music Core Elective. Typically offered: periodically.

MUSI 205 Music History I. Studies the origin and development of music from the ancient times through the Medieval, Renaissance, and Baroque periods. Special emphasis is placed on the crucial events, individuals, and genres that were developed and produced during this time. Analyzes and focuses on the cultural contributions and pedagogical implications of the significant epochs of this era. IAI F1 902. Prerequisite: MUSI 101. 3 semester credit hours. Music Core Elective. Typically offered: fall term.

MUSI 206 Music History II. Studies the origin and development of music from the Classical through the modern periods. Special emphasis is placed on the crucial events, individuals, and genres that were developed and produced during this time. Analyzes and focuses on the cultural contributions and pedagogical implications of the significant epochs of this era. IAI F1 902. spring. Prerequisite: MUSI 102, MUSI 205. 3 semester credit hours. Typically offered: spring term.

MUSI 207 World Music. An investigation of the diverse cultures as represented by their music. Native instruments, production strategies, and theoretical analyses provide the student with a foundation to better understand the role music plays both in these cultures as well as our own. The course focuses on non-western music. IAI F1 903N. 3 semester credit hours. Music Core Elective. Typically offered: fall term.

MUSI 208 Women in Music. This course examines the role of women in Western music which has historically been de-emphasized or even ignored until recently. The full extent of musical endeavors among women will be investigated along with some of the factors which accounted for the treatment many of these important composers and performers have received in the past. The primary focus will be directed toward Western art music, although contemporary and popular examples will also be presented. 3 semester credit hours. Music Core Elective. Typically offered: spring term.

MUSI 209 The Psalms. A historical study of the Psalms that examines their literary form through music from the Biblical times to the present and exegeses. Their relevancy and prayerful application in our daily lives are examined. 3 semester credit hours.

MUSI 210 Jazz History and Appreciation. Jazz is America's original art form that reflects the cultural diversity that gave rise to it. African, Caribbean, European and Brazilian influences upon jazz as well as the impact of jazz on other forms of music will be discussed. The class will focus upon its historical development from pre-Civil War through the 20th century, reflecting upon both its sacred and secular manifestations. The basic elements of music that distinguish jazz from other musical genres will be explored. The course seeks to cultivate an appreciation of the major figures within jazz history (such as Armstrong, Parker, Ellington, Monk, Davis and Coltrane) and their stylistic innovations as well as their contributions to American culture. 2 semester credit hours. Music Core Elective.

MUSI 211 Rock History and Appreciation. This course explores the formative influences that gave rise to rock and pop music. It identifies its major figures, innovators and their contributions, as well the various styles that have developed in its history. The impact of social trends on rock music and the influence of rock music on society both are explored, as well as the role that technology has played in rock's evolution. Finally, other forms of music that have assimilated elements of rock music are identified and examined. 2 semester credit hours. Music Core Elective.

MUSI 212 Aural Skills III. Third course in training of musical skills relating to pitch and rhythmic recognition. Students will develop the ability to sing melodies in pitch and rhythm. Progression through Aural Skill courses dependent on proficiency testing. Prerequisite: MUSI 101/112 and 102/113 or proficiency. Co-registration with MUSI 201 recommended. 1 semester credit hour. Typically offered: fall term.

MUSI 213 Aural Skill IV. Fourth course in training of musical skills relating to pitch and rhythmic recognition. Students will develop the ability to sing melodies in pitch and rhythm. Progression through Aural Skill courses dependent on proficiency testing. Prerequisites: MUSI 101/112, 102/113, and 201/212 or proficiency testing. Co-registration with MUSI 202 required. 1 semester credit hour. Typically offered: spring term.

MUSI 217 Vocal Diction. An advanced course in the study of English, Italian, Latin, German and French diction. The proper formation of vowel sounds, rules to follow in singing situations, and the International Phonetic Alphabet will be emphasized. This course will require research skills and include practicum experiences. Prerequisite: co-registration with MUSI 348. Applied voice or consent of instructor. 3 semester credit hours. Typically offered: fall term, even years.

MUSI 218 Music and the Mind. This course combines popular and academic sources in an overview of writers, thinkers and researchers and their viewpoints regarding what it means to be musical. Special focus will be given to how people think and act musically. 3 semester credit hours. Typically offered: fall term, odd years.

MUSI 240 Applied Instrumental: Non-Keyboard. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. IAI MUS 909. 2 semester credit hours. Music Core Elective. *Department consent required. Course repeatable. Maximum number of units allowed:8.*

MUSI 241 Sophomore Year Observation Experience. The student will visit a host school to observe rehearsals, classes, contribute to special projects as proposed by the host teacher, and ask pertinent questions to the host teacher relating to the teaching and management of a band or choir class. This is a 12-week program course designed to cover a wide range of educational experiences (Four week elementary school observation; Four week junior high school observation; and a four week High school program observation). The students will record their experiences in a journal for revision and assessment by a Benedictine University teacher. 48 hours of observation to be completed.

MUSI 242 Junior Year Observation Experience. The student will visit a host school to observe and teach short sections of rehearsals, classes, sectionals, write lessons plans to teach a music history or music theory class, teach exceptional children, and teach a culturally diverse classroom. The student will choose two age levels for observation (six weeks of Elementary level classes, six weeks of junior high classes, and/or six weeks of High school classes). The students will record their experiences in a journal for revision and assessment by a Benedictine University teacher. 48 hours of observation to be completed.

MUSI 244 Applied Keyboard. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. IAI MUS 909. 2 semester credit hours. Music Core Elective. *Course repeatable. Maximum number of units allowed:8.*

MUSI 248 Applied Voice. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. IAI MUS 909. 2 semester credit hours. Music Core Elective. *Course repeatable. Maximum number of units allowed:8.*

MUSI 250 Junior Recital. Preparation and presentation of a solo performance program. Weekly mentoring sessions until performance will include practice with the accompanist, discussion of proper performance etiquette and the preparation of program notes. Co-registration with Applied Music at the 200 level and consent of department. 1 semester credit hour. Music Core Elective. *Department consent required.*

MUSI 291 Topics:. Special course focusing on topics related to the needs and interests of the student. Topics to include areas of music literature, theory and pedagogy. 1-3 semester credit hours. Typically offered: periodically.

MUSI 303 Technology for Music Teachers. This course surveys the standard music technology software and hardware used in music education today. Emphasis will be given to the areas of pedagogy, composition, music theory and performance. 3 semester credit hours.

MUSI 313 Music Pedagogy. An advanced course focusing on the development of music teaching skills. Particular emphasis will be made in accordance to the needs of the students enrolled. Students will learn the principles, techniques and materials necessary for applied music instruction in studio and classroom settings. Current trends and teaching strategies for diverse student abilities and need are examined. Methods for teaching basic skills in music reading, listening and arranging will be presented in the course. Prerequisite: 300 level applied instruction. 3 semester credit hours. Typically offered: fall term, even years.

MUSI 323 Music Practicum. This course is designed to give students supervised practical application of previously studied music theory in music and experienced through applied music and ensembles. The areas of music arranging, conducting, and orchestration will be studied with special attention to their practical use in the current music business environment. The use of music technology to prepare assignments will also be a component of the course. Prerequisite: junior standing. 3 semester credit hours. Typically offered: spring term, odd years.

MUSI 340 Applied Instrumental: Non-Keyboard. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. 2 semester credit hours. Music Core Elective. *Department consent required. Course repeatable. Maximum number of units allowed:8.*

MUSI 342 Senior Year Observation Experience. The student will visit a host school to observe and teach extended sections of rehearsals, classes, sectionals, write lessons plans to teach a music history or music theory class, teach exceptional children, and teach a culturally diverse classroom. The student will choose two age levels for observation (six weeks of Elementary level classes, six weeks of junior high classes, and/or six weeks of High school classes). The students will record their experiences in a journal for revision and assessment by a Benedictine University teacher. 100 hours of observation to be completed. 3 semester credit hours.

MUSI 344 Applied Keyboard. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. 2 semester credit hours. Music Core Elective. *Course repeatable. Maximum number of units allowed:10.*

MUSI 348 Applied Voice. All individual applied instruction classes must be taken in sequence. Students enrolled in these classes are required to pay a special applied fee. Non-music majors enroll in 100-level applied instruction. Advancement into 200- and 300-level applied instruction occurs through placement and proficiency testing. Music majors will enter at the 200-level applied instruction. Advancement into the 300-level will occur through placement and proficiency testing. 2 semester credit hours. Music Core Elective. *Course repeatable. Maximum number of units allowed:8.*

MUSI 350 Senior Recital. Preparation and presentation of a full solo performance program. Weekly mentoring sessions until performance will include practice with the accompanist, discussion of proper performance etiquette and the preparation of program notes. Prerequisite: MUSI 250. Co-registration with Applied Music at the 300 level. 2 semester credit hours. Music Core Elective. *Department consent required.*

MUSI 351 Principles and Procedures in Music Education. This course surveys contemporary music education learning and pedagogical theories. Principles and practices of curriculum design applied to the development of the music curriculum. Individual or group work on elementary and secondary school music curriculum projects. 3 semester credit hours.

MUSI 352 Instrumental and Choral Conducting. Overview of choral conducting patterns. Score, voice and instrumental warm-up and intonation. Tempo fluctuation, left hand, diction, discipline. Designed for music and music education majors. 3 semester credit hours.

MUSI 353 Instrumental and Choral Ensemble Literature. An advanced course focusing on the literature of choral and instrumental ensembles. Particular emphasis will be given to the ensemble literature needs of the student learners at the elementary, junior high and high school levels. Students enrolled in this course will learn the principles, techniques, and materials necessary for teaching the choral and instrument ensemble literature. Current trends and teaching strategies for diverse student abilities and needs are examined. Methods for teaching basic skills in music reading, listening, and arranging will be presented in the course. Prerequisite: MUSI 202. 3 semester credit hours.

MUSI 354 Teaching K-12 Classroom. The study of concepts and processes specific to and necessary for effective instruction in K-12 music education. Students explore various elementary and secondary music methods in both a classroom setting and in workshops by specialists in the field. 3 semester credit hours.

MUSI 360 Senior Seminar: Professional Portfolio. The students will analyze the job markets and prepare analyses of current issues in the performing arts. Analyses of demographics affecting the operations and organization of art programs in the United States will be studied. Students will be required to create a portfolio of personal data to prepare for job searches, prepare for mock interviews and present exhibition of works. Prerequisite: junior standing. 3 semester credit hours. Fine Arts Core and Writing Intensive. Typically offered: spring term.

MUSI 365 Senior Seminar: The Portfolio Experience. The students will analyze the job markets and prepare analyses of current issues in the performing arts. Analyses of demographics affecting the operations and organization of art programs in the United States will be studied. Students will be required to create a portfolio of personal data to prepare for job searches, prepare for mock interviews and present exhibition of works. Prerequisite: junior standing. 0 semester credit hours. Typically offered: spring term (Two sessions: Two hours each).

MUSI 391 Topics. Special course focusing on various topics relating to the needs of the students and recent events and/or topics of interest. Topics to include areas of music literature, history, theory and pedagogy. 1-3 semester credit hours. Typically offered: periodically.

MUSI 395 Independent Study. A course in which the student, under the supervision of the teacher, may study any one of the current music courses in an individual and independent manner. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 3.*

MUSI 397 Internship. A practical course intended to give those students who are qualified, an opportunity to do observing - either in a classroom or privately - or to perform any practical job associated with his or her field under the supervision of the faculty. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

MUSI 398 Student Teaching. The student will choose a school to student teach for a 16 week period. Students are expected to be ready to teach and prepare lesson plans, rehearse and teach sectionals, teach applied lessons, assist the host band or choir director in daily classroom tasks, teach a class using a lesson plan and give a test, conduct the band or choir during a concert. The students will record their experiences in a journal for revision and assessment by a Benedictine University teacher. 12 semester credit hours. *Department consent required.*

Natural Sciences

NTSC 107 Earth and Space Science. A physical science laboratory course that includes the study of key principles of Earth and Space Science through the investigation of real world problems. The earth science component includes the study of large-scale dynamic forces, events, and processes that affect the Earth's land, water, and atmospheric systems, identification and evaluation of the uses of the Earth's resources, and the processes involved in the life cycle. The space science component focuses on concepts that explain the composition, structure of and changes in the universe and Earth's place in it. By working and studying within the context of a real world problem, students learn how scientific principles are used and applied in everyday life. IAI P1 909. Physical-Scientific Mode of Inquiry (QPS). 4 semester credit hours. Typically offered: spring term.

NTSC 111 Contemporary Biology. This course includes the study of key principles of the Biological Sciences through the investigation of real world problems. Topics include molecular and cellular biology, genetics, evolution, ecology, organismal biology and diversity. By including the science and technology history of the real world problems, students will learn how scientific principles are used and applied in everyday life; and understand how advancements in these principles influence "problem solving" paradigms in science and technology. The course will facilitate the students' understanding of the scientific method by utilizing "hands-on science", inquiry based, and field based laboratory experiments. Prerequisite: MATH 110 or equivalent. Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: fall term.

NTSC 112 Contemporary Physical Science. A physical science laboratory course that includes the study of key principles of physics through the investigation of a real world problem (or problems). Topics include displacement, velocity, acceleration, force, momentum, work, energy, electricity, thermodynamics, optics, and modern physics. By working and studying within the context of the "real world" problem, students learn how scientific principles are used and applied in everyday life. They also come to understand how advancements in these principles influence "problem solving" paradigms in science and technology. The course facilitates the students' understanding of the Scientific Method by utilizing "hands-on science" and "inquiry based" laboratory experiments. Prerequisite: MATH 110 or equivalent. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: spring term.

NTSC 151 Natural Science Interdisciplinary Laboratory I. An integrated laboratory course intended to teach the philosophy and practice of experimental aspects of science. Students will learn skills related to laboratory safety, ethics, data acquisition and analysis, experimental design and the scientific method. Methods and instrumentation of laboratory investigation that are common to the disciplines of biology and chemistry will provide the focus for student development of a standard set of laboratory skills and techniques. The rationale behind experimental protocols and principles of up-to-date methodology and laboratory techniques are discussed in lectures and practiced in the laboratory. Prerequisites: Credit or co-registration in MATH 210 or higher and credit or co-registration in BIOL 197 or BIOL 198 and/or CHEM 113. NOTE: Satisfactory completion of NTSC 151 and NTSC 152 (three credit hours) is equivalent to, and may be substituted for BIOL 199 (one credit hour), CHEM 114 (one credit hour), and CHEM 124 (one credit hour). 1.5 semester credit hours. Life Science Core Elective. Typically offered: periodically.

NTSC 152 Natural Science Interdisciplinary Laboratory II. This course is a continuation of NTSC-151and the study and practice of methods and instrumentation of laboratory investigation that are common to the disciplines of biology and chemistry. Both courses will provide the focus for student development of a standard set of laboratory skills and techniques that will be used in upper level courses. Prerequisites: Credit or co-registration in MATH 210 or higher and credit or co-registration in BIOL 197 or BIOL 198 and /or CHEM 113. NOTE: Satisfactory completion of NTSC 151 and NTSC 152 (three credit hours) is equivalent to, and may be substituted for BIOL 199 (one credit hour), CHEM 114 (one credit hour), and CHEM 124 (one credit hour). 1.5 semester credit hours. Life Science Core Elective. Typically offered: periodically.

NTSC 200 Natural Science Teaching. Teaching assistant. 1-2 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

NTSC 210 Science and the Humanities. An integrative course of the sciences and humanities based on how different disciplines form the foundation on which the process of scientific investigation rests. Satisfies the HUMN-SCI core for the B.A. in Biology. Prerequisite: Sophomore Standing. 3 semester credit hours. Life Science Core Elective. Typically offered: periodically.

NTSC 398 College of Science Research. This is a zero credit hour class which outlines the duties of the students who participate in the College of Science Research Program. Only a Pass/Fail grade will be given. Students who successfully complete the requirements will receive a passing grade. Students will sign up for the class at the beginning of summer and the grade will be posted when all requirements are completed. The latest assignments of grades will be in the spring semester of the following year. Typically offered: summer term. *Department consent required. Course repeatable. Maximum number of units allowed:0.*

Nuclear Medicine Technology

NMTC 304 Nuclear Science. Origins and nature of nuclear and atomic radiation, interaction of radiation with matter, radiation detectors, detection systems, and radiation safety. Lecture and laboratory. Intended for any qualified sciences student. 2 semester credit hours. Typically offered: periodically. *Department consent required.*

NMTC 331 Management and Methods of Patient Care I. Skills in problem-solving, critical-thinking, and decision-making are developed as well as oral and written communication skills. Career skills are enhanced through the interview process, resume writing, and administrative duties including; budgeting, medical and legal considerations and political issues affecting health care. Special emphasis is placed on participation in a quality control program and scheduling guidelines. Focus on basic measures necessary to provide quality patient care. Basic principles of record keeping and maintaining confidentiality of information are explained. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 3 semester credit hours. *Department consent required.*

NMTC 332 Radiation Safety and Protection. Supervised practice and procedures for the receipt, handling, transporting, storage, usage, record keeping, disposal and decontamination of radioactive materials. Emphasis on licensing and regulations set forth by local, state, and federal agencies. Academic and clinical instruction to provide the student with radiation safety techniques to minimize exposure to themselves, the patient, public, fellow workers and themselves. Regulations regarding therapeutic dosages and follow-up procedures. 3 semester credit hours.

