

Course Listings

Courses in Accounting

ACC 2013 (ACCT2003). Principles of Accounting A. Fundamental principles of accounting for sole proprietorships and corporations including preparation of basic financial statements. Prerequisite: Computer proficiency is desirable.

ACC 2023 (ACCT2013). Principles of Accounting B. Fundamental principles of accounting for industrial enterprises along with an introduction to the use of accounting information in the decision-making process. Prerequisite: ACC 2013.

ACC 3043. Cost Accounting. Accounting techniques of decision making and control applied to the industrial enterprise. Emphasis is on costing manufacturing products and services, cost concepts, costing systems, historical and standard cost, accumulation and distribution of overhead cost. Prerequisite: ACC 2023.

ACC 3253. Accounting Information Systems. A study of accounting systems design integrated into both manual and electronic data processing systems. Emphasis on system design concepts, internal control structures, and transaction processing systems. Prerequisite: ACC 2023.

ACC 3273. Survey of Accounting. Fundamentals of financial and managerial accounting, including preparation of basic financial statements and use of accounting information in the decision-making process. This course does not fulfill any Business program undergraduate degree requirements.

Courses in Anthropology

ANT 2013 (ANTH2013). Introduction to Cultural Anthropology. A survey of traditional, non-European cultures around the world in the present and recent past. Using anthropological theories and methods, the course examines similarities and differences between cultures in the way people solve common human problems. Select societies will be examined in detail. Every other Spring.

ANT 2023 (ANTH1013). Introduction to Physical Anthropology and Archeology. Prehistoric human cultural development is examined through evidence from fossils, tools and archeological sites. Related data from primate studies, genetics and cultural anthropology are used to examine current theories of human biological and cultural origins and development. Methods and techniques of physical anthropology and archeology are reviewed. Every other Spring.

ANT 3043. North American Indians. Survey of American Indian cultures north of Mexico, including an examination of their origins, prehistory and archeology, and cultural diversity. A selection of Indian cultures in each of the geographic subdivisions of North America will be examined in detail, including Indians of Arkansas. Similarities and differences among Indian

groups in respect to ecology, as well as social, political and religious cultural subsystems will be explored. Meets the non-Western Cultural requirement. Spring.

ANT 4053, 5053. World Cultures. A worldwide survey of traditional non-Western cultures, from small-scale foragers and farmers to socially complex Non-Europeans of the recent past and present. We will look comparatively at ways that different people solve universal human problems, examine closely a sample of cultures to consider the interconnections among social, ideological and material aspects of life and consider relationships between Western and non-Western cultures on issues of worldwide concern like ecological change, warfare, and industrialization. Meets the non-Western Cultural requirement. Fall, Spring.

ANT 3096. Archeological Field School. This course is an intensive practicum in archeological field research methods. Students learn techniques of site survey, excavation, recording, and artifact identification through participation in an archeological dig. Summer.

ANT 4083, 5083. Readings and Research in Anthropology. Designed for individuals at the senior level to conduct independent reading and research into selected topics of problem areas in any of the subfields of anthropology. On demand.

ANT 4203 Special Topics. This elective is designed for faculty to teach special courses in their area of expertise. The topic will vary each time the course is taught. On demand.

Courses in Art

ART 2033. Humanities: Art. An Art Appreciation course including slides and lecture.

ART 4203 Special Topics in Art History. This intermediate-level elective course is designed for the focused exploration of a selected art historical topic which is not regularly offered in the program of Art's curriculum. The emphasis may be a particular art historical period, genre, theme, region, artist, or group of artists, up to the instructor's discretion. Course content varies, so this course may be repeated once for credit (up to 6 credit hours).

Courses in Aviation

AVN 1013. Fundamentals of Aeronautics I. This course serves as a foundation of things to come in the aviation field. The course will involve an overview of the aviation field, an introduction to flight maneuvers, human factors, the aeronautical decision-making process, small airplane systems, power plant operation, basic aerodynamics, safety considerations, airport operations, printed weather reports, performance charts, weight and balance, and technical subject and federal regulations areas appropriate to the student pilot.

AVN 1021. Introduction to Aeronautics Lab. Flight instruction to prepare the student pilot for the first supervised solo flight. Includes preflighting the aircraft, taxiing, take-off and landings, and basic flight maneuvers. Emphasis on safety and good decision-making. Corequisite: AVN 1013.

AVN 1403. Fundamentals of Aeronautics II. This course is an extension of Fundamentals of Aeronautics I. The course will involve aeronautical charts, airspace, radio procedures, radar and ATC services, sources of flight information, weather hazards, graphic weather products, navigation, aviation physiology, aerodynamic principles, PTS usage, and technical subject areas and federal regulations appropriate to the private pilot. Prerequisite: AVN 1013.