NMTC 333 Radiation Physics and Instrumentation. Theory and physical principles associated with atomic structure, nucleus and quantum physics related to radioactive decay. Properties of the elements and the production of characteristic x and gamma rays, anger electrons and Bremstrahlung. Instruction on the modes of decay, radiation dosimetry, and interaction of ionizing with matter. Basic physics, instrumentation and radiochemistry of Positron Emission Tomography (PET). Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 3 semester credit hours. *Department consent required.*

NMTC 334 Diagnostic Nuclear Imaging Clinical Practicum I. Supervised clinical education that gives the student the opportunity to perform a variety of patient procedures on both SPECT and PET imaging systems for all diagnostic, therapeutic, non-imaging in-vivo and in-vitro procedures. Clinical competencies developed in patient care, positioning techniques, analyzing images, and the selection of imaging parameters and collimators. Knowledge of integrated computer systems designed for use with clinical gamma cameras, Single Photon Emission Computed Tomography (SPECT) and Positron Emission Tomography (PET) images. The clinical practicum is designed to promote independent critical thinking, balanced responsibility, organization and accountability in the student. Students will demonstrate competence in all procedures presented. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 4 semester credit hours. *Department consent required.*

NMTC 335 Clinical Nuclear Medicine Procedures I. Emphasis on theory and techniques of clinical procedures used in nuclear medicine imaging. Areas emphasized include patient care, developing acquisition parameters, imaging techniques, radionuclide identification, energies, half-lives, and principles of radionuclides in imaging and non-imaging procedures. Students will continue to develop an increased degree of competence in their performance of the skills related to critical thinking and problem solving. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 3 semester credit hours. *Department consent required.*

NMTC 336 Radionuclide Chemistry and Radiopharmacy. The chemical, physical and biological properties of radiopharmaceuticals used in diagnosis and therapy. Emphasis is given to the preparation, calculation, identification, administration, and disposal of radiopharmaceuticals. Performance of all radionuclide quality control and quality assurance procedures. Principles of decay and half-life, tissue localization, chemical impurities, generator systems, dose preparation and techniques of good laboratory practices. 3 semester credit hours.

NMTC 337 Radiation Biology. Knowledge of cell structure and function as a basis for understanding cellular and organ responses to the effects of ionizing radiation, radionuclides and radiation oncology. Understanding units of exposure, organ dose calculation and body distribution. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 1 semester credit hour. *Department consent required.*

NMTC 338 Computer Applications. Knowledge of the operations and maintenance of computer hardware and software. Emphasis on data collection, analysis and processing used in clinical imaging. Application of computer devices and memory usage. Emphasis on SPECT and PET quality control procedures. 3 semester credit hours.

NMTC 339 Clinical Correlation-Pathology. Focus on the study of the structure and function of human cells, tissues, organs and systems. Clinical interpretation of organ systems with emphasis on immunology, and anatomy and physiology, which will provide a basis for understanding abnormal or pathological conditions as applied to nuclear medicine. Causes, symptoms, and treatments of disease are discussed as well as its effect on the images. In addition, the student is scheduled to observe the interpretation of images with the physician staff. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 2 semester credit hours. Typically offered: annually. *Department consent required.*

NMTC 340 Radiation Detection and Instrumentation. Evaluation, maintenance and function of instrumentation used in imaging and in the laboratory. Principles and theory of PET and scintillation camera operation and performance. Radiation measurement, event counting activity, pulse height spectra, detection efficiency, resolving time and statistics. Flood field and bar phantom use for assessing camera uniformity, relative sensitivity, spatial linearity and resolution testing. Quality assurance procedures for the PET scanner include radial, tangential and axial resolution, sensitivity, linearity, uniformity, attenuation accuracy, scatter determination and dead time corrections. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 3 semester credit hours. *Department consent required.*

NMTC 341 Technical Mathematics. Practical mathematics in nuclear medicine including, radiation unity conversion, dose calculation, determination of specific activity, decay and half-life calculation, counting efficiency and statistics. 1 semester credit hour.

NMTC 342 Management and Methods of Patient Care II. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 1 semester credit hour. Typically offered: annually. *Department consent required.*

NMTC 344 Diagnostic Nuclear Imaging Clinical Practicum II. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 4 semester credit hours. *Department consent required.*

NMTC 345 Clinical Nuclear Medicine Procedures II. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 3 semester credit hours. Typically offered: annually. *Department consent required.*

NMTC 348 Computed Tomography and Cross-Sectional Anatomy. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 2 semester credit hours. Typically offered: annually. *Department consent required.*

NMTC 349 Medical terminology. Prerequisite: Must be accepted into the Nuclear Medicine Technology Program. 1 semester credit hour. Typically offered: annually. *Department consent required.*

Nursing and Health

NRHL 213 Health Aspects of Aging. Focuses upon the normal aging process in American Society including biological, psychological and health aspects. Emphasis is placed on health services, health maintenance, and contemporary issues with respect to the elderly population. 3 semester credit hours. Life Science Core Elective. 3 semester credit hours. Life Science Core Elective.

NRHL 250 Statistics. Basic course in statistical techniques which includes measures of central tendency, probability, sampling, estimation and hypothesis testing. For nursing majors. 3 semester credit hours.

NRHL 290 Health Assessment. Presents the theory and process of health assessment. Focuses on history, physical examination, screening tests, and resultant nursing diagnoses. Clinical Lab provides for application of skills. 3 semester credit hours.

NRHL 295 Research. Explores the research process as it applies to nursing and health care. Emphasis is placed on analysis and critique of research studies. 3 semester credit hours.

NRHL 300 Transforming Care. Explores the concepts of quality, safety, and informatics appropriate to providing care within health care organizations. 3 semester credit hours.

NRHL 301 Family Health Nursing. Provides students with a foundation in the concepts/theories of family health care nursing. Selected clinical experiences emphasize application of family nursing principles. 4 semester credit hours. Writing Intensive Course.

NRHL 310 Scholarly Communication. Prepare the registered nurse to meet the expectations of both academic and professional nursing standards, including developing familiarity and fluency with APA format, participating in scholarly writing, paraphrasing and integrating sources, and demonstrating critical thinking skills necessary for scholarly advancement. Admission to RN to BSN Program, Co-requisite: NRHL 325. 1 semester credit hour. Typically offered: fall, spring and summer terms.

NRHL 311 Community Health Nursing. Explores the physical, social, economic and environmental factors which affect the health of a community. Selected field experiences emphasize applying nursing process to population groups and communities. 3 semester credit hours.

NRHL 320 Health Systems. Overview of the history, basic structures and operations of public health and health care delivery systems. 3 semester credit hours.

NRHL 325 Dimensions of Professional Nursing Practice. Explores the conceptual foundations of baccalaureate nursing practice including: historical and societal influences, professional identity and accountability, critical inquiry, nursing theory, evidence-based practice, and quality and safety within the context of national policy documents and professional standards of care. Prerequisite: Admission to RN to BSN Program, Co-requisite: NRHL 310. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 330 Nursing Scholarship: Role of Research in Evidence Based Practice. Explores the research process as it applies to evidence-based nursing practice and health care. Topics include ethics in research; steps in appraisal of evidence; design, sampling, data collection, data quality, and analysis; and interpretation of quantitative and qualitative research. Emphasis is placed on analysis and critique of research studies and the preparation of a proposal. Prerequisite: NRHL 325. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 335 Concepts in Collaborative Health Promotion and Disease Prevention for the Older Adult. Focuses on an interdisciplinary comprehensive approach to understanding the aging process and promoting optimal health and independence of older adults. Contemporary issues facing the elderly including safety, abuse, polypharmacy, housing, loss, need for support services, end-of-life care and the impact of health care policy and legislation as they relate to the elderly are explored. Includes clinical learning experiences with an elder and elder-serving agency selected by the student. Prerequisite: NRHL 325. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 340 Comprehensive Health and Physical Assessment. Designed for the registered nurse, this course provides the framework for the RN to expand existing skills. The course focuses on the physical, psychosocial, sociocultural, environmental, and developmental elements of comprehensive assessment and on principles of health promotion and disease prevention. Includes a clinical learning experience, which focuses on the practice and validation of interviewing and physical assessment skills. At the end of the course, students will be expected to perform a comprehensive physical exam and effectively communicate findings. A student selected holistic health assessment experience is also included. Prerequisite: NRHL 330 and NRHL 335. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

NRHL 345 Applications of Pathophysiology and Pharmacotherapeutics to Clinical Reasoning. Designed for the registered nurse to build upon existing knowledge and experience, this course provides an analysis of physiology and pathophysiological concepts related to complex, multisystem health alterations across the lifespan. Emphasis is placed on enhancement of critical thinking skills. Clinical application emphasizes the relationship of assessment findings to diagnosis, safe selection, and administration of pharmacotherapeutic agents; and assessment of outcomes using an evidence-based approach. This course also includes a clinical learning experience that is based on case study analyses of patients with multiple chronic diseases and complex pharmacotherapeutic management in various settings. Prerequisite or co-requisite: NRHL 340. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 350 Healthcare Policy, Finance, Regulation & Advocacy. Provides an overview of the history and evolution of healthcare policy by government and stakeholders with in the healthcare organization. Healthcare finance, reimbursement, quality, safety, delivery, and disparities concerning access to care from a local, state, national, and global influence will be analyzed. The impact of information and patient care technology and its effects on healthcare will be evaluated. Students will explore and define the role of the professional nurse in influencing and advocating for continuous quality improvement in healthcare delivery and healthcare policy formation. Prerequisite: NRHL 340 and NRHL 345. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 360 Interdisciplinary Collaboration: Community Health Promotion, Family and Population Based Care. Explores the concept of patient-centered inter-professional health care from the prospective of families and communities within a global context. Focuses on patterns that influence wellness and potential barriers that place individuals, families, and vulnerable populations at risk for major health problems. Examines the dynamic influences of social, economic, epidemiologic, physical, ethical, cultural, religious, policy assurance and environmental concerns experienced by populations. Prerequisite: NRHL 350. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

NRHL 361 Interdisciplinary Collaboration: Community Health Promotion, Family and Population Based Care Clinical. Emphasis is placed on community as a partner, through community assessment, evolving cultural competency, enhanced understanding of health disparities, and use of community resources and evidence-based practice to resolve, promote and maintain optimal health; and prevent disease. This experience includes 35 hours of preceptor supported clinical practice in the community setting. Prerequisite or Co-requisite: NRHL 360. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 370 Interdisciplinary Collaboration: Professional Nursing Leadership Synthesis. Provides the registered nurse with the opportunity to synthesize theory and concepts required to assume leadership and management positions within rapidly evolving health care systems. The utilization of a systems approach to delivering nursing care, managing and leading change, and ensuring quality and safety in healthcare will be explored. Focus is placed on development of leadership skills through effective communication, critical thinking skills, problem solving, delegation, and teamwork at the baccalaureate level. Prerequisite: NRHL 361, IDS WI 201 and IDS 301. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 371 Interdisciplinary Collaboration: Professional Nursing Leadership Synthesis Clinical. Emphasis is placed on development of creative strategies to promote a system change through application of leadership skills, scholarly inquiry, professional writing and presentation. This experience includes 35 hours of preceptor supported clinical practice in a leadership role. Prerequisite or co-requisite: NRHL 370. 3 semester credit hours.

NRHL 378 Leadership and Management. Introduces the functions of management within a rapidly changing health care environment. Emphasis is on current issues impacting leadership and management within nursing practice. 3 semester credit hours.

NRHL 381 Health Promotion and Interprofessional Collaboration. This course provides an in-depth review of approaches to health promotion as well as effective collaboration among members of the health care community. Students explore the problems and issues in using behavioral and social science theories, concepts and data to inform health promotion and health education research and interventions. The course emphasizes developing appreciation for the diversity of expertise in interprofessional collaborative teams as well as establishing basic concepts of effective teamwork. Admission to the RN to BSN to MSN Academic Progression Bridge is required. A letter grade of "B" is required in order for this course to meet MSN Program requirements. Cross-listed with NRHL 501. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 382 Ethical and Culturally Competent Health Care Professional. This course draws upon philosophy, ethics and the social sciences to examine key concepts of professional practice that form the foundations for leadership, including professional obligations, duties, rights and cultural competence. Coursework leads to an increased understanding of interplay among socio-cultural contexts, ethics and cultural beliefs about health and illness. Basic principles of epidemiology, community-based assessment and evaluation, issues of equity and the risks to vulnerable populations are explored. Students also study the role of the educator, administrator and social change agent to explore what it means to be a culturally competent, ethical health care professional and leader in health systems or education. Admission to the RN to BSN to MSN Academic Progression Bridge is required. A letter grade of "B" is required in order for this course to meet MSN Program requirements. Cross-listed with NRHL 502. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

NRHL 383 Evidence Based Nursing Practice: Research and Process Improvement. This course provides students with skills required to systematically research and evaluate current nursing knowledge to promote evidence-based nursing practice. Coursework emphasizes critical analysis of the current literature and proposed research methods, including quantitative and/or qualitative approaches to research, sampling procedures, data collection methods and data analysis planning. Research topics such as ethical and cultural issues, methodological procedures associated with scientific investigation, and potential barriers to evidence-based practice are also course themes. Students are encouraged to critically analyze differing research paradigms as well as current issues surrounding evidence-based research. Admission to the RN to BSN to MSN Academic Progression Bridge is required. A letter grade of "B" is required in order for this course to meet MSN Program requirements. Cross-listed with NRHL 503. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 384 Health Care Informatics and Emergent Technologies. This course teaches nurses to consider technical, user and environmental factors in the selection and use of clinical information systems that support nursing care and decision-making processes in various settings. Students gain an understanding of technology, data, human processing and standards related to clinical information systems, and how these elements are used to make evidence-based decisions in health care systems and services. Admission to the RN to BSN to MSN Academic Progression Bridge is required. A letter grade of "B" is required in order for this course to meet MSN Program requirements. Cross listed with NRHL 504. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 385 Health Care Policy and Advocacy. This course provides an overview of health care policy, organization and financing with emphasis on current industry trends. Students assess the atmosphere in which policy is created and how compromise and bargaining shape policy decisions. Current policy initiatives involving health care delivery as well as nursing are analyzed. Coursework emphasizes the role of the nurse as a health care leader and advocate in the health care policy formation process. Admission to the RN to BSN to MSN Academic Progression Bridge is required. A letter grade of "B" is required in order for this course to meet MSN Program requirements. Cross listed with NRHL 505. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 386 Quality Improvement and Safety in Health Care Systems. This course analyzes problems caused by the varying levels of health care quality and strategies for improving them using models of evaluation and process improvement. Students learn to apply principles of quality and regulatory management with an emphasis on defining, measuring and evaluating outcomes within organizations and systems to become effective leaders and change agents. Students are expected to participate in the development of actual quality measures and explain how such measures could be used in a defined health or educational system. Admission to the RN to BSN to MSN Academic Progression Bridge is required. A letter grade of "B" is required in order for this course to meet MSN Program requirements. Cross listed with NRHL 506. 3 semester credit hours. Typically offered: fall, spring and summer terms.

NRHL 395 Nursing Elective. Guides and recognizes study in theoretical or clinical aspects of nursing for independent study or work/life credit. Prerequisite: NRHL 330 for independent study credit. Admission into the RN to BSN program for work/life credit. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 3.*

Nutrition

NUTR 100 Impact of Nutrition. For non-majors. An introduction to nutrients; cultural, socioeconomic, and other influences on nutrition intake; impact of nutrition on health status; and issues of hunger and malnutrition. (NOTE: Cannot receive credit for NUTR 100, 200, and 201). IAI L1 904. Life-Science Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: fall, spring and summer terms.

NUTR 150 Food Service Sanitation. An overview of applied Food Service Sanitation as it relates to proper food handling and training in the food service industry. Emphasis placed on prevention of food borne illness. At the completion of the course, students will take the Illinois Certification exam from the Educational Foundation of the National Restaurant Association. 1 semester credit hour. Typically offered: spring term.

NUTR 190 Selected Topics in Nutrition. Special topics in nutrition adjusted to the needs of students. Topics may be changed so that the course may be repeated for credit. 1-3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 18.*

NUTR 200 Nutritional Science. An integrated approach to the study of the requirements and functions of nutrients that are determinants of health and disease in human populations. (NOTE: Cannot receive credit for NUTR 100, 200, and 201). Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: fall, spring and summer terms.

NUTR 201 Nutrition in Health and Exercise. An integrated approach to the study of the requirements and functions of nutrients, with particular attention to applications in sports. (NOTE: Cannot receive credit for NUTR 100, 110, 200 and 201). Prerequisite: Physical Education (major, sophomore standing or higher). Life-Scientific Mode of Inquiry (QLS). 3 semester credit hours. Life Science Core Elective. Typically offered: fall term. *Department consent required.*

NUTR 241 Nutrition through the Life Cycle. A life cycle approach to nutrition science; incorporates nutrient availability, function and sources; energy balance; health risk factors; and special nutrient needs for various stages of the life cycle. Prerequisite: Nutrition Major (for Lisle campus only, not Mesa coded sections) 3 semester credit hours. Life Science Core Elective. Typically offered: fall and spring terms.

NUTR 244 Food Science. A study of the physical and chemical composition, structure, and functional properties of carbohydrates, proteins, and fats; sensory evaluation principles; and applications to food and nutritional health. Prerequisite: CHEM 101 or CHEM 123. 3 semester credit hours. Typically offered: fall term.

NUTR 245 Food Science Laboratory. Applied sensory and physiochemical examination of study of the composition, structure, and functional properties of carbohydrates, proteins, and fats. Prerequisite: transfer course or co-registration in NUTR 244. Lab fee: $160. 1 semester credit hour. Typically offered: fall term.

NUTR 246 Experimental Foods Laboratory. Experimental application of physiochemical behavior of food. Includes recipe development/research. Prerequisite: NUTR 244 and 245; and acceptance into the Dietetics program or a Health Education concentration or consent of the department. Lab fee: $160. 1 semester credit hour. Typically offered: spring term.

NUTR 250 Foodservice Operations. This course presents the following food service principles: menu planning, purchasing, and procurement, production, distribution and service, quality improvement, and layout and design. Prerequisite: NUTR 200 or 241 or 244. 3 semester credit hours. Typically offered: fall term.

NUTR 251 Nutritional Biochemistry. A study of the basic concepts of biochemistry applied to cellular metabolism of carbohydrates, lipids, amino acids, vitamins, and co-factors. Emphasis is placed on metabolic pathways, the interrelationships of major nutrients, and the relation of the metabolic processes to the overall nutritional health of an individual. Prerequisite: CHEM 103 or CHEM 123. 3 semester credit hours. Typically offered: fall term.

NUTR 271 Nutrition and Health Education. Nutrition and health education for groups and individuals. Examination of health behavior change theories and the development of competencies of health educators. Focus on processes of assessing needs, assets, and capacity as well as planning for health education. Introduction to the evaluation process. Prerequisite: credit or co-registration in NUTR 200 or 201 or 241. 3 semester credit hours. Typically offered: fall and spring terms.