AVN 1161. Private Pilot Certification. Ground school instruction in preparation for the FAA Private Pilot written examination. Prerequisites: AVN 1013, AVN 1021.

AVN 1171. Private Pilot Lab. Flight instruction necessary to complete requirements for the FAA Private Pilot Certificate. Prerequisites: AVN 1013 and AVN 1021. Corequisites: AVN 1403, AVN 1161.

AVN 2031. Commercial Pilot Certification. Ground instruction in preparation for the FAA Commercial Pilot written examination and Commercial Pilot certification; instruction emphasizes advanced aerodynamics, aircraft performance, precision maneuvers, extended cross country and night flight, relevant FAA regulations, introduction to advanced systems and transition to more sophisticated aircraft. Prerequisite: AVN 1171.

AVN 2051. Commercial/Instrument Lab I. Flight Instruction necessary to complete Stage 1 of the Commercial Pilot Course. Students will learn Commercial flight maneuvers needed for the Commercial Pilot Certificate. Prerequisite: AVN 1171.

AVN 2213. Aviation Safety. Psychological, physical, and operational aspects of flight and aviation ground safety. Elements of accident investigation and prevention. Studies will be made of actual aircraft accidents to determine causal factors, with special attention to weather factors. Possible preventive measures will be proposed. Investigation of crashworthiness, crash survivability, and after crash survival factors. Prerequisites: AVN 1013, AVN 1403.

AVN 2393. Aviation Weather. Addresses elementary concepts and vocabulary necessary to understand aviation applications. The course covers a wide variety of atmospheric circulation systems and associated flight hazards. The aviation weather course introduces the student to the forecasting process, aviation products and an overview of weather information sources, allowing the student to interpret the information obtained in briefings, printed reports, and graphic weather products to enhance flight safety. Prerequisites: AVN 1013, AVN 1403.

AVN 2413. Regulations and Publications. This course will involve an in depth look at the Federal Aviation Regulations, Airman's Information Manual, Practical Test Standards, Advisory Circulars, other FAA publications, and the Pilot's Operating Handbook. Prerequisites: AVN 1013, AVN 1403.

AVN 2491. Commercial/Instrument Lab II. Flight Instruction necessary to complete Stage 2 of the Commercial Pilot Course. Students will complete cross-country flight training needed for the Commercial Certificate. Prerequisite: AVN 2051.

AVN 3071. Instrument Pilot Certification. Preparation for FAA Instrument Pilot written examination. Course completion requires passing the FAA Instrument written exam. Corequisite: AVN 3501.

AVN 3143. Fundamentals of Small Unmanned Aerial Systems. This course provides the technical subject areas and federal regulations appropriate to become a commercial Remote Pilot – Small Unmanned Aircraft Systems operator. Included in this course is preparation for the FAA Remote Pilot – Small Unmanned Aircraft Systems knowledge examination. Students will test for the FAA Remote Pilot – Small Unmanned Aircraft Systems certificate at the end of the course.

AVN 3151. Small Unmanned Aerial Systems Lab. Instruction to fly and control the Small Unmanned Aircraft Systems platform. Prerequisite or Corequisite: AVN3143 Fundamentals of Small Unmanned Aerial Systems.

AVN 3233. Aircraft Systems Theory. This study of aircraft structures and systems gives the professional pilot the theoretical knowledge needed to safely and efficiently operate modern aircraft systems. In depth discussion of electrical, mechanical, and hydraulic systems, design and performance standards, capabilities and limitations, and conformance to FAA specifications. Prerequisites: AVN 2031.

AVN 3243. Aircraft Powerplant Theory. A study of aircraft powerplants, including piston engines and associated systems, turboprops, and fan- and turbojets. The course is designed to give the professional flight crew an in-depth knowledge of the aircraft "forward of the firewall." Prerequisites: AVN 2031.

AVN 3263. Air Traffic Control. Provides in-depth knowledge of air traffic control procedures, navigation aids, the role of centers, approach control, towers and flight service stations, airport traffic area operations, radar and non-radar procedures, and facility management. Prerequisites: AVN 2491 or approval of instructor.

AVN 3303. Avionics Systems Theory. This course gives the theoretical knowledge of aircraft control, navigation, communications, and autopilot systems that flight crews need to safely and efficiently operate those systems. Some attention will be given to actual in-flight operation of these systems. Prerequisites: AVN 3233, 3071.

AVN 3383. Commercial Preparation and Procedures I. In depth preparation for both the Commercial Certificate and the Instrument Rating. Theoretical and practical aspects of instrument flying will be introduced. Prerequisite: AVN 1171. Prerequisite or Corequisite: AVN 2393.

AVN 3433. Commercial Preparations and Procedures II. A commercial pilot certificate is the essence of being a professional in the field of aviation. This course will prepare you for the professional pilot realm in the following ways: an overview of flight maneuvers, technical subject areas necessary to complete the requirements of a Commercial Pilot Certificate, Crew Resource Management, and interview preparation. Prerequisite: AVN 3383.

AVN 3501. Commercial/Instrument Lab III. Flight Instruction necessary to complete Stages 1 and 2 of the Instrument Rating Course. Students will learn to develop an instrument scan for both full and partial panel flight. Students will also learn elements related to the departure, enroute, and arrival phases of flight under Instrument Flight Rules (IFR). Prerequisite: AVN 2491; Corequisites: AVN 3071, AVN 3383.

AVN 3511. Commercial/Instrument Lab IV. Flight Instruction necessary to complete Stage 3 of the Instrument Rating Course and Stages 3 and 4 of the Commercial Pilot Course. Students will complete cross-countries under Instrument Flight Rules (IFR) and complete requirements necessary for the Instrument Rating. Students will also complete a Complex Aircraft Transition in a Technically Advanced Aircraft (TAA). Prerequisite: AVN 3501.

AVN4041-3. Special Studies in Aviation. Variable content course, covering current and advanced topics in aviation. Credit will vary from one to three hours. May be repeated with a change in content.

AVN 4101. Flight Instructor Lab. Flight instruction necessary to complete requirements for the FAA Certified Flight Instructor certificate. Corequisites: AVN 4341, AVN 4333.

AVN 4121. Instrument Instructor Lab. Flight instruction necessary to complete requirements for the FAA Certified Flight Instructor - Instrument certificate. Corequisites: AVN 4351, AVN 4373

AVN 4131. Multiengine Operations. Ground instruction in preparation for the FAA Multiengine rating. Course content includes transition to multiengine aircraft, multiengine aircraft systems and operations, and emergency procedures. Prerequisite: FAA Commercial Pilot Certificate.

AVN 4181. Multiengine Instructor Practicum. Principles and methodology of teaching multiengine flight. Prerequisites: AVN 4131, AVN 4421 and FAA Flight Instructor Certificate.

AVN 4223. Advanced Aerodynamics and Performance. Aerodynamics for flight crews, including theories of lift generation, stability, laminar and non-laminar flow, control, and lift and drag producing devices. Aircraft performance will be studied, with particular attention to safe aircraft operation. Weight and balance will be studied for its effect on performance and control. Prerequisites: AVN 1171, 2031; PHY 2034, 2044; MTH 1243 or MTH 1273.

AVN 4253. (WI) Aviation Legislation. Discussion of federal, state and local aviation regulations, and the legislation underlying them. Structure of the Federal Aviation Administration and discussion of the influence of the Civil Aeronautics Administration and the Federal Aviation Agency on present regulatory bodies. Legal concepts concerning aviation as related to operation, contracts, insurance and liability, regulatory statutes, and case law.

AVN 4283. Airport Management. Management techniques and administrative functions as applied to airports; includes problems, current issues and future trends related to airport operations, planning, and economic and resource considerations.

AVN 4293. Air Transportation. A survey of the historical development of the air transportation system covering facilities, impact of regulations, problems encountered in commercial air transportation, future requirements, airline operations, economics and social implications.

AVN 4323. Independent Study. Selected topics of current interest in the field of aviation. Strong emphasis on a mature approach to research and writing. May be repeated for a maximum of six hours credit with a change of topic. Prerequisite: senior standing or consent of the instructor.

AVN 4333. Flight Instructor Practicum. Methodology and instructional procedures necessary for effective instruction of private and commercial students. Emphasis on preparation and oral presentation of ground and flight lessons; practice in teaching and briefing techniques. Prerequisite: AVN 3511. Corequisites: AVN 4101, AVN 4341.

AVN 4341. Flight Instructor Certification. Ground instruction preparing the student for the flight instructor oral and written examinations. Corequisites: AVN 4333, AVN 4101.

AVN 4351. Instrument Flight Instructor Certification. Ground instruction preparing the student for the instrument flight instructor oral and written examinations. Corequisites: AVN 4121, AVN 4373. Prerequisite: AVN 4521.

AVN 4373. Instrument Flight Instructor Practicum. Methodology and instructional procedures necessary for effective instruction of instrument students. Emphasis on preparation and oral presentation of ground and flight lessons; practice in teaching and briefing techniques. Prerequisite: AVN 4333. Corequisites: AVN 4121, AVN 4351.

AVN 4421. Multiengine Pilot Lab. Flight instruction necessary to complete requirements for the Multiengine rating. Prerequisite: AVN 4521. Corequisite: AVN 4131.

AVN 4441. Multiengine Instructor Lab. Flight instruction necessary for the FAA Multiengine Instructor rating.