NUTR 280 Community Health and Nutrition. Identification of current public health nutrition problems; influence of socioeconomic, cultural and psychological factors on food, nutrition and health behavior; available community health programs; program development and marketing; advocacy and public policy legislation. Prerequisite: NUTR 200 or 241; or junior standing by credits with co-registration in NUTR 241 and consent. 3 semester credit hours. Typically offered: spring term.

NUTR 290 Selected Topics in Nutrition. Special topics adjusted to the needs of the students. Topics may be changed so that the course may be repeated for credit. 1-3 semester credit hours. *Course repeatable. Maximum number of units allowed: 18.*

NUTR 295 Nutrition Teaching. Supervised teaching of nutrition in laboratories. Prerequisite: NUTR 245, 246, or 298; Nutrition majors only. 1 semester credit hour. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed: 18.*

NUTR 296 Community Health Practicum. Experience designed to meet interest of an individual student and serve a community need. Off-campus site. Transportation required. Prerequisite: Nutrition majors only; additional coursework, credit, and GPA prerequisite are determined by nature of experience. Fee: $27.50. 1-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 18.*

NUTR 297 Quantity Foods Practicum. Supervised experience in foodservice operations and management, with emphasis on areas related to menu planning, food purchasing, cost control, and production, quality improvement, and applied sanitation and safety. May be at off-campus sites. Transportation may be required. Prerequisite: NUTR 250, 3.0 GPA, and nutrition majors only. 2-3 semester credit hours. Typically offered: summer term. *Department consent required.*

NUTR 298 Cultural Foods. An overview of the food habits of world cultures, including discussion of ways in which food , food production, food consumption and food rituals are associated with cultural norms, health and behaviors, social conventions, religious practices, and individual and group ways of living. Laboratory component provides exposure to traditional foods and cooking techniques. Prerequisite: NUTR 244 and 245; co-registration lecture and lab (NUTR 298 A and B). $160. 2 semester credit hours. Typically offered: fall and spring terms.

NUTR 300 Nutritional Aspects of Disease. Pathophysiology, symptoms and effects of disease associated with inadequate nutrition and excess. Topics include malnutrition, disordered eating and obesity, cardiovascular disease, hypertension, and diabetes. Applications to clinical and community settings. (Not for students accepted into the Dietetics concentration). Prerequisites: BIOL 258; and NUTR 200 or 241; and credit or co-registration in NUTR 251 or BCHM 251. 4 semester credit hours. Typically offered: fall term.

NUTR 341 Medical Nutrition II. Physiological and biochemical aspects of nutrient metabolism; interrelationships between cellular reactions, nutrition and health; biochemical and physiological principles of nutrition for obesity, eating disorders, alcohol metabolism, inborn errors and the nervous system. Prerequisite: BIOL 108 or BIOL 198; and NUTR 200, 201 or 241; and BIOL 258; and NUTR 251 or BCHM 251; and acceptance into the Dietetics Concentration or consent of the department. 3 semester credit hours. Typically offered: spring term.

NUTR 342 Applied Nutritional Physiology. This class is designed to provide a detailed survey of the literature related to the nutrition and physical activity aspects of Metabolic Syndrome Related Diseases. Students will be expected to have a comprehensive understanding of the epidemiology and scientific basis of Metabolic Syndrome. Detailed discussions will include CVD, diabetes, hypertension, obesity, hyperlipidemia, and systemic inflammation as they relate to nutrition and physical activity. Prerequisite: NUTR 200 or 201 or 241; BCHM 251 or 261 and BIOL 258 (basic nutrition, biochemistry and physiology courses). Cross-listed as NUTR 342/NUTR 542. 3 semester credit hours. Typically offered: spring term.

NUTR 345 Science of Nutrition and Fitness. The course examines the metabolic and physiologic basis for macronutrient and micronutrient recommendations during training, competition/performance, and recovery. Includes disease applications, recommendations for targeted educational interventions, and case studies. Prerequisite: BIOL 258; NUTR 251 or BCHM 251 or 261; and NUTR 200 or 201 or 241. Cross-listed as NTR 530. 3 semester credit hours. Typically offered: spring term.

NUTR 350 Food and Nutrition Services Management. This course presents the students with information regarding the key concepts of organization structure and management principles including: fiscal control, performance measurements, human resource and information management, and marketing. Prerequisite: NUTR 250 and credit or concurrent registration in MGT/PSYC 320 or MGT 300. 2 semester credit hours. Typically offered: fall and spring terms.

NUTR 371 Medical Nutrition Therapy I. Pathology, treatment and nutritional therapy of chronic and acute diseases. Prerequisite: BIOL 258, NUTR 200 or 241, credit or registration in NUTR 251 or BCHM 251 or 261; and acceptance into the Dietetics Program or consent of the department. 4 semester credit hours. Typically offered: fall and spring terms.

NUTR 372 Clinical Nutrition Case Studies Lab. A problem-based learning approach to case studies, integrated with a traditional didactic approach, to foster development of independent critical thinking skills. Incorporates medical record reviews, development of clinical and education plans, and documentation techniques. Part of the course is supervised at an off-campus site; transportation is required. Required at start of course: documentation of all vaccinations completed, TB test, background check, and drug screen (information available to registered students at end of prior term). Credit or co-registration in NUTR 371 and 391; and acceptance into the Dietetics Program. Liability Fee $27.50. 2 semester credit hours. Typically offered: fall and spring terms.

NUTR 373 Advanced Menu Planning Lab. Applied process of translating the nutritional needs into menus for healthy persons and those with special dietary considerations, throughout the life span. Includes management and quality improvement principles. Prerequisite: NUTR 250 and credit or co-registration in NUTR 300 or 371; and acceptance into the Dietetics Program or consent of the department. 1 semester credit hour. Typically offered: fall and spring terms.

NUTR 381 Behavioral and Social Aspects of Public Health. Addresses behavioral and social factors and theories related to individual and population health. Prerequisite: Senior standing. Note: This course is a cross-listed public health course (MPH 601). It does not count towards science core or major credit. 3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

NUTR 382 Public Health Systems. It explores the history, basic structures and operations of public health and health care delivery systems based on Essential Public Health Services. Prerequisite: Senior standing. Note: This course is a cross-listed public health course (MPH 602). It does not count towards science core or major credit. 3 semester credit hours. *Department consent required.*

NUTR 383 Ethical and Political Issues. Applies basic principles of ethical analysis (e.g. Public Health Code of Ethics, human rights framework, other moral theories) to issues of public health practice and policy. Prerequisite: Senior standing. Note: This course is a cross-listed public health course (MPH 603). It does not count towards science core or major credit or PHIL core. 3 semester credit hours. *Department consent required.*

NUTR 390 Selected Topics. Special topics in nutrition adjusted to the needs of the students. Topics may be changed. Prerequisite: refer to the course schedule (usually NUTR 200 or 241, BCHM 261, BIOL 258). If course is a graduate course cross-listed to NUTR, then completed application to M.P.H. or M.S. program must be submitted to Benedictine graduate school. 1-3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed:18.*

NUTR 391 Nutrition Assessment lab. . Professional practice roles, methods, and skills. Emphasis on developing skills in medical terminology and nutrition assessment (i.e. anthropometrics and other body composition indicators, biochemical indices, clinical symptomatology, dietary intake) for health promotion and disease prevention. Learning experiences include practice. Transportation may be required. Prerequisite: Credit or co-registration in NUTR 300 or 371; and acceptance into the Dietetics Program or consent. 1 semester credit hour. Typically offered: fall and spring terms.

NUTR 392 Health Research and Professional Writing. Critique health literature as foundation to develop a professional manuscript, journal critique and write for public audiences. Prerequisite: WRIT 102; credit or concurrent registration in BIOL 229 or PSYC 150 or PSYC 250; and credit or concurrent registration in NUTR 300, 341 or 371. 2 semester credit hours. Writing Intensive Course. Typically offered: fall and spring terms.

NUTR 395 Nutrition Counseling Lab. Interviewing and counseling methods and techniques. Prerequisite: NUTR 271; and acceptance into the Dietetics Program or consent of the department. Nutrition majors only. 1 semester credit hour. Typically offered: spring term.

NUTR 396 Specialized Nutrition Practicum. Supervised experience designed to meet the interest of an individual student. May be at off-campus sites. Transportation may be required. Prerequisite: 3.0 GPA, Nutrition majors only; additional course Prerequisites are determined by nature of experience. Fee: $27.50. Course repeatable. Maximum number of units allowed:18. 2-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

NUTR 399 Nutrition and Health Research. A supervised nutrition and or health research project that is conducted on or off campus. Prerequisite: 3.2 GPA, Nutrition majors only. $160 fee. 1-3 semester credit hours. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed:18.*

Philosophy

PHIL 120 Greek Philosophy. A historical introduction to Greek thought. fall. IAI H4 901. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective.

PHIL 191 Selected Topics. Special philosophical issues offered at the introductory level according to the interest of faculty and students. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

PHIL 200 Introduction to Logic. What is the difference between a sound and an unsound argument? How can one tell the difference between good reasoning and bad? What sorts of evidence should one accept for certain claims? As we pursue these questions, we will discuss and practice the fundamentals of both informal and formal logic. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective. Typically offered: fall term.

PHIL 205 Philosophy of Human Nature. Investigation of the classic questions regarding the human person: unity, freedom, death and immortality, mind-body relation, and community. 3 semester credit hours. Philosophy Core Elective. Typically offered: spring term.

PHIL 210 Philosophy of Being. Examination of the basic principles of reality which affect all thought: change and permanence, unity in diversity, the meaning of existence, goodness, truth and beauty, the categories of being, and the analogy of being. 3 semester credit hours. Philosophy Core Elective. Typically offered: fall term.

PHIL 215 Theory of Knowledge. Analysis of the nature, possibility, foundations, and extent of human knowledge. 3 semester credit hours. Philosophy Core Elective. Typically offered: fall term.

PHIL 220 Mediterranean World. See HUMN 220. 3 semester credit hours. Typically offered: annually.

PHIL 225 Medieval Philosophy. Survey of philosophy from Augustine to the 14th Century. 3 semester credit hours. Philosophy Core Elective. Typically offered: spring term, even years.

PHIL 230 Contemporary Anglo-American Philosophy. This course is a survey of late 19th and 20th Century English - speaking, British and North American Philosophies. 3 semester credit hours. Typically offered: fall term, odd years.

PHIL 235 Modern Philosophy. Survey of philosophy from the 15th century to the early 19th century. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective. Typically offered: fall term, even years.

PHIL 240 Converging Hemispheres. See HUMN 240. 3 semester credit hours. Philosophy Core Elective. Typically offered: fall term.

PHIL 245 General Ethics. Investigation of ethical concepts and theories and an analysis of the norms of ethical decision. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective. Typically offered: spring term.

PHIL 246 General Ethics for the Bio-Medically-Minded. Course covers major schools of thought on ethics within the bio-medical arena. 3 semester credit hours. Philosophy Core Elective.

PHIL 247 General Ethics for the Business-Minded. Course covers major schools of thought on ethics within the business arena. 3 semester credit hours. Philosophy Core Elective.

PHIL 248 General Ethics for the Ecology-Minded. Course covers major schools of thought on ethics within the environmental/ecology arena. 3 semester credit hours. Philosophy Core Elective.

PHIL 249 General Ethics for the Professional. Investigation of ethical concepts and theories and an analysis of the norms of ethical decision and the relationship of these to professionals in all fields. It provides a solid foundation in moral theory, recast in light of postmodern critiques of moral philosophy, together with diverse applications to help students understand the philosophical complexity of ethical challenges that arise for professionals in all types of work and can help students from all disciplines better understand how to resolve ethical challenges in the modern workplace. 3 semester credit hours. Philosophy Core Elective. Typically offered: fall and spring terms.

PHIL 250 Contemporary World. See HUMN 250 with philosophical emphasis. 3 semester credit hours. Philosophy Core Elective. Typically offered: spring term.

PHIL 255 Contemporary Continental Philosophy. 3 semester credit hours. Philosophy Core Elective.

PHIL 260 Social and Political Philosophy. Course covers the philosophy of societal change, the forces that being about change and the revolutionary potential of change. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective.

PHIL 265 Contemporary Anglo-American Philosophy. Course covers 19th and 20th century philosophical movements in America and Britain. 3 semester credit hours. Philosophy Core Elective.

PHIL 270 Medieval Philosophy. This course uses elements of fiction and non-fiction in the study of various topics of race, class and gender in American Studies (Topics vary). Cross-listed with PHIL 370. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective.

PHIL 285 Topics in Philosophical Exploration of Religion. This course is an investigative exploration of some of the fundamental philosophical questions and relationships pertaining to the nature, practice, and understanding of religion or Theology. 3 semester credit hours. Typically offered: periodically.

PHIL 290 History and Philosophy of Science. Course covers the historical, philosophical and ethical questions of the scientific revolution through the present. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective.

PHIL 291 Philosophical Topics. Special philosophical issues offered at the intermediate level according to the interest of faculty and students. A topics course may apply toward the divisional core. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective. Course repeatable. Maximum number of units allowed: 99.

PHIL 295 Independent Study. Special philosophical issues offered according to the interest of faculty and students. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

PHIL 300 Intermediate Logic. 3 semester credit hours. Typically offered: spring term.

PHIL 315 Theory of Knowledge. Analysis of the nature, possibility, foundations and extent of human knowledge. 3 semester credit hours. Philosophy Core Elective.

PHIL 320 Medieval Philosophy. Survey of philosophy from Augustine to the 14th century. spring, even years. 3 semester credit hours.

PHIL 325 Medieval Philosophy. Survey of philosophy from Augustine to the 14th century. 3 semester credit hours. Philosophy Core Elective.

PHIL 330 Contemporary Anglo-American Philosophy. This course is a survey of late 19th and 20th Century English - speaking, British and North American Philosophies. 3 semester credit hours. Philosophy and Writing Intensive. Typically offered: fall term, odd years.

PHIL 335 Modern Philosophy. Survey of philosophy from Descartes to Kant. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective.

PHIL 345 Topics in Philosophical Ethics. 3 semester credit hours.

PHIL 346 Biomedical Ethics. In this class, students will investigate fundamental ethical questions pertaining to health, medicine, and the life sciences. It is a course in applied ethics - where the application of general ethical theory is to the contemporary moral issues of medicine and biology. Prerequisite: A Philosophy course. 3 semester credit hours. Philosophy Core Elective. Typically offered: spring term.

PHIL 347 Ethics for the Business-Minded. Course covers major schools of thought on ethics within the business arena. 3 semester credit hours. Philosophy Core Elective.

PHIL 348 Ethics for the Ecologically Minded. Course covers major schools of thought on ethics within the environmental/ecology arena. 3 semester credit hours. Philosophy Core Elective.

PHIL 355 Philosophy of Law. Conceptual and moral investigation of the nature of the law and of practical legal issues, such as civil disobedience or the obligation to obey the law. 3 semester credit hours. Typically offered: periodically.

PHIL 360 Social and Political Philosophy. Course covers the philosophy of societal change, the forces that being about change and the revolutionary potential of change. 3 semester credit hours. Philosophy Core Elective.

PHIL 370 Medieval Philosophy. Survey of philosophy from Augustine to the 14th Century. Cross listed with PHIL 270. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective. Typically offered: spring term, even years.

PHIL 385 Topics in Philosophical Exploration of Religion. This course is an investigative exploration of some of the fundamental philosophical questions and relationships pertaining to the nature, practice, and understanding of religion or Theology. 3 semester credit hours. Typically offered: periodically.

PHIL 390 History and Philosophy of Science. Course covers the historical, philosophical and ethical questions of the scientific revolution through the present. Philosophical Mode of Inquiry (QPL). 3 semester credit hours. Philosophy Core Elective. *Department consent required.*

PHIL 391 Selected Topics. Special philosophical issues offered at the advanced level according to the interest of faculty and students. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

PHIL 395 Independent Study. Designed to encourage the superior student to study in depth and to research an area beyond the undergraduate course offerings. 3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

PHIL 397 Internship. Practical experience in a related career field under the supervision of the philosophy program. 3 semester credit hours. *Department consent required.*

Physical Education

PHED 103 General Physical Fitness. 1-3 semester credit hours.

PHED 107 Weight Training. This course includes the theory and practice of strength training including weights and other modes of resistive training. 1 semester credit hour. Typically offered: fall term. *Department consent required.*

PHED 137 Health and Physical Fitness Activities with Technology. This course provides students with the knowledge of a variety of health and physical fitness activities which can be utilized in the profession. Emphasis is placed on the use and value of technology when integrating these types of activities. 1 semester credit hour. Typically offered: annually. *Department consent required.*

PHED 198 Health and Fitness Professional Seminar. This course provides students with an opportunity to engage in practical and performance activities required for various certifications in the health and fitness profession. Topics will also include the requirements and content for certification exams. Students must have junior or senior standing. This class is limited to Exercise and Sports Studies and Physical Education majors only. Prerequisites: BIOL 155, HLSC 200 and PHED 302. 1 semester credit hour. *Department consent required.*

PHED 200 Philosophy and Foundation of Physical Education. This course is an introduction to physical education as both an academic discipline and profession including philosophical and scientific principles, current trends and practices, and career opportunities. Physical Education advocacy techniques will also be introduced in this course. (To be taken concurrently with PHED 201). Prerequisite: PHED 201. 3 semester credit hours. Typically offered: fall term.

PHED 201 Assessment and Teaching for Lifetime Physical Fitness. This course provides students with an understanding of the positive impact of healthy life style choices. Students will learn self-management skills and goal setting as they design their personal fitness plans and then work on self-designed goals by participating in a fitness program during the course of the term. Includes classroom discussion and laboratory experiences to assess an individual's current wellness needs. Students will also participate in self-directed activities outside the classroom to achieve goals. (To be taken concurrently with PHED 200). $30 lab fee. 2 semester credit hours. Typically offered: fall term.