AVN 4453. Aviation Operations Internship I. Prearranged, supervised work experience in aviation flight or ground operations. Course requires completion of a minimum of 120 hours of practical work in an approved business organization, a report from that business organization confirming that the assigned work was satisfactory, and the submission of a paper detailing the work performed and an analysis of the work experience. If the internship is performed at Arkadelphia Airport, the work experience will include line operations, aircraft cleaning, aircraft refueling, aircraft marshaling, aircraft parking, etc.

AVN 4463. Aviation Operations Internship II. Prearranged, supervised work experience in aviation flight or ground operations. Course requires completion of a minimum of 120 hours of practical work in an approved business organization, a report from that business organization confirming that the assigned work was satisfactory, and the submission of a paper detailing the work performed and an analysis of the work experience. If the internship is performed at Arkadelphia Airport, the work experience will include aviation business operations, customer service, filing, scheduling, etc.

AVN 4473. Air Transport Pilot Certification. Ground instruction in preparation for the FAA ATP written examination; instruction emphasizes advanced aerodynamics, aircraft performance, precision maneuvers, extended cross country and night flight, relevant FAA regulations, introduction to advanced systems and transition to more sophisticated aircraft.

AVN 4483. Advanced Technology and Automation. A realistic, scenario-based study of advanced aircraft automation. The course will introduce and allow students to have realistic interaction with advanced equipment seen in business and regional jets. It will also introduce pilot interaction and aircrew considerations when operating with advanced technology. The course will further strengthen instrument knowledge and further demonstrate common operations within the National Airspace System. Prerequisite: AVN 3501.

AVN 4521. Commercial/Instrument Lab V. Flight Instruction necessary to complete Stages 5 and 6 of the Commercial Pilot Course. Students will complete cross-countries under Instrument Flight Rules (IFR) and will be introduced to Crew Resource Management (CRM). Students will also complete requirements necessary for the Commercial Pilot Certificate. Prerequisite: AVN 3511 (Commercial Lab IV).

AVN 4531. Aviation Mentorship. This course provides an arranged pairing of students with professionals in the aviation industry that have agreed to serve as mentors. The mentor will provide insight to the practical application of the knowledge and skills the student has developed through their previous courses; provide students perspectives on what the aviation industry expects of them as new graduates; offer suggestions on improving personal and professional skills; provide insight on successful ways to enter and function in the aviation industry. This course may be repeated once to provide additional viewpoints from differing industry perspectives and requirements, i.e. comparing the airline environment to the corporate

environment. Prerequisites: Completion of an application and consent of the faculty director of the Aviation Mentorship Program.

AVN 5041-3. Special Studies in Aviation. Variable content course, covering current and advanced topics in aviation. Credit will vary from one to three hours. May be repeated with a change in content.

AVN 6203. Aviation and Aerospace Law. The study of aviation administrative law, aviation liability and insurance, the legal aspects of airports and airspace, and aviation labor/employment law.

AVN 6193. Airport Operations and Administration. The study of airport planning, FAA's National Plan of Integrated Airport Systems (NPIAS), airport organization and administration, airport operations and administration under FAR Part 139, and landside/airside access and security.

Courses in Biology

BIO 1013 (BIOL1004) Introduction to Biology for Non-science Majors: A study of basic biological concepts and principles. A general education course designed for non-science majors. The program recommends that students avoid taking this class during their freshman year. Three (3) hours lecture per week.

BIO 1021 (BIOL1004) Introduction to Biology Laboratory: Experiments are performed to demonstrate the principles covered in BIO 1013 and BIO 1023. Two hours laboratory per week. Prerequisite or corequisite: BIO 1013 or BIO 1023.

BIO 1023 General Biology for Science Majors: An in-depth investigation into the principles and concepts pertinent to a fundamental understanding of biological sciences. This course is designed specifically for science majors. Course emphasis will be placed on molecular and cell biology, physiology, genetics, organismal biology, diversity, and classification, ecology, and evolution. Three (3) hours lecture per week.

BIO 2094 (BIOL2004) Microbiology: A comprehensive study of microorganisms with emphasis on conceptual and applied microbiology. Three (3) hours lecture and (3) three hours laboratory per week. Prerequisites: 4 hours of biology and 4 hours of chemistry.

BIO 2104. (BIOL1034) General Botany: The study of biological principles and concepts applied to plants. Three (3) hours of lecture and three (3) hours of laboratory per week.

BIO 2114 (BIOL1054) General Zoology: The study of animal relationships, with emphasis on principles, anatomy and ecology. Three (3) hours lecture and three (3) hours laboratory per week.

BIO 2174 Human Anatomy and Physiology I, (non-majors): A study of the structures and functions of human body systems. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisite: BIO 2114 or BIO 1013 and BIO 1021.

BIO 2184 Human Anatomy and Physiology II, (non-majors): A continuation of BIO 2174. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisite: BIO 2114 or BIO 1013 and BIO 1021, BIO 2174 recommended.

BIO 3054 (WI) Genetics: A study of transmission genetics followed by molecular genetics. Three (3) hours lecture and (3) three hours laboratory per week. Prerequisite: BIO 2104 or 2114.

BIO 3084 Comparative Anatomy and Evolution of Vertebrates: Traces the evolutionary history of vertebrate animals through a comparative analysis of chordate anatomy with emphasis on the ten organ systems. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisite: BIO 2114.

BIO 3244 (WI) Comparative Morphology and Evolution of Plants: Traces the evolutionary history of the plant kingdom through a comparative study of the structure and life cycles of representatives of the major groups of plants. Three (3) hours lecture and (3) three hours laboratory per week. Prerequisite: BIO 2104.

BIO 3304 (WI) Plant Physiology: A study of plant processes including photosynthesis, carbohydrate metabolism, translocation, mineral nutrition, plant growth hormones, water relationships, and growth and development. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisites: BIO 2104; CHM 1014 and 1024.

BIO 3314 Animal Physiology: A study of the functions of animal systems with emphasis on the human. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisites: BIO 2114 and BIO 3544 or BIO 3084; CHM 1014, 1024.

BIO 3423 Teaching Methods in Biological Sciences: Prepares pre-service students of the teacher licensure track in biological sciences for internship. Students integrate knowledge from prerequisite courses to meet current state science standards for High School Biology–Integrated. Teacher candidates will explore instructional approaches, planning and assessment strategies, curriculum, field experiences, laboratory experiences, and laboratory materials. Pre-requisites: successful completion of two of the three upper-division core courses (BIO 3054 Genetics, BIO 3524 General Ecology, BIO 4214 Cell Biology) with a grade of “C” or better. Three (3) hours lecture per week.

BIO 3524 (WI) General Ecology: A study of principles of ecosystem structure and dynamics including energy flow, biogeochemical cycling, community composition and succession, and the distribution and abundance of populations. Includes laboratory and field experiences with ecological problems. Two Saturday field trips required. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisites: BIO 2104 and 2114.

BIO 3544 Human Anatomy and Physiology I (Majors): A study of the structures and functions of human body systems. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisite: BIO 2114.

BIO 3554 Human Anatomy and Physiology II (Majors): A continuation of BIO 3544. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisite: BIO 2114, BIO 3544 recommended.

BIO 4214 (WI) Cell Biology: The molecular biology of the cell with emphasis on structure-function relationships. Three (3) hours lecture and three (3) hours laboratory per week. Prerequisites: BIO 2104, 2114 and CHM 1014, 1024, or consent of the instructor.

BIO 4251 Biological Laboratory Techniques: *For majors only.* Experience is given in planning and assisting in laboratory courses. Prerequisite: Consent of program. May be repeated once.

BIO 4331-3 Independent Study: Study under the direct supervision of a faculty member. May be repeated. Requires chair's approval.

BIO 4371-3 Independent Research: Study of a contemporary biological problem under the direct supervision of a faculty member. A written scientific paper is required. Prerequisites: Twenty hours of biology and consent of the instructor. May not substitute for any core requirement. May be repeated once.

BIO 4451-3 Directed Internship Experience: Internship experience pertaining to a contemporary biology or biology related area under the direct guidance and supervision of a qualified agency or institution, and in cooperation with the HSU Biological Sciences program. A formal presentation and/or written scientific paper is required over the topic and outcome(s) of the internship. Prerequisites: Twenty hours of biology and program approval or consent of the program advisor. Grade awarded will be CR/NCR. May not substitute for any core requirement. May be repeated once (course cannot be repeated for identical internship experiences).

Courses in Business and Technology Education

BTE 2133. Word Processing I. A hands-on course designed to provide the student with a wide variety of word processing skills that may be used for personal or professional use. Business and Technology Education majors are required to develop a speed of at least 45 words a minute on five-minute timings with no more than five errors. Spring and Fall.
Prerequisite: Keyboarding proficiency strongly recommended.

BTE 3143. Word Processing II. A course to develop in-depth knowledge and applications proficiency in word processing with special emphasis on advanced features. A diagnostic exam to determine keyboarding proficiency will be given at the beginning. Independent proficiency materials will be covered if needed. An exit advanced keyboarding proficiency exam will be given. Business and Technology Education majors are required to develop a speed of at least 60 words a minute on five-minute timings with no more than five errors. Non-Business and Technology Education majors are required to develop a speed of at least 50 words a minute on five-minute timings with no more than five errors. Spring only.
Prerequisite: BTE 2133.