PHED 237 Sport Psychology. This course examines fundamental theories of psychology applied to sport organization, management, participation, and influence of major players in sport. This course will also discuss theories of learning, effects of motivation, personality, and attitude, as well as psychological effects of exercise. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

PHED 240 Teaching Team Sports and Activities. This course is designed to provide knowledge and understanding of instructional methods and organization in team activities. An emphasis will be placed on strategies to adapt or maximum student participation. 2 semester credit hours. Typically offered: fall term.

PHED 241 Teaching Individual Sports and Activities. This course is designed to provide knowledge and understanding of instructional methods and organization in individual activities. An emphasis will be placed on strategies to adapt for maximum student participation. 2 semester credit hours. Typically offered: spring term. *Department consent required.*

PHED 243 Teaching Basic Dance and Rhythms. This course provides instructional strategies in the creative use of rhythms and dance in physical education. 2 semester credit hours. Typically offered: fall term. *Department consent required.*

PHED 249 Drugs in Society. This course presents general and specific knowledge of the use and abuse of substances. This includes substance effects, dependence, habituation, addiction, abuse, classification of abused drugs, treatment of alcoholism, and drug addiction. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

PHED 257 Wellness. Concepts and applications of cardiovascular fitness, nutrition and weight management, stress management life-style management, and substance abuse. Emphasis is on the interactive nature of these health-related components, on being an informed consumer, and on the development and implementation of a personal wellness program. Satisfies teaching certification Health/Physical Education requirement. 2 semester credit hours.

PHED 258 Health Education. This course provides the foundation for health education programming in the school curriculum in relation to decision-making, personal choices, and the effects of overall wellness. Topics will include concepts and applications of cardiovascular fitness, nutrition and weight management, social-emotional health, stress management, life-style management, human sexuality, and substance abuse. Prerequisite: PHED 201. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

PHED 260 First Aid and CPR. This course provides instruction in first aid, safety, cardiopulmonary resuscitation (CPR), and the use of AED. Certification in First Aid and CPR will be available through the American Red Cross. 3 semester credit hours. Typically offered: spring term.

PHED 261 Prevention and Care of Athletic Injuries. This course provides an introduction to basic concepts of prevention of athletic injuries, injury recognition, and treatment necessary for the management of athletic injuries. Students must be junior standing. 3 semester credit hours. Typically offered: annually. *Department consent required.*

PHED 270 Growth and Development of Children and Adolescents. This course discuses motor development of children and youth (birth through adolescence) with emphases on physiological growth, movement, motor skill development, and brain and exercise research. 2 semester credit hours. Typically offered: spring term.

PHED 291 Current Issues in Exercise and Sports Studies. This course covers a diverse selection of issues and complex problems that confront professionals in the exercise, fitness and sports industries. Independent thought and new insights will be encouraged. Students must have junior standing and current Exercise and Sports Studies majors. 3 semester credit hours. Typically offered: annually. *Department consent required.*

PHED 299 Field Experience. 3 semester credit hours.

PHED 300 Physical Education for Special Populations. This course prepares the physical educator to adapt and modify activities to encourage integration of exceptional children into regular physical education classes. Prerequisite: EDUC 260. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

PHED 301 Officiating Fall Sports. 3 semester credit hours.

PHED 302 Kinesiology. This course is designed to study muscles and their role in the science of human motion. This course is based on anatomical and mechanical principles with emphasis on the analysis of human movements in games, sports other physical education skills, and basic movement activities. Laboratory experiences will also be provided to augment kinesiological concepts covered. Prerequisite: BIOL 155. 3 semester credit hours. Typically offered: spring term.

PHED 303 Sport Administration. This course provides information about the administration of athletic, fitness, and wellness facilities, and proper organizational, administrative, supervisory, and leadership procedures will be covered. Topics include, but are not limited to: budgeting, facility management, legal issues, record keeping, insurance and technology in these settings. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

PHED 305 Measurement and Evaluation for Physical Education. This course provides students with an understanding of current assessment techniques for physical education and physical fitness in order to select and use developmentally appropriate strategies and instruments that align with physical education learning goals. Students will also learn to apply performance data to make informed curricular decisions relative to the physical education program. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

PHED 307 Sport Law. This course will investigate and analyze the law and legal issues in school for physical educators, coaches and fitness trainers; topics will include negligence, liability, contract law and sport litigation. Students must have junior standing and be a current Exercise and Sports Studies major. 3 semester credit hours. Typically offered: annually.

PHED 308 Administration of Physical Education. This course provides administrative concepts and application to physical education programs with an emphasis on leadership, program management, program evaluation, personnel, facilities, budgeting and curriculum. Emphasis will be placed on current research and current program assessment techniques. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

PHED 310 Research Methods In Exercise and Sports Studies. This course is designed to instruct students in basic independent research skills. Students will select an area of interest, method of investigation, gather and analyze data and state conclusions. This will result in a final research project. Students must have junior standing and be a current Exercise and Sports Studies major. Prerequisite: MATH 150 or PSYC 150. Writing Intensive. 3 semester credit hours.

PHED 320 Physical Education Curriculum Design. This course will focus on the development and integration of a team building program into the overall school curricula. 3 semester credit hours. Typically offered: fall term. *Department consent required.*

PHED 326 Facility Planning for Health and Physical Activity. This course will introduce students to the theories, principles, and applications of community-based comprehensive planning of recreational and sport venues. This will include current practices in planning, design, and development. Prerequisite: junior/senior standing. 3 semester credit hours. Typically offered: spring term.

PHED 399 Internship in Exercise and Sports Studies. This is a supervised internship experience in one of the following professional settings: physical fitness, health promotion, recreation and athletics. The internship requires 150 hours per semester (25 contact hours per 1 semester hour or credit) at 10 hours per week. This course may be repeated for additional credit. Students must have senior standing and meet GPA requirements. Students majoring in Exercise and Sports Studies 4 year program will register for 6 credit hours. Students majoring in Exercise and Sports Studies 4+1 program will register for 3 credit hours. Prerequisite 2.75 GPA (traditional 4 year students); 3.00 GPA (4+1 students). 3-6 semester credit hours. Typically offered: annually. *Department consent required. Course repeatable. Maximum number of units allowed: 12.*

Physics

PHYS 101 Physical Science. An introduction to the basic concepts of physics and scientific reasoning relating to the experiences encountered in the everyday physical environment. For non-science majors. IAI P9 900. Prerequisite for PHYS 101: "C" or better in Math 095. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: fall and spring terms.

PHYS 105 Physical Geography. An introduction to hydrology and the physical processes operating in and on the planet earth. Topics of study will include ground and surface water, the hydrologic cycle, watershed models, groundwater recharge, geomorphology, tectonics, structural features, and geological processes relating to natural resource management, environmental processes and concerns. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: periodically.

PHYS 106 Astronomy. Examines astronomical phenomena and concepts including the solar system, stars, galaxies, planetary motion and the evolution of the universe. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective.

PHYS 107 Earth and Space Science. A physical science laboratory course that includes the study of key principles of Earth and Space Science through the investigation of real world problems. The earth science component includes the study of large-scale dynamic forces, events, and processes that affect the Earth's land, water, and atmospheric systems, identification and evaluation of the uses of the Earth's resources, and the processes involved in the life cycle. The space science component focuses on concepts that explain the composition, structure of and changes in the universe and Earth's place in it. By working and studying within the context of a real world problem, students learn how scientific principles are used and applied in everyday life. IAI P1 909. Physical-Scientific Mode of Inquiry (QPS). 4 semester credit hours. Typically offered: spring term.

PHYS 113 College Physics I. PHYS 113, 114, 118 and 119 constitute a complete non-calculus introductory physics sequence including laboratory for life sciences majors. Topics for PHYS 113 include vectors, classical mechanics, heat and wave phenomena. IAI P1 900; BIO 903. Prerequisite: "C" or better in MATH 111. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: fall and summer terms.

PHYS 114 College Physics I Lab. Selected experiments to illustrate the experimental methods and the principles studied in PHYS 113. IAI P1 900L; BIO 903. Prerequisite: credit or co-registration in PHYS 113. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: fall and summer terms.

PHYS 118 College Physics II. This course provides a non-calculus based introduction to general physics topics that include electromagnetism, electric circuits, geometrical and physical optics, atomic physics, and nuclear physics. IAI MTM 902L; BIO 904. Prerequisite: "C" or better in PHYS 113. Physical-Scientific Mode of Inquiry (QPS). 3 semester credit hours. Physical Science Core Elective. Typically offered: spring and summer terms.

PHYS 119 College Physics II Lab. Selected experiments to illustrate the concepts studied in PHYS 118. IAI MTM 902L; BIO 904. Prerequisite: "C" or better in PHYS 114 and credit or co-registration in PHYS 118. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: spring and summer terms.

PHYS 205 University Physics I Lab. Laboratory course which introduces topics and concepts of introductory physics through the use of experimental methods and techniques. Topics to be covered include vectors, statics, dynamics, work, energy, collisions, rotational motion, and gravitation. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: fall term. *Department consent required.*

PHYS 206 University Physics II Lab. Laboratory course which introduces topics and concepts of introductory physics through the use of experimental methods and techniques. Topics to be covered include electromagnetism, introductory circuits, and geometrical and physical optics. Prerequisite: "C" or better in PHYS 205. Physical-Scientific Mode of Inquiry (QPS). 1 semester credit hour. Physical Science Core Elective. Typically offered: spring term.

PHYS 207 Modern Physics Lab. Experimental physics course designed to cover laboratory methods and techniques that apply to topics from Modern Physics. Topics to be covered include electron charge to mass ratio, crystal scattering, spectroscopy, blackbody radiation, scanning probe microscopy, photon, tunneling, lasers, semiconductor devices, holography, radioactive decay, and the photoelectric effect. Prerequisite: Credit or co-registration in PHYS 213 or departmental consent. 1 semester credit hour. Typically offered: fall term. *Department consent required.*

PHYS 211 University Physics I. This course provides a calculus based introduction to mechanics, oscillations and waves. Topics include vectors, Newton's laws, kinematics, computational dynamics, projectile motion, work energy theorem, energy conservation, vibrations, gravitation, collisions and conservation of momentum, rotations, traveling and standing waves. The course begins with an introduction to mathematical and computational modeling in the physical and life sciences employing a discovery based active learning approach using kinetic Monte Carlo simulation, algorithms, finite difference methods and calculus. It is recommended that students take PHYS 211 in the fall semester of their freshman year. Prerequisite: "B" or better in MATH 111 (Trigonometry), and "C" or better or co-registration in Math 210 (Calculus I). Physical-Scientific Mode of Inquiry (QPS). 4 semester credit hours. Physical Science Core Elective. Typically offered: fall term.

PHYS 212 University Physics II. Electric field and potential, dielectrics, magnetic forces and fields, electromagnetic induction, DC and AC circuits, EM waves, light, and optics. It is recommended that students take PHYS 212 in the spring semester of their freshman year. Prerequisite: "C" or better in PHYS 211 and credit or co-registration in MATH 211 or MATH 224. Physical-Scientific Mode of Inquiry (QPS). 4 semester credit hours. Physical Science Core Elective. Typically offered: spring term.

PHYS 213 Modern Physics. An introduction to the fundamental concepts of modern physics and quantum mechanics for science and engineering students. The course begins by covering the basics of special relativity and quantum physics. This is followed by selected discussions based on student interest and time. Topics may include atomic and nuclear structure, band theory of solids, materials (e.g. granular, novel), particle physics, and cosmology. IAI EGR 914. Prerequisite: "C" or better in PHYS 118 or PHYS 212 and credit or co-registration in MATH 212. 3 semester credit hours. Writing Intensive Course. Typically offered: fall term.

PHYS 220 Analytical Mechanics. This course presents an intermediate treatment of Newton's law in various coordinate systems, projectile motion including air resistance, momentum, angular momentum, energy and conservative forces, driven and damped oscillators, nonlinear mechanics and chaos, Lagrange's equations, two body central force problems, mechanics in non-inertial frames, rotational motion of rigid bodies, and coupled oscillators. The course introduces vector calculus, differential equations, complex numbers, Taylor series, and matrices in the solutions to problems. IAI EGR 943. Prerequisite: "C" or better in PHYS 211 and MATH 211. Cross-listed as PHYS/ENGR 220. 3 semester credit hours. Typically offered: fall term.

PHYS 264 Electronics. An integrated laboratory and lecture course designed to cover the basic principles of modern electronics. Topics include AC and DC circuits, linear and non-linear devices, power supplies, operational amplifiers, and logic circuits. Lecture and laboratory work are integrated allowing the students to test the theory through projects that the students design and build. Prerequisite: "C" or better in PHYS 118 or 212 or departmental consent. Cross-listed as PHYS/ENGR 264. 3 semester credit hours. Typically offered: spring term.

PHYS 291 Selected Topics. Current topics in physics or biophysics. Prerequisite: Dependent upon topic. 3 semester credit hours. Typically offered: periodically.

PHYS 292 Research Literature. Discussion and application of online sources containing scientific publications and other information, e.g., SciFinder. The introduction of a report for a research project will be completed. 1 semester credit hour. Typically offered: spring term.

PHYS 296 Physics Teaching. Teaching assistant. 1-2 semester credit hours. Typically offered: fall, spring, and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

PHYS 304 Nuclear Science. Origins and nature of nuclear and atomic radiation, interaction of radiation with matter, radiation detectors, detection systems, and radiation safety. Lecture and laboratory. Intended for any qualified sciences student. 2 semester credit hours. Typically offered: periodically. *Department consent required.*

PHYS 313 Classical Thermodynamics. Properties of gases, relating heat and work, concepts of enthalpy and entropy, laws of thermodynamics, heat engines, thermodynamics of mixing processes and phase changes. Prerequisite: "C" or better in CHEM 123, PHYS 212, and MATH 212. Cross-listed as CHEM/PHYS 313. 3 semester credit hours. Typically offered: fall term.

PHYS 314 Physical Chemistry I Laboratory. Applies principles discussed in CHEM/PHYS 313. Prerequisite: co-registration or credit in CHEM/PHYS 313. Cross-listed as CHEM/PHYS 314. 1 semester credit hour. Writing Intensive Course. Typically offered: fall term.

PHYS 315 Quantum and Statistical Mechanics. Failures of classical physics, development of quantum theory, atomic structure and spectra, statistical mechanics, and statistical thermodynamics. Prerequisites: "C" or better in CHEM/PHYS 313 and co-registration or credit in MATH 260 or 300. Cross-listed as CHEM/PHYS 315. 3 semester credit hours. Typically offered: spring term.

PHYS 316 Physical Chemistry II Laboratory. Applies principles discussed in CHEM/PHYS 315. Prerequisite: Credit or co-registration in CHEM/PHYS 315. Cross listed as CHEM/PHYS 316. 1 semester credit hour. Writing Intensive Course. Typically offered: spring term.

PHYS 323 Biophysics. This course provides a calculus based introduction to biophysics and physiological modeling. The course in an integrated lecture and computer lab experience that focuses on scientific modeling and hypothesis testing. Topics covered will be selected from: experimental data analysis; drug elimination (pharmacokinetics); single molecule biophysics. Poisson processes, ligand binding, enzyme kinetics and saturation, ion channel gating, motor proteins and dwell time distributions; molecular dynamics; transport diffusion and random walks; computational fluid dynamics; ion channel permeation and the action potential; osmosis, gastrointestinal and renal functioning; statistical thermodynamics and the second law; free energy transduction, passive transporters and active pumps; hemoglobin, oxygen transport and metabolism. Prerequisites: "C" or better in CHEM 113, CHEM 123, PHYS 212, and MATH 211 or 221. Cross listed as BIOL/CHEM/PHYS 323. 4 semester credit hours. Typically offered: spring term.

PHYS 325 Materials Science. This course will explore many of the synthetic (high-temperature, solvothermal, solution, and flux crystal growth) and characterization (X-ray diffraction, Atomic Absorption) techniques common to solid-state/materials chemistry. Lecture and laboratory will be tightly integrated in a studio-style format. Individual, independent research projects aimed at the synthesis of novel inorganic materials will take the place of traditional experiments. On-site powder X-ray diffraction instrumentation will allow for immediate characterization of synthetic products. 3 semester credit hours. Typically offered: summer term. *Department consent required.*

PHYS 340 Electricity and Magnetism I. Theoretical study of classical electrostatics and electrodynamics. Topics include vector calculus of the electromagnetic field, electric field and potential, conductors, Laplace equations, boundary value problems, multipoles, polarization, dielectrics, magnetostatics, divergence and curl of the magnetic field, magnetization, Ampere's law, electrodynamics, electromagnetic induction, Maxwell's equations, and an introduction to superconductivity formalism. Prerequisites: PHYS 118 or PHYS 212 and MATH 212. 3 semester credit hours. Typically offered: periodically.

PHYS 357 Molecular Dynamics and Kinetics. Electric properties of molecules, molecular interaction, molecular motion in gases and liquids, transport properties, diffusion, chemical kinetics, molecular reaction dynamics. Prerequisite: Credit or co-registration in CHEM/PHYS 315. Cross-listed as CHEM/PHYS 357. 3 semester credit hours. Typically offered: periodically.

PHYS 374 Experimental Modern Physics. A laboratory course designed to cover methods and topics in experimental physics for advanced science students. The course allows students to gain hands-on experience investigating topics that can include chemical physics, bio-physics, sensors, modern physics, optics, electronics, and other advanced concepts with the goal of improving the connection between experimental results and theory. The experiments that will be covered in the course will vary from term to term depending on the interests of the students. Prerequisites: PHYS 207 and 213 or departmental consent. 2 semester credit hours. Typically offered: periodically. *Department consent required.*

PHYS 390 Selected Topics in Physics. Lecture course covering topics with which the student has not become acquainted in formal course work. May be an extension of or supplement to material previously encountered or material from a completely new area. periodically. Prerequisite: PHYS 213 and MATH 260. 3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

PHYS 393 Internship. Practical experience in physics or related career areas under the supervision of the physics program. Prerequisite: consent of faculty coordinator. 1-3 semester credit hours. *Department consent required.*

PHYS 395 Independent Study. Designed to encourage desire in superior students to continue the study of physics beyond the scope of undergraduate course offerings through guided independent study. Prerequisite: departmental consent. 2 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

PHYS 398 Research. Original research in physics or biophysics conducted under the supervision of a faculty or adjunct faculty member. Publication and public presentation of the research are course objectives. 1-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

Political Science

PLSC 100 Principles of Politics. Analyzes the political process and institutions in the United States and foreign nations. IAI S5 903. 3 semester credit hours. Political Science Core Elective.