BTE 4063, 5063. Business and Technology Applications. The course will involve an investigation of materials, methods, and techniques used in teaching business and educational technology applications. Emphases will be on proficiency in the use of applications and the integration of applications. This course requires access to a computer with Internet access due to partial online requirements and coursework. Fall only.
Prerequisites: Keyboarding, hardware and software proficiency strongly recommended.

BTE 4153, 5153. (WI) Current Trends and Problems in Business and Technology Education. A course for the study of current issues, program development, curriculum design, etc. in business and technology education. This course requires access to a computer with Internet access due to partial online requirements and coursework. Fall only.
Prerequisites: ENG 3313 University Writing, advanced Business and Technology Education status, and permission of instructor.

BTE 4163. Desktop Publishing. A basic course in designing materials for publication including selecting and creating graphics and designing and laying out the page. The use of paper, color, and type to maximize eye appeal and readability for the user will be emphasized. The course consists of theory and practical application. Spring only.
Prerequisite: Keyboarding proficiency strongly recommended.

BTE 4991-3, 5991-3. (WI) Business and Technology Education Workshop. Workshops which focus on a current topic or trend in secondary business and technology education and will include teaching methodology. This course requires access to a computer with Internet access due to partial online requirements and course work. Spring only. *Prerequisites :* Advanced Business and Technology Education status and permission of instructor.

Courses in Chemistry

CHM 1004 (CHEM1004). Introduction to Chemistry. A general education course for non-science majors. Examines the impact of chemistry on our individual wellbeing, our environment, and the world around us. Serves as an introduction to scientific methods, use of units and measurements and current topics in chemistry. Includes a two hour laboratory in which experiments are performed to demonstrate the principles covered in class. Three (3) hours lecture and two (2) hours of laboratory each week. May not be taken for credit if a more advanced chemistry course has been completed. Will not count toward major, minor, or teacher certification.

CHM 1014 (CHEM1414) University Chemistry I. A course in the principles of chemistry designed for majors in science, and those interested in engineering, medicine, dentistry, optometry, veterinary, medical technology, and pharmacy. Topics covered are atomic theory, chemical reactions, stoichiometry, thermochemistry, periodic properties, bonding, and chemical structure. Three (3) hours lecture, three (3) hours laboratory. Prerequisite: College Algebra or higher math or Math ACT score 22 or above).

CHM 1024 (CHEM1424). University Chemistry II. A course in the principles of chemistry designed for majors in science, and those interested in engineering, medicine, dentistry, optometry, veterinary, medical technology, and pharmacy. Topics include intermolecular forces,

solutions and solution properties, equilibria, acid-bases, kinetics, thermodynamics, and electrochemistry. Three (3) hours lecture, three (3) hours laboratory. Students must make a grade of "C" or better in CHM 1014 in order to enroll in CHM 1024.

CHM 1034 (CHEM1214). General Chemistry Non-Majors. An introductory course in inorganic chemistry. Class emphasis is directed toward the needs of students in nursing, family and consumer sciences, and others not majoring in science. Three (3) hours lecture and two (2) hours laboratory. Prerequisite: Completion of math remediation.

CHM 1044 (CHEM1224). General Organic and Biochemistry. An introductory course in organic and biochemistry designed to follow CHM 1034. Does not count toward a major in chemistry nor as a prerequisite for CHM 3063 or 4283. Three (3) hours lecture and two (2) hours laboratory. Prerequisite: CHM 1034 with a grade of "C" or better.

CHM 2084. Quantitative Analysis. The basic methodologies of quantitative analysis with emphasis on chemical equilibrium, the theories of volumetric and gravimetric analysis, and electrochemistry. Some basic instrumentation is covered in the laboratory. Two (2) hours lecture and six (6) hours laboratory. Prerequisite: CHM 1024.

CHM 3051. Organic Chemistry Laboratory I. This course will introduce students to the laboratory techniques normally associated with isolation, purification and analysis of organic compounds. Spectroscopic techniques are introduced and incorporated into the course. Experiments are designed to reinforce the concepts presented in the lecture course. Three (3) laboratory hours. Co-requisite: CHM 3063.

CHM 3063. Organic Chemistry I. A study of the chemistry of carbon-based compounds. Topics covered include bonding, 3-D molecular structure, and mechanisms of functional group reactions. Hydrocarbons, organic halides, alcohols, and ethers are studied. Three (3) hours lecture. Prerequisite: CHM 1024.

CHM 3073. Organic Chemistry II. A study of reactions of functional groups including an in-depth study of carbonyl compounds, and of benzene and related aromatic molecules. Synthetic routes to molecules of biological or pharmaceutical interest will be covered. Three (3) hours lecture. Prerequisite: CHM 3063.

CHM 3131. Organic Chemistry Laboratory II. This course will build on expertise gained in CHM 3051. Additional spectroscopic techniques are introduced. Laboratory experiments emphasize new carbon-carbon bond formation, with an application towards the total synthesis of various molecules. Experiments are designed to reinforce the concepts presented in the lecture course. Three (3) laboratory hours. Co-requisite: CHM 3073.

CHM 3413. (WI) Introduction to Research. A study of the reference materials available to the chemist and instruction in the use of these sources, and the written and oral presentation of topics searched. Ethical presentation of research and online search techniques are included. Three (3) hours lecture. Prerequisite: CHM 3073.

CHM 4181-3. (WI) Independent Research. An investigation in the laboratory and literature of a chemical problem under the supervision of a faculty member. Students must consult with the

intended faculty mentor before registering for the course. Credit will vary from one to three hours. May be repeated. Prerequisite: consent of instructor.

CHM 4283. Biochemistry I. A survey of the fundamentals of biochemistry including proteins, nucleic acids, lipids, and carbohydrates. Also discussed are the chemical kinetics of enzymes and metabolism. Modern biochemical techniques will also be emphasized. Three (3) hours lecture. Prerequisite: CHM 3073.

CHM 4301. Techniques in Laboratory Management. Experience is given in planning and conducting laboratory courses. Prerequisite: Consent of program director or faculty mentor. May be repeated once.

CHM 4351-3. Special Topics in Chemistry. This senior level elective is designed for the program to offer courses relevant to an instructor's area of expertise, to offer courses of particular interest to current students, or to address contemporary topics in chemistry not adequately covered elsewhere. May be repeated for up to six hours total, provided topics are different. Course title to appear on transcript. One to three (1 to 3) hour lecture. Prerequisite: Upper-class standing and consent of the instructor.

CHM 4381. Biochemistry Lab. Course covering the fundamental techniques used in the biochemistry laboratory. Separation techniques for proteins, nucleic acids, lipids, and carbohydrates as well as enzyme kinetics and other advanced methods will be examined. Three (3) hours of laboratory. Prerequisite: CHM 3073. Prerequisite or Corequisite: CHM 4283.

Courses in Communications

COM 2013. Oral Communication. A course designed to guide the student in examining and understanding the communication process. Experience is provided in improvements of interpersonal communication, group discussion, and public communication.

COM 2423. Humanities: Film. The origin and development of film from the late 19th century to present. Emphasis on film as a distinctive art form.

COM 2513. Leadership and Group Communication. Integration of theory and practice of teamwork, group problem-solving and decision-making, active listening and group leadership.

COM 3273. Organizational Communication. Traditional and modern concepts of communication behavior in organizations. Process of communication and interaction in today's organizational climates. Small group decision-making, directions in leadership, human resources development, and motivation. Implementing organizational communication change.

COM 3633. Intercultural Communication. Students will study different communication styles of various cultures and learn how these styles influence interpersonal, business, and social interactions. The impact of beliefs, values, and attitudes upon communication within various cultures will also be studied.

COM 3813. Business and Professional Communication. A communication course to prepare individuals in business, industry and the professions for the diverse and rapidly changing workplace of the 21st Century. Teams will plan and execute communication tasks utilizing desktop publishing, Web publishing and multimedia presentations. Students will work individually on honing job seeking and securing skills – career research, resume writing and interviewing.

Courses in Computer Science

CSC 1104. Foundations of Computer Science I. A study of programming, concepts and techniques. Topics included are: binary representation of numbers and characters, data types of constants and variables, arithmetic expressions and the hierarchy of arithmetic operations, assignment statements, logical expressions, branching, loops, arrays, sub-programs, input/output, linear and binary searches, and basic sorts. Programming style is introduced through pseudocode. Meets for three-hours lecture and two-hours laboratory each week. Prerequisite: MTH 0013 – Intermediate Algebra, with a grade of C or better; or required math test score. An ACT math score of 21 or above is recommended.

CSC 1114. Foundations of Computer Science II. A continuation of Foundations of Computer Science I. Good programming style is stressed. Topics included are: documentation of programs, stepwise refinement, structuring programs, top-down design of programs, internal sorts, and linear data structures. Meets for three hours lecture and two -hours laboratory each week. Prerequisite: CSC 1104 – Foundations of Computer Science I.

CSC 2003 (CPSI1003). Introduction to Computers. A computer literacy course introducing the novice to the use of the computer. Topics included are: problems having practical computer solutions, available software, computer terminology. Examples from business, education, political science and the social sciences are included. This does not count toward a computer science major or minor.