PLSC 101 Global Affairs. This course explores some of the major issues in contemporary world politics. The end of the Cold War and the demise of the bipolar superpower relationship have reverberated across all issues in international affairs. We will consider such international issues as military security, ethnicity and nationalism, the international economy, the environment, and regional issues. Each week's readings presents an overview of the topic for that week, discussing the changing nature and relevance of the issue in light of the momentous changes taking place in the "world order." The final week will explore the role of the US in this changing world. IAI S5 904N. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Political Science Core Elective.

PLSC 102 American Government. Satisfies both the U.S. and IL, Constitution requirements for teacher certification. IAI S5 900. PLSC 102 is no longer restricted to PLSC major and minors only. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Political Science Core Elective.

PLSC 105 Law and Politics. An analysis of law, justice, rights, court procedures, and legislation. The development of various concepts of law and individual and group rights. Credit will not be granted for both PLSC 105 and PLSC 205. Social-Scientific II Mode of Inquiry (QPE). 3 semester credit hours. Political Science Core Elective.

PLSC 201 State and Local Government. The inter-relationships between national, state, county, and local governments. (Satisfies the Illinois Constitution requirement for teacher certification.) IAI S5 902. 3 semester credit hours.

PLSC 205 Judicial Process. An introductory course designed to provide an in-depth understanding of the judicial process in the United States. Credit will not be granted for both PLSC 105 and PLSC 205. 3 semester credit hours.

PLSC 210 Introduction to International Relations. Analysis of the processes of interaction among nations and groups of nations within the international political system. IAI S5 904N. 3 semester credit hours. Political Science Core Elective.

PLSC 213 American Foreign Policy. This course offers an overview of recent American Foreign policy and concentrates on both international and domestic pressures placed on foreign policy leaders. Students will participate in decision situations and debate policy options. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 215 Model United Nations. The use of simulation techniques to develop an understanding of the processes and operations of the United Nations. The course culminates with the students participating in the National Model United Nations. 3 semester credit hours. Political Science Core Elective and Writing Intensive. *Course repeatable. Maximum number of units allowed: 12.*

PLSC 216 Genocide: The Politics of Hate, Fear, Terror and Power. This is a survey course on genocide, one of the most controversial and deadly concepts in all of contemporary politics. We will learn how hate, fear, terror and power have repeatedly converged to produce the most deadly crime humanity has yet conceived. Genocide - against Armenians in Turkey, The Holocaust, Cambodia's Killing Fields, Bosnia-Herzegovina, Rwanda, Kosovo and Darfur - has been a repeated policy used by murderous regimes of many types over the last 100 years. We will study these cases and the general concept of genocide in the context of basic themes from the Political Science fields of international relations, comparative politics and foreign policy studies. No pre-existing knowledge of or exposure to any of these areas is assumed or necessary. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 217 Revolutions and Political Violence. Analyzes theories of revolution and studies a variety of 20th century revolutions. Also considers concepts of terrorism, guerilla warfare and nonviolent revolution. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 218 Nationalism and Terrorism. This course applies theoretical and analytical tools from the fields of International Relations and Comparative Politics in an attempt to understand the two most serious threats of global security in the post-Cold War world - nationalism and terrorism. Most of the death due to political violence in recent years has been directly or indirectly linked to nationalist movements of terrorist methods. It is critical that citizens in democratic states be informed on these matters, to understand what they are and are not, in order to be responsible citizens. PLSC 102, 105, 201, 205 or 210. 3 semester credit hours. Typically offered: periodically.

PLSC 219 International Political Economy. Examines the politics of international economics and, to a lesser extent, the economic determinants of international politics. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 220 Comparative Politics. Concerned with identification of political trends and empirical generalizations of selected political systems. IAI S5 905. 3 semester credit hours.

PLSC 222 Russian Politics in Comparative Perspective. Analyzes the politics, economics, and social changes of post-communist states, comparing Russia's post-communist experience with that of other states in the Former Soviet Union and Eastern Europe. The fundamental focus of all discussions and readings is on the requirements of and obstacles to the creation of a democratic political system. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 224 Democracy and Democratization. Examines the theory and practice of democracy around the world, and the question of "transitions to democracy" through analysis of the problems of creating a democratic political system. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 230 US Constitutional Law I. A study of the Constitution as a living and changing document underlying our entire system of government; the role played by the judiciary in developing Constitutional law. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 231 Constitutional Law II. A study of the Constitution as a living and changing document underlying our entire system of government; the role played by the judiciary in developing Constitutional law. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 236 Women in the Law. This course introduces students to basic concepts in the history and development of feminist thought while applying the knowledge to actual cases and legal situations affecting women. By examining the various controversies and problems that pervade this aspect of politics, students will achieve a greater awareness of how the American legal system helps to shape issues relating to gender. Prerequisite: PLSC 102, 105, 201, 205 or 210. Social-Scientific I Mode of Inquiry (QIO). 3 semester credit hours. Typically offered: spring term, even years.

PLSC 237 Mock Trial. An overview of the mechanics of courtroom procedure. Usually taught in conjunction with the mock trial competition. 3 semester credit hours. Typically offered: fall and spring terms. *Course repeatable. Maximum number of units allowed: 6.*

PLSC 240 CCL Public Service Fellow. Public Service Fellows register for this course as part of their requirements as a Fellow. Requirements variable, as determined by the CCL Director and communicated to Fellows upon their nomination. Typically offered: fall and spring terms. *Department consent required.*

PLSC 241 Presidential and Congressional Politics. Study of the American presidency; the background, powers and relations with the other components of the political system. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 242 Congress and Legislative Process. Concentrates on the whole spectrum of the legislative process in the United States. Features simulation of the US House. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 243 American Political Thought. Analyzes major American political theorists and the effects their thoughts have had on structuring our governmental institutions and shaping the political values and behavior of Americans. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 244 Democratic Citizenship. This is a seminar in which students will discuss and analyze the rights and responsibilities of citizenship and the importance and relevance of polities, government, and public policy. The course includes a service learning component. 3 semester credit hours.

PLSC 245 Campaigns, Elections and Political Behavior. An analysis of individual and group political behavior within the context of the U.S. election system. Emphasis is placed on the nature of campaigns and the impact of elections on government. Class features student projects on campaign tactics and strategy. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 247 Politics and Religion in the United States and Beyond. In this course we will examine the intersection of religion and politics from both a domestic and comparative perspective, including contemporary debates about political identities, secularization, modernization, culture, conflict and collaboration. Religious institutions will be evaluated as potential vehicles for citizen discourse and mobilization; we will also assess the broader impact of religion in the public square. Emphasis will be on domestic American politics, but many of these phenomena will also be considered from a comparative perspective. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 251 Introduction to Public Policy. This course serves as an introduction to the policy-making process, covering the various institutions, actors and procedures involved in getting an idea for solving a policy problem adopted into laws and implemented. The themes discussed may be relevant at the local, state or national levels, and may include, but not limited to, such matters as health, education, environmental and fiscal policy issues. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 255 Environmental Politics. The politics of environmental protection and regulation in the United States and selected other states. Prerequisite: PLSC 102, 105, 201, 205 or 210, or Environmental Science Major. 3 semester credit hours.

PLSC 256 Political Parties and Organized Interests. New fall 2014 course, cross listed with PLSC 356 and 356. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours. Typically offered: fall term.

PLSC 260 Politics and Film. A study of political themes as they appear in film and the use of film for political purposes. Specific topics vary. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours. Typically offered: periodically.

PLSC 291 Topics. A study of selected matter in the discipline of political science. Recent topics have included Politics of Western Europe, Politics of Soviet Union. Prospective topics may include Politics on Latin America, Politics of Southeast Asia, Politics of Sub-Sahara Africa and Feminist Politics. Prerequisite: PLSC 102, 105, 201, 205 or 210. 1-3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

PLSC 295 Independent Study. Course work in political science in which the student in cooperation with one of the faculty members, designs the course in some area of political science of interest to the student. 3 semester credit hours. *Department consent required.*

PLSC 296 Elections and Civic Responsibility. This seminar will examine the critical role citizens play in American constitutional democracy. Emphasis will be on state and federal elections in Illinois and the importance of voting rights and political participation. Students will be familiarized with Illinois election laws, voter registration requirements and the supervision of elections by state and local authorities. Guest speakers will include representatives from the DuPage Election Commission, who will outline the legal qualifications for becoming a qualified election judge and the Commission's role in guaranteeing the integrity of the electoral process. As a central requirement, of the course, students will complete the certification process to become election judges and will serve in that capacity on Election Day. Additional component: Certification to become an election judge and working a precinct on election day. 1 semester credit hour.

PLSC 297 Internship. Federal, state, and local government institutions in the area serviced by the university offer opportunities for interested students to gain practical experience in governmental offices. Prerequisite: junior or senior standing. 3 semester credit hours.

PLSC 299 Research Methods in Political Science. An analysis of the various theoretical approaches to the study of social sciences as well as discussion and completion of a scientific research design. Prerequisite: Senior Standing; a grade of "C" or better in PLSC 102, 201, 210, and 105 or 205; a grade of "C" or better in a least one 300 level PLSC elective.
3 semester credit hours.

PLSC 313 American Foreign Policy. This course offers an overview of recent American Foreign policy and concentrates on both international and domestic pressures placed on foreign policy leaders. Students will participate in decision situations and debate policy options. Prerequisite: PLSC 102. 3 semester credit hours.

PLSC 316 Genocide: The Politics of Hate, Fear, Terror and Power. This is a survey course on genocide, one of the most controversial and deadly concepts in all of contemporary politics. We will learn how hate, fear, terror and power have repeatedly converged to produce the most deadly crime humanity has yet conceived. Genocide - against Armenians in Turkey, The Holocaust, Cambodia's Killing Fields, Bosnia-Herzegovina, Rwanda, Kosovo, and Darfur - has been a repeated policy used by murderous regimes of many types over the last 100 years. We will study these cases, and the general concept of genocide, in the context of basic themes from the Political Science fields of international relations, comparative politics, and foreign policy studies. No pre-existing knowledge of or exposure to any of these areas is assumed or necessary. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 317 Revolutions and Political Violence. Analyzes theories of revolution and studies a variety of 20th century revolutions. Also considers concepts of terrorism, guerilla warfare and nonviolent revolution. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 318 Nationalism and Terrorism. This course applies theoretical and analytical tools from the fields of International Relations and Comparative Politics in an attempt to understand the two most serious threats of global security in the post-Cold War world - nationalism and terrorism. Most of the death due to political violence in recent years has been directly or indirectly linked to nationalist movements of terrorist methods. It is critical that citizens in democratic states be informed on these matters, to understand what they are and are not, in order to be responsible citizens. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours. Typically offered: periodically.

PLSC 319 International Political Economy. Examines the politics of international economics and, to a lesser extent, the economic determinants of international politics. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 322 Russian Politics in Comparative Perspective. Analyzes the politics, economics, and social changes of post-communist states, comparing Russia's post-communist experience with that of other states in the Former Soviet Union and Eastern Europe. The fundamental focus of all discussions and readings is on the requirements of and obstacles to the creation of a democratic political system. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 324 Democracy and Democratization. Examines the theory and practice of democracy around the world, and the question of "transitions to democracy" through analysis of the problems of creating a democratic political system. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 330 US Constitutional Law I. A study of the Constitution as a living and changing document underlying our entire system of government; the role played by the judiciary in developing Constitutional law. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 331 Constitutional Law II. A study of the Constitution as a living and changing document underlying our entire system of government; the role played by the judiciary in developing Constitutional law. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 336 Women in the Law. This course introduces students to basic concepts in the history and development of feminist thought while applying the knowledge to actual cases and legal situations affecting women. By examining the various controversies and problems that pervade this aspect of politics, students will achieve a greater awareness of how the American legal system helps to shape issues relating to gender. Prerequisite: PLSC 102, 105, 201, 205 or 210. Social-Scientific I Mode of Inquiry (QIO). 3 semester credit hours.

PLSC 341 Presidential and Congressional Politics. Study of the American presidency: the background, powers and relations with the other components of the political system. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 342 Congress and the Legislative Process. Concentrates on the whole spectrum of the legislative process in the United States. Features simulation of the US House. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 343 American Political Thought. Analyzes major American political theorists and the effects their thoughts have had on structuring our governmental institutions and shaping the political values and behavior of Americans. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 344 Democratic Citizenship. This is a seminar in which students will discuss and analyze the rights and responsibilities of citizenship and the importance and relevance of polities, government, and public policy. The course includes a service learning component. 3 semester credit hours.

PLSC 345 Campaigns, Elections and Political Behavior. An analysis of individual and group political behavior within the context of the US election system. Emphasis is placed on the nature of campaigns and the impact of elections on government. Class features student projects on campaign tactics and strategy. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 347 Politics and Religion in the United States and Beyond. In this course we will examine the intersection of religion and politics from both a domestic and comparative perspective, including contemporary debates about political identities, secularization, modernization, culture, conflict and collaboration. Religious institutions will be evaluated as potential vehicles for citizen discourse and mobilization; we will also assess the broader impact of religion in the public square. Emphasis will be on domestic American politics, but many of these phenomena will also be considered from a comparative perspective. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 351 Introduction to Public Policy. This course serves as an introduction to the policy-making process, covering the various institutions, actors, and procedures involved in getting an idea for solving a policy problem adopted into laws and implemented. The themes discussed may be relevant at the local, state, or national levels, and may include, but not limited to, such matters as health, education, environmental and fiscal policy issues. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours.

PLSC 354 Seminar on International Theories. An advanced study of the main and latest theories and issues in international relations. 3 semester credit hours.

PLSC 355 Environmental Politics. The politics of environmental protection and regulation in the United States and selected other states. Prerequisite: PLSC 102, 105, 201, 205 or 210, or Environmental Science Major. 3 semester credit hours.

PLSC 356 Political Parties and Organized Interests. New fall 2014 course, cross-listed with PLSC 356 and 356. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours. Typically offered: fall term.

PLSC 391 Topics. A study of selected matter in the discipline of political science. Recent topics have included Politics of Western Europe, Politics of Soviet Union. Prospective topics may include Politics of Latin America, Politics of Southeast Asia, Politics of Sub-Saharan Africa, US-Asian Relations, Politics of Policy change in America. Prerequisite: PLSC 102, 105, 201, 205 or 210. 3 semester credit hours. *Course repeatable. Maximum number of units allowed:12.*

PLSC 392 Political Leadership. Intensive study of the principles and practice of the politics of leadership including hands-on leadership experiences in conjunction with the professor. 3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed:12.*

PLSC 395 Independent Study. Course work in political science in which the student in cooperation with one of the faculty members, designs the course in some area of political science of interest to the student. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed:9.*

PLSC 397 Internship. Federal, state, and local government institutions in the area serviced by the university offer opportunities for interested students to gain practical experience in governmental offices. Prerequisite: sophomore, junior or senior standing. 1-12 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 12.*

PLSC 399 Thesis Research and Writing. Continuation of PLSC 299. Systematic integration of political theory and research. Preparation and completion of an independent undergraduate thesis. Prerequisite: PLSC 299. 3 semester credit hours. Writing Intensive Course. *Department consent required.*

Psychology

PSYC 100 Survey of Psychology. Overview of the field; principles and general methodology; concepts, theories and research, applicability to modern living. IAI S6 900. Social-Scientific I Mode of Inquiry (MOI) Elective. 3 semester credit hours. Psychology Core Elective. Typically offered: fall and spring terms.

PSYC 150 Introduction to Statistics. Basic course in statistical techniques which includes measures of central tendency, probability, sampling, estimation and hypothesis testing. For non-business majors. IAI M1 902. Prerequisite: "C" or better in MATH 105 or MATH 110. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 3 semester credit hours. Typically offered: fall, spring and summer terms.

PSYC 195 Research Practicum. Participation in ongoing departmental research. 1-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

PSYC 200 Childhood and Adolescence. Behavioral and social analysis of human development from birth through adolescence. IAI S6 904. Prerequisite: PSYC 100. 3 semester credit hours. Typically offered: annually.

PSYC 202 Adulthood and Aging. Biopsychological, psychosexual and social cognitive development from young adulthood through aging, to dying and death. IAI S6 905. Prerequisite: PSYC 100. 3 semester credit hours. Typically offered: annually.

PSYC 204 Survey of Exceptional Children. Discussion of atypical development: characteristics of persons labeled as having mental retardation, learning disabilities, behavioral disabilities, sensory deficits, speech disorders and health/physical challenges. Diagnosis, referral, educational strategies and legal implications are reviewed. Cross-listed as EDUC 204/PSYC 204. IAI ECE 913; IAI SED 904. 3 semester credit hours. Typically offered: fall, spring, and summer terms.

PSYC 210 Social Psychology. How social influences affect the individual and group. Attitudes, attribution and prejudice. IAI S8 900. PSYC 210 and SOCL 210 are cross-listed. Social-Scientific I Mode of Inquiry (QOI). 3 semester credit hours. Psychology/Sociology Core Elective. Typically offered: fall and spring terms.

PSYC 220 Personality. Theories of personality; process and analysis of personality development and adjustment and discussion of the influence of theories on the practice of psychotherapy. Prerequisite: PSYC 100. 3 semester credit hours. Typically offered: fall term.

PSYC 241 Educational Psychology. Survey of theories of classroom learning processes including human growth and development, evaluation, the exceptional child and the disadvantaged child. Emphasis also on the developmental characteristics and nature and needs of the early adolescent. Cross-referenced as EDUC241/PSYC 241. IAI SED 902. 3 semester credit hours. Typically offered: fall, spring and summer terms.

PSYC 245 Alcohol Problems and Alcoholism. Introductory course regarding the effects of alcoholism on the individual, family and society. Examines concerns related to the identification, treatment and prevention of alcoholism in the United States. 3 semester credit hours. Typically offered: annually.

PSYC 250 Basic and Applied Statistics. Acquaints students with descriptive statistical techniques (including measures of central tendency and variability, correlation, regression and large and small sample estimation) as well as inferential statistical procedures (t, z and ANOVA designs, nonparametric tests and multiple regression). Focus will be on how these statistical procedures can be directly applied to real-life situations. Prerequisite: MATH 105, MATH 108 or MATH 110. 3 semester credit hours. Typically offered: fall, spring and summer terms.

PSYC 251 Statistics II. ANOVA designs, correlation, regression, non-parametric tests, survey and experimental research techniques, social and behavioral measurements and multivariate analysis. Prerequisite: PSYC 150 or SOCL 150 or CJUS 150. Fee: $35. 3 semester credit hours. Typically offered: fall and spring terms.

PSYC 252 Research Practicum. Goal of the course is to develop the student's research skills in a particular field (Psychology, Sociology or Criminal Justice) by involving him/her in an actual research project under the direction of a faculty member. Students will meet with the instructor on a regular basis and will write both a preliminary proposal and final paper in APA style, the latter to include identification of the subject of the study, a review of the literature, statement of a working hypothesis, construction of necessary operational definitions, delineation of variables, a description of the population (and sample) and statistical tests if appropriate. Prerequisite: Successful completion of basic skills courses. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

PSYC 291 Selected Topics. Relevant to the needs and interests of the psychology major. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

PSYC 298 Research Methods. Completion of the first part of an original research design. Prerequisite: PSYC 250 or MGT 251 and admission into the Adult B.A. in Organizational Leadership Program. 3 semester credit hours.

PSYC 300 Abnormal Psychology. Dynamics of personality disorders, etiology, diagnosis, treatment and prognosis in neurotic and psychotic behavioral disorders. Discussion of case studies. Prerequisite: PSYC 100 and junior/senior status. 3 semester credit hours. Typically offered: fall and spring terms.

PSYC 302 Psychotherapy. Survey of theories and techniques of individual and group psychotherapies. Concepts and methods of evaluating therapeutic interventions. Prerequisite: PSYC 300. 3 semester credit hours. Typically offered: fall term.

PSYC 310 Social, Psychological, and Cultural Aspects of Aging. This course examines various psychological and sociological aspects which impact the aging process. An analysis of the individual and society, changes in social roles and status, intergenerational relationships, sociocultural differences, and intrapsychic dynamics will be explored. 3 semester credit hours. Psychology Core Elective.

PSYC 314 Learning and Cognition. Lecture course on principles, theories, concepts and experimental literature in learning and cognition, with emphasis on human learning in educational settings. Prerequisite: PSYC 100, PSYC 251. 3 semester credit hours. Typically offered: periodically.

PSYC 315 Learning and Cognition Lab. Utilizes a series of computer simulation / experimental techniques to illustrate recall difference in attention, learning and memory. Lab reports in APA Style are required. Prerequisite: Co-registered in PSYC 314. 1 semester credit hour. Typically offered: periodically.

PSYC 316 Sensation and Perception. Lecture analysis of the role of the senses in appreciating the external world; mechanisms of sensation and perception; introduction to psychophysical measurement of thresholds and signal detection theory. Prerequisite: PSYC 100, PSYC 251. 3 semester credit hours. Typically offered: periodically.

PSYC 317 Sensation and Perception Lab. Utilizes a series of computer simulation / experimental techniques to illustrate how we perceive information as a function of the senses, threshold detention and other measures are employed. Lab reports in APA Style are required. Prerequisite: co-registration in PSYC 316. 1 semester credit hour. Typically offered: periodically.

PSYC 318 Physiological Psychology. Lecture relating neurophysiological correlates of human and animal behavior, emphasizing motivation, emotion, learning and memory processes. Prerequisite: PSYC 100 and junior or senior standing. 3 semester credit hours. Typically offered: annually.

PSYC 319 Physiological Psychology Lab. Utilizes a series of computer simulation / experimental techniques to illustrate important physiological mechanisms (e.g., visual and auditory processing). Lab reports in APA Style are required. Prerequisite: co-registration in PSYC 318. 1 semester credit hour.

PSYC 320 Organizational Behavior. Overview of organizational structures and group dynamics. Examines job satisfaction, motivation, performance evaluation, decision-making and goal setting. 3 semester credit hours. Typically offered: fall, spring and summer terms.

PSYC 350 Systems and Theories. Historical antecedents of modern psychology; current theoretical systems. Prerequisite: junior, senior in PSYC/SOCL program. 3 semester credit hours. Typically offered: spring term.

PSYC 351 Research Methods in the Social Sciences. An analysis of various theoretical approaches to the study of social sciences as well as discussion and completion of the first two chapters of an original research design. Prerequisite: PSYC 251 or SOCL 251 or CJUS 251. Fee: $35. 3 semester credit hours. Writing Intensive Course. Typically offered: fall and spring terms.

PSYC 352 Research Practicum. Goal of the course is to develop the student's research skills in a particular field (Psychology, Sociology or Criminal Justice) by involving him/her in an actual research project under the direction of a faculty member. Students will meet with the instructor on a regular basis and will write a scholarly paper in APA style, the latter to include identification of the subject of the study, a review of the literature, statement of a working hypotheses, construction of necessary operational definitions, delineation of variables, a description of the population (and sample) and statistical tests if appropriate, results of the study and a discussion on the results of the study. Student will present the results of the study at a scholarly meeting. Cross-listed with CJUS 352and SOCL 352. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

PSYC 354 Behavior Modification/Lab. Focuses on basic behavioral principles and procedures. Emphasis is on the use of non-aversive techniques and applications with special needs populations. Requires lab work off campus. Prerequisite: junior, senior in PSYC/SOCL program. 4 semester credit hours. Typically offered: annually.

PSYC 356 Clinical Practicum/Lab. Focus is on teaching interpersonal and primary-level skills of empathy, listening, and interviewing to the introductory-level helping professional. Prerequisite: junior or senior in PSYC/SOCL program. 4 semester credit hours. Typically offered: fall and spring terms.

PSYC 358 Group Dynamics Lab. A process-experimental course in how to conduct training in interpersonal skills and how to engage in organizational development activities. Weekend format only. 4 semester credit hours. Typically offered: periodically.

PSYC 371 Death and Dying. Dynamics of the grief process, the care of the terminally ill and the needs of survivors in the sociological and psychological context of death. 3 semester credit hours. Typically offered: annually.

PSYC 373 Group Processes. Introduces theory and components of group process. Opportunities to participate in functioning groups for decision making and practicing of newly developed skills. Prerequisite: SOCL 356. 3 semester credit hours. Typically offered: annually.

PSYC 386 Professional Issues in Life Span Services. This course presents an overview of gerontology as a profession. Special attention is given to ethical issues. The course reviews contemporary settings in the field of aging and analyzes the status of gerontology in terms of the occupation as a human service provider. 3 semester credit hours. Typically offered: periodically.

PSYC 389 Organizational Leadership Capstone. Completion of an original research design. Prerequisite: PSYC 298; Admission to the adult B.A. in Organizational Leadership program. Writing Intensive Course. 3 semester credit hours. Typically offered: fall and spring terms.

PSYC 391 Topics. Relevant topics according to the needs and interests of psychology majors. 3 semester credit hours. Typically offered: periodically. Course repeatable. Maximum number of units allowed: 99. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

PSYC 395 Senior Thesis. Completion of an original research project under faculty supervision, involving either an original survey design, case study, or experimental analysis. Prerequisite: PSYC 351 or SOCL 351 or CJUS 351. 3 semester credit hours. *Department consent required.*

PSYC 397 Psychology Field Placement. Supervised instruction in an on- or off-campus setting related to student's interest in psychology. Prerequisite: PSYC 356, and a GPA of 2.5 or better, Consent of department chair and field placement director prior to the 10th week of the semester preceding the field placement. 3-6 semester credit hours. Typically offered: fall and spring terms. *Department consent required. Course repeatable. Maximum number of units allowed: 6.*

PSYC 398 Life Span Services Field Placement. Supervised experience in an off-campus assisted/independent living setting. Each semester. Prerequisite: SOCL 356, and a GPA of 2.5 or better, consent of the program director and field placement director prior to the 10th week of the semester preceding field placement. 3-6 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

PSYC 399 Independent Study. Provides opportunity for advanced majors to complete requirements of psychology course on their own. 3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

Public Health

PUH 135 Mental Health First Aid. This course will provide students the opportunity to learn basic concepts and strategies of a mental health first-aider including the ability to identify, understand, and respond to signs of mental illnesses and substance use disorders. 1 semester credit hour. Typically offered: fall and spring terms.

Radiation Therapy

RADT 330 Introduction to Technical Radiation Oncology. Content is designed to familiarize the student therapist with the technical aspects of radiography and radiographic equipment. Discussion will include orientation to the function and operation of radiographic equipment. 2 semester credit hours.

RADT 331 Principles and Practice of Radiation Therapy I. Content is designed to provide an overview of cancer and the specialty of radiation therapy. The medical, biological, and pathological aspect as well as the physical and technical aspects will be discussed. The roles and responsibilities of the radiation therapist, the treatment prescription, the documentation of treatment parameters and delivery will also be discussed. 3 semester credit hours.

RADT 332 Pathology. The course content is presented in two parts: general pathology and neoplasia. General pathology introduces basic disease concepts, theories of disease causation and system-by-system pathophysiologic disorders most frequently encountered in clinical practice. Neoplasia provides an in-depth study of new and abnormal development of cells. The processes involved in the development and classification of both benign and malignant tumors and site-specific information on malignant tumors is presented. 2 semester credit hours.

RADT 333 Radiation Physics. Content is designed to establish a basic knowledge of physics pertinent to developing an understanding of radiations used in the clinical setting. Fundamental physical units, measurements, principles, atomic structure, and types of radiation emphasized. Also presented are the fundamentals of x-ray generating equipment, x-ray production, and its interaction with matter. 2 semester credit hours.

RADT 334 Clinical Practicum I. Content is designed to provide sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice, and professional development shall be discussed, examined, and evaluated. This includes supervised clinical education, which offers a sufficient and well-balanced variety of radiation treatments, examinations, and equipment. Various rotations include: general radiation therapy treatment rooms, Simulator/CT simulator, Nursing Department, and Physics/Dosimetry Department. 3 semester credit hours.

RADT 335 Medical Imaging. Content is designed to establish procedures for imaging human structure and their relevance to radiation therapy. Topographic, radiographic, and cross-sectional anatomy will be studied and demonstrated through various imaging modalities. 2 semester credit hours.

RADT 336 Introduction to Radiologic Sciences. Content is designed to provide students with an overview of the foundations, concepts, history and theories in radiation therapy and the practitioner's role in the health care delivery system. The interrelatedness of standards of care, law, ethical standards and competence will be examined.
Radiation Therapy patient care content will provide the student with concepts and competencies in assessment and evaluation of the patient for service delivery. Psychological and physical needs and factors affecting treatment outcome will be presented and examined. Routine and emergency care procedures will be presented. 2 semester credit hours.

RADT 337 Radiation Safety and Protection. Content is designed to present basic principles of radiation protection and safety for the radiation therapist. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies, and health care organizations are incorporated. Specific responsibilities of the radiation therapist are discussed, examined, performed and evaluated. 2 semester credit hours.

RADT 338 Principles and Practice of Radiation Therapy II. Content is designed to examine and evaluate the management of neoplastic disease using knowledge in arts and sciences, while promoting critical thinking and the basics of ethical decision making. The epidemiology, etiology, detection, diagnosis, patient condition, treatment, and prognosis of neoplastic disease will be presented, discussed, and evaluated in relationship to histology, anatomical site, and patterns of spread. The radiation therapist's responsibility in the management of neoplastic disease will be examined and linked to the skills required to analyze complex issues and make informed decisions while appreciating the character of the profession. 3 semester credit hours.

RADT 339 Technical Radiation Oncology II. Content is designed to provide the student therapist with knowledge of the technical aspects of radiation therapy. Discussion will include treatment modalities and the distinctive properties of each patient’s simulation and treatment. This will also include basic hand calculations. 2 semester credit hours. *Department consent required.*

RADT 340 Radiation Therapy Physics. Content is designed to review and expand concepts and theories in the radiation physics course. Detailed analysis of the structure of matter, properties of radiation, nuclear transformations, x-ray production, and interactions of ionizing radiation are emphasized. Also presented are types of treatment units used in external radiation therapy, measurement and quality of ionizing radiation produced, absorbed dose measurement, dose distribution, and scatter analysis. Also included in this course are factors that influence and govern treatment planning. 2 semester credit hours.

RADT 341 Quality Management. Content is designed to focus on the evolution of quality management (QM) programs and continuing quality improvement in radiation oncology. Topics will include the need for quality assurance (QA) checks; QA of the clinical aspects and chart checks, film checks; the various types of evaluations and tests performed on simulators, megavoltage therapy equipment, and therapy planning units; the role of radiation therapists in quality management programs; legal and regulatory implications for maintaining appropriate guidelines as well as the role computers and information systems serve within the radiation oncology department. 2 semester credit hours.

RADT 342 Operational Issues in Radiation Therapy. Content is designed to focus on various radiation therapy operational issues. Continuing Quality Improvement project development and evaluation and assessment techniques will be emphasized. Human resource issues and regulations impacting radiation therapists will be examined. Accreditation agencies and the radiation therapist's role in the accreditation process will be emphasized. Billing and reimbursement issues pertinent to the radiation therapy department will be presented. 2 semester credit hours.

RADT 343 Clinical Practicum II. Content is designed to provide sequential development, application, analysis, integration, synthesis, and evaluation of concepts and theories in radiation therapy. Through structured sequential assignments in clinical facilities, concepts of team practice, patient-centered clinical practice, and professional development shall be discussed, examined, and evaluated. This includes supervised clinical education, which offers a sufficient and well-balanced variety of radiation treatments, examinations, and equipment. Various rotations include: general radiation therapy treatment rooms, Simulator/CT simulator, Nursing Department, and Physics/Dosimetry Department. 2 semester credit hours.

RADT 344 Management and Methods of Patient II. Continuation of RADT 336 Management and Methods of Patient Care I. 2 semester credit hours.

RADT 345 Radiation Biology. Content is designed to present basic concepts and principles of radiation biology. The interactions of radiation with cells, tissues, and the body as a whole and resultant biophysical events will be presented. Discussion of the theories and principles of tolerance dose, time-dose relationships, fractionation schemes, and the relationship to the clinical practice of radiation therapy will be discussed, examined, and evaluated. 2 semester credit hours.

Religious Studies

RELS 100 Religion and Culture. An investigation of the ways in which myth, ritual, and the interpretation of scripture provides meaning and orientation for human life. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 105 New Testament Greek I. Beginners introduction to the grammar and vocabulary of the original Greek text. 3 semester credit hours.

RELS 106 New Testament Greek II. Continuation of RELS 105. Prerequisite: RELS 105. 3 semester credit hours.

RELS 110 Ecclesiastical Latin I. A year-long introduction to the grammar and vocabulary needed to read the Latin of St. Jerome's Vulgate, liturgical and Medieval scholastic texts. Equivalent to 4 years of high school Latin. 3 semester credit hours.

RELS 111 Ecclesiastical Latin II. Continuation of RELS 110. Prerequisite: RELS 110. 3 semester credit hours.

RELS 120 Eastern Religious Traditions. This course will introduce the major religions of South, Southeast, and East Asia, and the interactions between them, focusing on the Hindu, Buddhist, Jain, and Sikh traditions, with mention of Islam, Asian Christianity, and Chinese religions. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 122 The Baptism of Europe. Studies the development and Christianization of Europe in the Middle Ages (500-1500 A.D.). Drawing upon the resources of the Catholic and Benedictine traditions, the course explores the theme of "person in community" through social structures (religious, political, economic) and through the interactions and/or conflicts between people and cultures (Eastern and Western Christianity; Christianity, Judaism, Islam). Counts as HUMN 230. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

RELS 130 Abrahamic Traditions. An introduction to the three western "Abrahamic" religions, Judaism, Christianity and Islam, and their interactions. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 145 Women in the Sacred Scriptures. An exploration of Christian and Jewish Scriptures (with some mention of the Scriptures of other religions), in particular those passages which emphasize women's faith, wisdom, and/or experience. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall and spring terms.

RELS 150 Introduction to the Bible I. A close reading of selections from the Christian Bible which examines historical background, literary composition, and general content of the books of the Hebrew Bible ("Old" Testament) and the New Testament. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 151 Introduction to the Bible II. Continuation of RELS 150. Prerequisite: RELS/THEO 150. 3 semester credit hours. Typically offered: periodically.

RELS 155 New Testament. A reading of the New Testament designed to treat the historical background, literary composition, and theological meaning of the text. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 160 Jesus Christ. Studies the images of Jesus Christ in the New Testament and the development of Christological doctrine in subsequent Christian thought. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall term, even years.

RELS 165 The Church. Investigates the apostolic origin, development, and theological understanding of the Christian community up to the present. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: spring term, odd years.

RELS 170 Early Christianity. Examines the first six centuries of doctrinal developments, spiritual life and morality, relations between Christianity and other religious movements, and the church and state. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 180 The Divine Economy. A classic religious expression for bringing creation to full health is the unfolding of the drama of "divine economy" (oikonomia tou Theou), one mark of which is shared abundance. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall and spring terms.

RELS 191 Selected Topics. Special topics on the introductory level. fall and spring. A topics course may apply toward divisional core. Theological/Religious Mode of Inquiry (QRT). 1-3 semester credit hours. Religious Studies Core Elective. Typically offered: fall and spring terms. *Course repeatable. Maximum number of units allowed: 99.*

RELS 220 History of Christian Thought I. This overview of the Christian intellectual tradition studies the history of reflection on Christian faith from the first through the fifteenth century, as seen in the writings of representative figures. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall term, odd years.

RELS 221 History of Christian Thought II. This overview of the Christian intellectual tradition studies the history of reflection on Christian faith from the sixteenth century to the present, as seen in the writings of representative figures. 3 semester credit hours. Religious Studies Core Elective. Typically offered: spring term, even years.

RELS 230 Judaism. This course will introduce students to the practices, beliefs, literature, history, and diversity of Jews and Judaism, as well as to Jewish-Christian and Jewish-Muslim dialogue. Theological/Religious Mode of Inquiry (QRT). 3 semester credit hours. Religious Studies Core Elective. Typically offered: spring term.

RELS 235 Islam. This course will introduce students to the practices, beliefs, literature, history, and diversity of Islam and Muslims throughout the world, as well as to Christian-Muslim dialogue. 3 semester credit hours. Religious Studies Core Elective and Multi-Cultural Course. Typically offered: fall term.

RELS 240 Christian Worship. A historical, cultural, and theological examination of the diverse liturgical practices of Orthodox, Catholic, and Protestant Christians. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 250 Christian Ethics. An understanding of the distinctively Christian strategy of life based on readings of Christian scriptures and theological interpretations. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 251 Christianity in Latin America. Examines the cultural, historical and religious traditions of Latin America and the impact of social change on religious beliefs and practices in the region. 3 semester credit hours.

RELS 265 Eastern Christianity. History, theology, spirituality, and contemporary life of Eastern Christians, including the Oriental Orthodox, Eastern Orthodox, and Eastern Catholic Churches. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

RELS 270 Roman Catholicism. Survey of Roman Catholic teachings, ethical principles, sacramental rituals, and structural organization. 3 semester credit hours.

RELS 271 19th Century Church History. Studies the European Church's reaction to the French Revolution and scientific theories and the social questions of the 19th century. Analyzes the roots of contemporary developments in the church. 3 semester credit hours.

RELS 272 20th Century Church History. Analyzes the impact of 19th century developments, the world wars, decolonization, intellectual trends and Vatican II's origins and results. 3 semester credit hours.

RELS 275 Protestant Traditions. Survey of the fundamental principles of Protestant teaching as rooted in the German, Swiss and English Reformations. 3 semester credit hours. Religious Studies Core Elective.

RELS 285 Religion in America. Study of the prominent individuals, communities, movements, institutions and beliefs which make up the religious experience of North American people. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall term.

RELS 291 Selected Topics. Special topics on the intermediate level. A topics course may apply toward divisional core. 3 semester credit hours. Religious Studies Core Elective and Writing Intensive. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

RELS 350 Christian Ethics. An understanding of the distinctively Christian strategy of life based on readings of Christian scriptures and theological interpretations. 3 semester credit hours.

RELS 385 Religion In America. Study of the prominent individuals, communities, movements, institutions and beliefs which make up the religious experience of North American people. 3 semester credit hours.

RELS 391 Selected Topics. Special topics on the advanced level. 3 semester credit hours. *Course repeatable. Maximum number of units allowed: 99.*

Sociology

SOCL 100 Principles of Sociology. Fundamental concepts in the scientific study of human society, culture and personality, with special study of the social organization of groups and institutions. IAI S7 900. Social-Scientific I Mode of Inquiry (QIO). 3 semester credit hours. Sociology Core Elective. Typically offered: fall, spring, and summer terms.

SOCL 150 Introduction to Statistics. Basic course in statistical techniques which includes measures of central tendency, probability, sampling, estimation and hypothesis testing. For non-business majors. IAI M1 902. Prerequisite: "C" or better in MATH 105 or MATH 110. Computational, Mathematical, and Analytical Mode of Inquiry (QCM). 3 semester credit hours. Typically offered: fall, spring, and summer terms.

SOCL 195 Research Practicum. Participation in on-going departmental research. 1-3 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required.*

SOCL 205 Racial and Ethnic Groups. The nature of prejudice. Studies of ethnic relations in America and other societies. IAI S7 903D. Cross-listed with CJUS 205. 3 semester credit hours. Typically offered: spring term.

SOCL 210 Social Psychology. How social influences affect the individual and group. Attitudes, attribution and prejudice. IAI S8 900. PSYC 210 and SOCL 210 are cross-listed. Social-Scientific I Mode of Inquiry (QOI). 3 semester credit hours. Psychology/Sociology Core Elective. Typically offered: fall and spring terms.

SOCL 213 Health Aspects of Aging. Focuses upon the normal aging process in American Society including biological, psychological and health aspects. Emphasis is placed on health services, health maintenance, and contemporary issues with respect to the elderly population. 3 semester credit hours. Life Science Core Elective.

SOCL 231 Medical Sociology. Analysis of social factors in relation to health and disease. Organization of health professions and institutions. 3 semester credit hours. Sociology Core Elective. Typically offered: periodically.

SOCL 234 Sociology of Sport. Examines social and cultural factors affecting organized sport, including gender, race, the role of money and media coverage in athletics, and the importance of athletics to small communities. 3 semester credit hours.

SOCL 235 Sociology of Popular Culture. Studies the role of popular culture in communicating ideas about society, including deviance, gender, social class, and race. Examples that will be studied include films, tattoos and body piercing, and myths, legends, and popular fiction. 3 semester credit hours.

SOCL 240 Social Problems. Effects of social change, disorganization and value conflict on family life, mental health, ethnic relations, crime and delinquency, related topics. IAI S7 901. Prerequisite: SOCL 100. 3 semester credit hours. Typically offered: spring term.

SOCL 245 Alcohol Problems and Alcoholism. Introductory course regarding the effects of alcoholism on the individual, family and society. Examines concerns related to the identification, treatment and prevention of alcoholism in the United States. 3 semester credit hours. Typically offered: annually.

SOCL 250 Basic and Applied Statistics. Acquaints students with descriptive statistical techniques (including measures of central tendency and variability, correlation, regression and large and small sample estimation) as well as inferential statistical procedures (t, z and ANOVA designs, nonparametric tests and multiple regression). Focus will be on how these statistical procedures can be directly applied to real-life situations. Prerequisite: MATH 105, MATH 108 or MATH 110. 3 semester credit hours. Typically offered: fall, spring and summer terms.

SOCL 251 Statistics II. ANOVA designs, correlation, regression, non-parametric tests, survey and experimental research techniques, social and behavioral measurements and multivariate analysis. Prerequisite: PSYC 150 or SOCL 150 or CJUS 150. Fee: $35. 3 semester credit hours. Typically offered: fall and spring terms.

SOCL 252 Research Practicum. Goal of the course is to develop the student's research skills in a particular field (Psychology, Sociology or Criminal Justice) by involving him/her in an actual research project under the direction of a faculty member. Students will meet with the instructor on a regular basis and will write both a preliminary proposal and final paper in APA style, the latter to include identification of the subject of the study, a review of the literature, statement of a working hypothesis, construction of necessary operational definitions, delineation of variables, a description of the population (and sample) and statistical tests if appropriate. Prerequisite: Successful completion of basic skills courses. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

SOCL 260 Introduction to Criminal Justice. Examination of the criminal justice system: police, courts and corrections. Analysis of functions, jurisdiction, operation and relationships. IAI CRJ 901. 3 semester credit hours. Typically offered: annually.

SOCL 265 Introduction to Social Work. Values and history that underlie social work issues; discussion of the profession of social work and its concern with human welfare areas and field of service. 3 semester credit hours. Typically offered: fall term.

SOCL 270 Marriage and the Family. Family system and its changing relationships to contemporary society. Structures, value orientation and personality patterns, role and status interrelationships. IAI S7 902. Prerequisite: SOCL 100. 3 semester credit hours. Typically offered: annually.

SOCL 290 Social and Cultural Change. Analysis of large scale historical change, the succession of types of societies and the emergence of the contemporary world. Evolution of social institutions (the family, religion) and speculation about significant future change. 3 semester credit hours. Typically offered: annually.

SOCL 291 Selected Topics in Sociology. According to the interests of the sociology majors. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

SOCL 301 Social Welfare Services. Survey of social work agencies. Application of social systems to public and voluntary social welfare services. Prerequisite: SOCL 265. 3 semester credit hours. Typically offered: annually.

SOCL 306 Correctional System. Theory and research relating to treatment, incarceration and rehabilitation of the offender. IAI CRJ 911. Prerequisite: SOCL/CJUS 260. 3 semester credit hours. Typically offered: annually.

SOCL 310 Social, Psychological and Cultural Aspects of Aging. This course examines social, psychological and cultural aspects that impact the aging process. An analysis of the individual and society, explorations of changes in roles and status, intergenerational relationships, sociocultural differences and intrapsychic dynamics will be explored. 3 semester credit hours. Typically offered: fall term.

SOCL 321 Crime and Delinquency. Social and psychological factors related to crime, theories of crime and delinquency, police and court systems and correctional institutions. IAI CRJ 912. Prerequisite: SOCL/CJUS 260. Writing Intensive. 3 semester credit hours. Typically offered: annually.

SOCL 350 Social Theory. Origin and development of sociology through a study of the classic works of the 19th and 20th centuries. Prerequisite: SOCL 100. 3 semester credit hours. Typically offered: fall term.

SOCL 351 Research Methods in the Social Sciences. An analysis of various theoretical approaches to the study of social sciences as well as discussion and completion of the first two chapters of an original research design. Prerequisite: PSYC 251 or SOCL 251 or CJUS 251. Fee: $35. 3 semester credit hours. Writing Intensive Course. Typically offered: fall and spring terms.

SOCL 352 Research Practicum. Goal of the course is to develop the student's research skills in a particular field (Psychology, Sociology or Criminal Justice) by involving him/her in an actual research project under the direction of a faculty member. Students will meet with the instructor on a regular basis and will write a scholarly paper in APA style, the latter to include identification of the subject of the study, a review of the literature, statement of a working hypotheses, construction of necessary operational definitions, delineation of variables, a description of the population (and sample) and statistical tests if appropriate, results of the study and a discussion on the results of the study. Student will present the results of the study at a scholarly meeting. Cross-listed with CJUS 352and SOCL 352. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

SOCL 356 Clinical Practicum/Lab. Focus is on teaching interpersonal and primary-level skills of empathy, listening, and interviewing to the introductory-level helping professional. Prerequisite: junior or senior in PSYC/SOCL program. 4 semester credit hours. Typically offered: fall and spring terms.

SOCL 371 Death and Dying. Dynamics of the grief process, the care of the terminally ill and the needs of survivors in the sociological and psychological context of death. 3 semester credit hours. Typically offered: annually.

SOCL 386 Professional Issues in Life Span Services. This course presents an overview of gerontology as a profession. Special attention is given to ethical issues. The course reviews contemporary settings in the field of aging and analyzes the status of gerontology in terms of the occupation as a human service provider. 3 semester credit hours. Typically offered: periodically.

SOCL 390 Criminal Justice Field Placement. Observation and participation in the daily work of a criminal justice agency. Each semester. Prerequisite: PSYC 356 or SOCL 356, consent of program director and field placement director prior to the 10th week of the semester preceding the field placement, and a GPA of 2.5 or better. 3-6 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

SOCL 391 Topics in Sociology. Relevant topics according to the needs and interests of the criminal justice students. Prerequisite: SOCL 100. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

SOCL 392 Social Work Field Placement. This internship provides experience in practice in a professional agency under the supervision of a trained practitioner. Prerequisite: SOCL 356, Consent of the program director and field placement director prior to the 10th week of the semester preceding the field placement, and GPA of 2.5 or better. 3-6 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

SOCL 394 Group Processes. Introduces theory and components of group process. Opportunities to participate in functioning groups for decision making and practicing of newly developed skills. Prerequisite: SOCL 356. 3 semester credit hours. Typically offered: annually.

SOCL 395 Senior Thesis. Completion of an original research project under faculty supervision, involving either an original survey design, case study, or experimental analysis. Prerequisite: PSYC 351 or SOCL 351 or CJUS 351. 3 semester credit hours. *Department consent required.*

SOCL 397 Sociology Field Placement. Supervised experience in an on- or off-campus setting related to the student's interest in sociology. Prerequisite: SOCL 356, Consent of the program director and field placement director prior to the 10th week of the semester preceding the field placement, and GPA of 2.5 or better. 3-6 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

SOCL 398 Life Span Services Field Placement. Supervised experience in an off-campus assisted/independent living setting. Each semester. Prerequisite: SOCL 356, and a GPA of 2.5 or better, consent of the program director and field placement director prior to the 10th week of the semester preceding field placement. 3-6 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

SOCL 399 Independent Study. Provides opportunity for advanced majors to complete requirements of sociology course on their own. 3 semester credit hours. Typically offered: periodically. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

SOCL Research Practicum. Goal of the course is to develop the student's research skills in a particular field (Psychology, Sociology or Criminal Justice) by involving him/her in an actual research project under the direction of a faculty member. Students will meet with the instructor on a regular basis and will write a scholarly paper in APA style, the latter to include identification of the subject of the study, a review of the literature, statement of a working hypotheses, construction of necessary operational definitions, delineation of variables, a description of the population (and sample) and statistical tests if appropriate, results of the study and a discussion on the results of the study. Student will present the results of the study at a scholarly meeting. Cross-listed with CJUS 352 and SOCL 352. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

Spanish

SPAN 101 Elementary Spanish I. Introduction to the basic structure of the language. Designed to enable the student to begin to develop oral proficiency and written skills. 3 semester credit hours. Typically offered: fall and spring terms.

SPAN 102 Elementary Spanish II. Continued study of the basic structure of the language. Designed to enable the student to continue to develop oral proficiency and written skills. Prerequisite: SPAN 101 or placement. 3 semester credit hours. Typically offered: fall and spring terms.

SPAN 108 Elementary Spanish I Lab. Language lab, co-registration with SPAN 101 necessary 0-1 semester credit hours. 1 semester credit hour. Typically offered: periodically.

SPAN 109 Elementary Spanish II Lab. Language lab, co-registration with SPAN 102 necessary. 0-1 semester credit hours. 1 semester credit hour. Typically offered: periodically.

SPAN 201 Intermediate Spanish I. Review of the basic structure of the language. Emphasis on extensive language practice in simulated cultural settings in order to enable students to continue to develop their oral and written proficiency. Prerequisite: SPAN 102 or placement. 3 semester credit hours. Typically offered: fall and spring terms.

SPAN 202 Intermediate Spanish II. Continued review of the basic structure of the language. Emphasis on extensive language practice in simulated cultural settings in order to enable students to continue to develop their oral and written proficiency. IAI H1 900. Prerequisite: SPAN 201 or placement. 3 semester credit hours. Typically offered: fall and spring terms.

SPAN 205 Intermediate Spanish I through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on contact hours. 1-3 semester credit hours. Typically offered: periodically.

SPAN 206 Intermediate Spanish II through Study Abroad. Credit for language courses taken in accredited programs overseas. Variable credit based on contact hours. 1-3 semester credit hours. Typically offered: periodically.

SPAN 208 Intermediate Spanish I Lab. Language lab, co-registration with SPAN 201 necessary. 0-1 semester credit hours. 1 semester credit hour. Typically offered: periodically.

SPAN 209 Intermediate Spanish II Lab. Language lab, co-registration with SPAN 202 necessary. 0-1 semester credit hours. 1 semester credit hour. Typically offered: periodically.

SPAN 211 Intermediate Grammar and Composition. Comprehensive review and synthesis of Spanish grammar. Designed to provide students with extensive writing practice in order to prepare them for more effective participation in advanced courses, and to enable them to improve their ability to use and manipulate the language with a higher degree of accuracy, flexibility, and assurance. Co-registration with SPAN 212 strongly recommended. Prerequisite: SPAN 202 or placement. 3 semester credit hours. Writing Intensive Course. Typically offered: fall and spring terms.

SPAN 212 Intermediate Oral Communications. Emphasis on oral proficiency, syntax, and grammar, as well as enabling students to develop their ability to respond to the cultural challenges that faces someone living in an Hispanic culture. Co-registration with Span 211 is strongly recommended. Prerequisite: SPAN 202 or placement. Important note: Native or heritage speakers of Spanish may not be required to take SPAN 212. These students should seek a waiver of the SPAN 212 requirement from the Chair of the Department of Languages and Literature. Any student receiving a waiver of the SPAN 212 requirement must then take an alternative course about the SPAN 212 level in order to earn at least 36 credit hours in Spanish for the major or 21 credit hours in Spanish for the minor. 3 semester credit hours. Typically offered: fall and spring terms. *Department consent required.*

SPAN 213 Business Spanish I. Survey of the fundamental vocabulary and concepts of commercial language in Spanish. Designed to help students improve their oral and written proficiency and cultural sensitivity while developing a vocabulary for business functions. Prerequisite: SPAN 211and SPAN 212 or department consent. 3 semester credit hours. Typically offered: periodically.

SPAN 214 Business Spanish II. Continued survey of the fundamental vocabulary and concepts of commercial language in Spanish. Designed to enable students to continue to improve their oral and written proficiency in Spanish and their cultural sensitivity while developing a vocabulary for business functions. Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Typically offered: periodically.

SPAN 215 Medical Spanish I. Survey of the fundamental vocabulary and concepts of medical language in Spanish. Students will also review some grammatical structures that are often used in medical contexts. The course is generally designed to help students improve their oral and written proficiency as well as their cultural sensitivity while developing specialized vocabulary to communicate effectively in Spanish in medical settings and emergency situations. Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Typically offered: fall term, even years.

SPAN 216 Medical Spanish II. Continued survey of the fundamental vocabulary and concepts of medical language in Spanish. Among other things, students will give formal presentations, engage in role-plays, read texts whose contents may be useful to future health care professionals, learn how to interpret and fill out Spanish-language forms typically used by U.S. hospitals, and study highly specialized medical terms in Spanish. The course is generally designed to enable students to continue improving their oral and written proficiency in Spanish as well as their cultural sensitivity while developing a highly specialized vocabulary to communicate effectively in medical settings and emergency situations. It is strongly recommended that SPAN 215 be taken before SPAN 216, but it is not required. Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Typically offered: fall term, odd years.

SPAN 218 Intermediate Grammar and Composition Lab. Language lab, co-registration with SPAN 211 necessary. 0-1 semester credit hours. 1 semester credit hour. Typically offered: periodically.

SPAN 219 Intermediate Oral Communications Lab. Language lab, co-registration with SPAN 212 necessary. 0-1 semester credit hours. 1 semester credit hour. Typically offered: periodically.

SPAN 220 Introduction to Spanish Literature. Close reading of selected Spanish short stories, poetry, plays and essays. Analysis of how these works reflect and influence the thinking of their times and the relevance of their ideas to the contemporary world. This course is designed to help students improve skills in written and oral narration and description, and reading proficiency. IAI H3 916. Prerequisite: SPAN 211 and SPAN 212, or department consent. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: fall term, even years.

SPAN 221 Introduction to Contemporary Latin American Literature. Close reading of selected works of contemporary Latin American literature including poetry, short stories, and plays. Students will learn about the lives of the authors and their times, and will explore the critical role of literature in Latin American social and political development. Emphasis on enabling students to develop skills in written and oral narration and description, and reading proficiency. IAI H3 916. Prerequisite: SPAN 211 and SPAN 212, or department consent. Literary and Rhetorical Mode of Inquiry (QLR). Writing Intensive Course. 3 semester credit hours. Literature Core Elective. Typically offered: fall term, odd years. *Department consent required.*

SPAN 230 Elements of Spanish Civilization and Culture. Designed to allow students to work on development of language proficiency through class discussions, written assignments and selected readings concerned with key elements of Spanish civilization: the family, the Catholic Church, the government, social relations and how these factors have shaped the artistic, literary, and historic experience of the Spanish people. Prerequisite: SPAN 211 and SPAN 212, or department consent. Historical Mode of Inquiry (QHT). 3 semester credit hours. Typically offered: spring term, even years.

SPAN 231 Latin American Civilization and Culture. Designed to allow students to work on development of language proficiency through class discussions, written assignments, and selected readings concerned with key elements of Latin American civilization: the family, the Catholic Church, indigenous peoples and religions, social, and political movements, and how these factors have shaped the artistic, literary, and historic experience of Latin American peoples. Prerequisite: SPAN 211 and SPAN 212 or department consent. Historical Mode of Inquiry (QHT). Multi-Cultural Course. 3 semester credit hours. Multi-Cultural Course. Typically offered: fall term, even years.

SPAN 291 Intermediate Topics in Spanish Language and Hispanic Literature and Culture. Intermediate-level study of topics in Spanish and Latin American literature, culture and/or civilization. Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

SPAN 295 Independent Study. Designed for the intermediate student who wishes to explore an aspect of Spanish language or literature beyond the scope of the regular course offerings. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

SPAN 297 Internship. Professional experience designed to enhance language proficiency and cultural understanding by working in a human service agency, an educational institution or a business agency where Spanish is the primary language. Prerequisite: Approved application. 1-6 semester credit hours. *Department consent required.*

SPAN 305 Advanced Grammar. In-depth study of Spanish syntax and grammar. Strong emphasis on sentence analysis, grammar terminology, translation and word expression acquisition. Highly recommended for prospective language teachers, but useful for all Spanish majors or minors. Designed to enable students to improve their ability to use and manipulate the language with a higher degree of accuracy, flexibility and assurance. Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Typically offered: fall term, odd years.

SPAN 307 Advanced Contemporary Spanish Literature. Study of representative literary works. Discussion of the political, social, economic and religious issues reflected in the works. Emphasis on enabling students to develop skills in oral and written analysis, narration and description in Spanish, as well as to strengthen reading proficiency. Prerequisite: SPAN 211 and 212, or department consent. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: spring term, odd years.

SPAN 310 Advanced Contemporary Latin America Literature. Study of representative literary works. Discussion of the political, social, economic and religious issues reflected in the works. Emphasis on enabling students to develop skills in oral and written analysis, narration and description in Spanish, as well as to strengthen reading proficiency. Prerequisite: SPAN 211 and 212 or department consent. Literary and Rhetorical Mode of Inquiry (QLR). 3 semester credit hours. Literature Core Elective. Typically offered: spring term, even years.

SPAN 311 Advanced Composition. Designed to enable students to improve writing skills through extensive practice and intensive study of various forms of written communication. Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Writing Intensive Course. Typically offered: fall term, even years.

SPAN 312 Advanced Oral Communications. Continued emphasis on developing oral proficiency, syntax, and grammar in Spanish. Students will work on their ability to respond to the communication challenges faced when living in an Hispanic culture. Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Typically offered: spring term, even years.

SPAN 313 Advanced Oral Medical Spanish. Continued emphasis on developing oral proficiency, syntax and grammar in Spanish. Students will work on their ability to respond to the communication challenges faces when using Spanish in an authentic context, in particular as it relates to health care issues. Prerequisite: Span 211 and 212, or department consent. 3 semester credit hours. Typically offered: spring term, even years.

SPAN 350 Competency in Latino Culture for Health Care Professionals and Emergency Responders. Continued emphasis on developing oral and written proficiency in Spanish, in particular as it relates to the language used in healthcare settings and/or emergency situations. In addition, students will be exposed to and discuss in Spanish aspects of the culture of the various Spanish-speaking countries or Latino communities in the USA that can be of interests to health care professionals and/or emergency responders (concept of cultural and linguistic competency, cultural and racial diversity in the Spanish-speaking world. Latinos in the US, traditional Hispanic diet, traditional medicine and remedies in the Hispanic world, health care systems in some major Spanish speaking countries, cultural and religious sensitivities that can affect the quality of health care Latinos receive in the United States, socio-economic challenges of the Hispanic population in the US and their impact on health care, etc.). This class will typically include a brief service-learning experience (Spanish majors will NOT be able to use this experience in place of the study abroad requirement). Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Typically offered: spring term, odd years.

SPAN 391 Advanced Topics in Spanish Language and Hispanic Literature and Culture. Advanced level study of topics in Spanish and Latin American culture, civilization and/or literature. Prerequisite: SPAN 211 and SPAN 212, or department consent. 3 semester credit hours. Typically offered: periodically. *Course repeatable. Maximum number of units allowed: 99.*

SPAN 395 Independent Study. Designed for the advanced student who wishes to explore an aspect of Spanish language or Hispanic literature, civilization or culture beyond the scope of the regular course offerings. 1-3 semester credit hours. *Department consent required. Course repeatable. Maximum number of units allowed: 99.*

SPAN 397 Internship. Advanced professional experience designed to enhance proficiency and cultural understanding by working in a human service agency, an educational institution, or a business agency in a country where Spanish is the primary language. Prerequisite: Approved application. 1-6 semester credit hours. *Department consent required.*

Speech

SPCH 110 Basic Speech. An introduction to public speaking, communication theory and small-group and interpersonal communication. The course includes researched extemporaneous speeches and several in-class exercises. IAI C2 900. 3 semester credit hours. Typically offered: fall and spring terms.
Please note: For the Online courses, speeches must be delivered to a live audience and recorded for submission.

Study Abroad

SAB 291 Study Abroad. Study Abroad Experience. Students must work with International Programs Office for approval. 6-18 semester credit hours. Typically offered: fall, spring and summer terms. *Department consent required. Course repeatable. Maximum number of units allowed:36.*

Theology

THEO 101 Theology of Love. Christianity teaches that God is love and this course unpacks what that statement means. We will examine the concept of "God is Love" in the systematic theology of the Trinity, the sacramental theology of the Eucharist and Marriage, and the Catholic understanding of the moral life. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective.

THEO 102 Theology of Justice. This course examines the idea of justice particularly in relation to the redeeming death of Christ and its implications for theology. It will survey the systematic theology of Christology and the Atonement; the sacramental theology of the Eucharist, Reconciliation, and Holy Orders, and the moral theology of law, social justice, and canon law. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective.

THEO 103 Theology of Freedom. This course examines the concept of freedom in human life and theology, particularly as it relates to the problem of evil, human action, and creativity. It will survey the systematic theology of Creation, Salvation History, and Eschatology, the study of the last things; the sacramental theology of Baptism, Confirmation and Reconciliation; the ecclesial theology of the laity; and the moral theology of human action and freedom of conscience. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective.

THEO 104 Faith and Science. This course examines the relationships between faith, reason, Catholic theology, and the secular understanding of science. It will survey the systematic theology of creation and the possibility of reason, the sacramental understanding of creation, the moral theology of ecology and the ecclesial theology of the autonomy of the secular disciplines. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall, spring and summer terms.

THEO 150 Introduction to the Bible I. A close reading of selections from the Christian Bible which examines historical background, literary composition, and general content of the books of the Hebrew Bible ("Old" Testament) and the New Testament. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

THEO 151 Introduction to the Bible II. Continuation of RELS 150. Prerequisite: RELS/THEO 150. 3 semester credit hours. Typically offered: periodically.

THEO 160 Jesus Christ. Studies the images of Jesus Christ in the New Testament and the development of Christological doctrine in subsequent Christian thought. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall term, even years.

THEO 165 The Church. Investigates the apostolic origin, development, and theological understanding of the Christian community up to the present. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: spring term, odd years.

THEO 170 Early Christianity. Examines the first six centuries of doctrinal developments, spiritual life and morality, relations between Christianity and other religious movements, and the church and state. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

THEO 201 Survey of the Hebrew Scriptures. Survey of the Hebrew Scriptures (Tanakh) with emphasis on historical context and relation to Catholic theology and exegesis. 3 semester credit hours.

THEO 202 New Testament. This course is an in-depth study of the New Testament, its origins, content, interpretation, and transmission to the modern world. 3 semester credit hours. *Department consent required.*

THEO 203 Sacramental Theology. Study of the history, meaning, and theological significance of the sacraments in Catholic theology. 3 semester credit hours. Religious Studies Core Elective. Typically offered: annually.

THEO 204 Catholic Spirituality. Examines the historical and contemporary contexts of Catholic spirituality. 3 semester credit hours. Religious Studies Core Elective. Typically offered: annually.

THEO 206 Christian Ethics. Course examines historical and contemporary issues through Christian ethical analysis. Writing Intensive. 3 semester credit hours. Religious Studies Core Elective. Typically offered: odd years.

THEO 207 Catholic Social Teaching. Course examines the history and contemporary application of Catholic social teaching. 3 semester credit hours.

THEO 208 Sexual Ethics. Course examines Catholic theological, social and ethical teachings on cultural. 3 semester credit hours. 3 semester credit hours. Religious Studies Core Elective. Typically offered: annually.

THEO 212 Land, Justice and Peace. This course is a review of the theological and ethical issues underpinning the situation in Palestine and Israel and the impact religion, water, and land have on the search for peace. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically. *Department consent required.*

THEO 220 Mediterranean World. Covers content of HUMN 220 with emphasis on history of the Old Testament. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall term. *Department consent required.*

THEO 225 Pilgrimage. This course will introduce students to the history, theology, and practice of pilgrimage in various religions, including Judaism, Christianity, Islam, and Hinduism. Students will not only study theological texts about pilgrimage, but they will also become familiar with some of the most famous pilgrimage destinations (Jerusalem, Mecca, Rome, Compostela, Guadalupe, Varanasi) and their associated practices. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Typically offered: annually.

THEO 230 Baptism of Europe. Same content as HUMN 230 with emphasis on the foundation of the Catholic Church and New Testament history. 3 semester credit hours. Religious Studies Core Elective. Typically offered: spring term. *Department consent required.*

THEO 235 Interreligious Dialogue. This course will introduce various theological approaches to interreligious dialogue, with a special focus on the Roman Catholic perspective. Students will not only study theological texts about interreligious dialogue written by Christians, Muslims, Jews, and Buddhists, but they will also become familiar with real-life encounters between adherents of the various world religions today. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: annually.

THEO 252 Business Ethics in the Context of Catholic Social Teaching. This course examines the standard issues of business ethics from three perspectives: the norms of Kantian Ethics, the utilitarian calculation of the good and the emphasis on the common good, solidarity and subsidiarity of Catholic Social Teaching. It will use case studies to demonstrate the strengths and weaknesses of each of the three approaches to current business problems. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Religious Studies Core Elective. Typically offered: fall, spring and summer terms.

THEO 270 Benedictine Wisdom Tradition. This course will introduce students to the most prominent theologians of the Benedictine Order (and related monastic traditions) throughout history, from St. Benedict himself to medieval mystical theologians such as Bernard of Clairvaux and Hildegard of Bingen, to modern greats such as the Trappist Thomas Merton. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Typically offered: spring term, even years. *Department consent required.*

THEO 280 The Theology of Thomas Aquinas. The Theology of Thomas Aquinas. This course explores the theology of Thomas Aquinas (emphasizing virtue ethics, christology and sacraments) through a close reading of his most important work, the Summa Theologiae. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

THEO 281 Great Women Theologians. In this course, students will study the writings of some of the most influential Catholic theologians of all time (many of whom are also doctors of the church), including Hildegard of Bingen, Catherine of Siena, Julian of Norwich, Teresa of Avila, Thérèse Lisieux and Dorothy Day. At the 300 level, the course includes a 25-page research paper. Cross-listed. Theological/Religious Mode of Inquiry (QRT). 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

THEO 287 Why Work? Seeking vocation in work. This course looks at the literature of vocation and meaningful work; of the rightful place of work in a well ordered life, and the responsibilities of work in building a world of justice and peace. Texts from various religious traditions as well as other works such as More's "Utopia," Johnson's "Rassela" and contemporary authors. Cross-listed with MGT 287. 2-3 semester credit hours. Religious Studies Core Elective. Typically offered: spring term.

THEO 301 Survey of the Hebrew Scriptures. Survey of the Hebrew Scriptures (Tanakh) with emphasis on historical context and relation to Catholic theology and exegesis. 3 semester credit hours. Typically offered: periodically.

THEO 302 New Testament. This course is an in-depth study of the New Testament, its origins, content, interpretation and transmission to the modern world. 3 semester credit hours. *Department consent required.*

THEO 303 Sacramental Theology. Study of the history, meaning and significance of the sacraments in Catholic theology. 3 semester credit hours. Religious Studies Core Elective.

THEO 304 Catholic Spirituality. Examines the historical and contemporary contexts of Catholic spirituality. 3 semester credit hours. Typically offered: annually.

THEO 306 Christian Ethics. Course examines historical and contemporary issues through Christian ethical analysis. 3 semester credit hours. Religious Studies Core Elective and Writing Intensive. Typically offered: annually.

THEO 307 Catholic Social Teaching. Course examines the history and contemporary application of Catholic social teaching. 3 semester credit hours. Typically offered: annually.

THEO 308 Sexual Ethics. Course examines Catholic theological, social and ethical teachings on cultural conceptions of sexual identities, and politics and procreation. 3 semester credit hours. Religious Studies Core Elective. Typically offered: even years.

THEO 325 Pilgrimage. This course will introduce students to the history, theology, and practice of pilgrimage in various religions, including Judaism, Christianity, Islam, and Hinduism. Students will not only study theological texts about pilgrimage, but they will also become familiar with some of the most famous pilgrimage destinations (Jerusalem, Mecca, Rome, Compostela, Guadalupe, Varanasi) and their associated practices. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Typically offered: annually.

THEO 335 Interreligious Dialogue. This course will introduce various theological approaches to interreligious dialogue, with a special focus on the Roman Catholic perspective. Students will not only study theological texts about interreligious dialogue written by Christians, Muslims, Jews, and Buddhists, but they will also become familiar with real-life encounters between adherents of the various world religions today. 3 semester credit hours. Typically offered: spring term. *Department consent required.*

THEO 370 Benedictine Wisdom Tradition. This course will introduce students to the most prominent theologians of the Benedictine Order (and related monastic traditions) throughout history, from St. Benedict himself to medieval mystical theologians such as Bernard of Clairvaux and Hildegard of Bingen, to modern greats such as the Trappist Thomas Merton. Mode of Inquiry Religious Theological QRT. 3 semester credit hours. Typically offered: spring term, even years. *Department consent required.*

THEO 380 The Theology of Thomas Aquinas. The Theology of Thomas Aquinas. This course explores the theology of Thomas Aquinas (emphasizing virtue ethics, christology, and sacraments) through a close reading of his most important work, the Summa Theologiae. 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

THEO 381 Great Women Theologians. In this course, students will study the writings of some of the most influential Catholic theologians of all time (many of whom are also doctors of the church), including Hildegard of Bingen, Catherine of Siena, Julian of Norwich, Teresa of Avila, Thérèse Lisieux and Dorothy Day. At the 300 level, the course includes a 25-page research paper. Cross-listed. Theological/Religious Mode of Inquiry (QRT). 3 semester credit hours. Religious Studies Core Elective. Typically offered: periodically.

THEO 391 Advanced Topics:. Advanced topics in Theology. 3 semester credit hours. *Course repeatable. Maximum number of units allowed:3.*

THEO 399 Senior Seminar. Senior seminar which directs the research of the students to a topic relating theology and the secular discipline of their choice. The capstone project is a 20,000 word thesis. 3 semester credit hours. Writing Intensive Course. Typically offered: spring term. *Department consent required.*

Writing Program

WRIT 101 Person in Community: Writing Colloquium. A first-year writing-intensive skills course whose content focuses on Benedictine University and its mission of higher learning grounded in the liberal arts and guided by its Benedictine Heritage and Catholic tradition. Students will be introduced to the theme of "Person in Community," which unites the Cultural Heritage sequence of courses. Readings will encourage students to understand, discuss, and write about issues of contemporary relevance. Emphasis on writing and revising argumentative essays, grammar review, basic library research skills, and textual analysis. Grade of "C" or better. IAI CI900. 3 semester credit hours. Typically offered: fall and spring terms.

WRIT 102 Research Writing. A course that introduces students to writing in the disciplines of literature, social science, or biological science. Students study types of writing in the discipline, use advanced library research techniques, write brief literature reviews, and develop and write significant research papers. Grade of "C" or better. IAI CI901. 3 semester credit hours.

WRIT 104 Person in Community. A first-year course whose content focuses on Benedictine University and its mission of higher learning grounded in the liberal arts and guided by its Benedictine Heritage and Catholic tradition. Students will be introduced to the theme of "Person in Community", which unites the Cultural Heritage sequence of courses. Readings will encourage students to understand, discuss, and write about issues of contemporary relevance. For all freshmen with a 3 or better on the AP test in English Lit/Comp or English Lang/Comp. 1 semester credit hour. *Department consent required.*