CSC 2013. Windows Security Fundamentals. This course looks at the strategies and techniques an individual can use to protect a Windows based system from external attack. Topics include: access controls, encryption, malware, group policy, backup and recovery, network security, and application security.

CSC 2163. Computer Applications. A theoretical and practical study of current computer application software. Applications covered will vary by semester. May be repeated with change in content. This does not count toward a computer science major or minor.

CSC 2173. Assembler Language. A study of the basic concepts of computer systems and an introduction to an assembler language. Topics included are: computer structure and machine language, assembler language, addressing techniques, macros, and I/O routines. Prerequisite: CSC 1104 – Foundations of Computer Science I.

CSC 2203. Data Structures. The objective of this course is to apply analysis and design techniques to non numeric algorithms that act on data structures. Topics will include linked lists,

queues, stacks, trees, AVL trees, and string handling algorithms. Prerequisite: CSC 1114 – Foundations of Computer Science II.

CSC 2611/6. Internship in Computer Science. The professional internship is intended to provide a learning opportunity for beginning students to: 1) apply knowledge and skills acquired in the classroom in a professional context; 2) understand which skills are transferable to new contexts; 3) identify and understand the practices and protocols of the industry in which they are working; and 4) refine and reassess their own career goals as a result of the experience. Current employment may not be used for credit in this course. This is a credit/no credit course and may be repeated for a maximum of 6 credit hours. Prerequisite: Consent of program.

CSC 3133. Introduction to Database Theory. An introduction to database management systems. Topics covered include: structures, indexing, E-R model, relational model, relational algebra and calculus, query languages, SQL, constraints and normalizations, transaction management, integrity and security issues. Prerequisite: CSC 2203 – Data Structures.

CSC 3144. Digital Electronics. Topics covered include binary and hex arithmetic, boolean algebra, logic gates, transistors and diodes, logic families, flip-flops, counters, power supplies, comparators, A-D, D-A converters, digital instruments. Meets for three lecture periods and a two-hour laboratory period each week. Prerequisite: PHY 2234 – University Physics I and PHY 2244 – University Physics II.

CSC 3153. Introduction to Compiler Theory. An introduction to the formal study of languages and compiler construction: Topics included are: programming language basics, finite automata and lexical analysis, grammars, top -down and bottom up parsers, syntax-directed translation, code generation, and code optimization. Prerequisite: CSC 2173 – Assembler Language and CSC 3433 – Computational Complexity.

CSC 3193. Operating Systems. A study of the principles of operating systems and the interrelationships between operating systems and computer architecture. Topics included are: system structure, memory management, process management, and recovery procedures. Prerequisite: CSC 3443 – Computer Organization.

CSC 3223. Algorithm Analysis. An introduction to the analysis and design of algorithms, and to techniques for measuring their complexity. Prerequisites: CSC 2203 – Data Structures and MTH 1295 – Calculus I or consent of program.

CSC 3433. Computational Complexity. A study of basic theoretical computer science concepts. Topics will include formal language theory and results, non-determinism, grammars, Turing machines, halting problem, and decidability among others. Prerequisite: CSC 3223 – Algorithm Analysis.

CSC 3443. Computer Organization. An introductory course in computer organization and architecture. Topics included are: machine level representation of data, memory system organization and architecture, I/O fundamentals, buses, pipelining, multiprocessing, and system performance enhancements. Prerequisite: CSC 2173 – Assembler Language.

CSC 3453. Programming Languages. Comparison of the organization and structure of procedural, object-oriented, functional, declarative, and scripting languages. Additional topics will include language translation, abstraction mechanisms, language design and semantics. Prerequisite: CSC 2203 – Data Structures.

CSC 3463. Software Engineering. A study of the methods used in the design, development, implementation, testing and maintenance of software systems. Students will utilize the team approach in the development and management of software projects and will make use of modern tools to achieve these tasks. Prerequisite: CSC 3223 – Algorithm

Analysis.

CSC 3472. (WI) Technology and Society. A course that allows the student to explore and develop an understanding of the social and professional context in which computing is done. Topics included are: computing history, professional responsibilities, risks and liabilities, intellectual property, privacy, computer crime, and economic issues. Prerequisite: CSC 3463 – Software Engineering.

CSC 4184. Interfacing and Machine Control. A study of hardware interfacing components and techniques. Topics covered include: embedded controllers, communication controllers, PCBs, embedded logic, debugging strategies, interrupts, multitasking, and networking. Prerequisite: CSC 3443 – Computer Organization.

CSC 4213. Simulation Theory. A study of the fundamental principles involved in the construction of computer simulation models. Topics included are: random number generators, model construction, queuing models, and inventory models. Prerequisite: STA 2323 – Statistical Methods or MTH 3163 – Probability and Statistics I, and CSC 1114 – Foundations of Computer Science II or consent of program.

CSC 4263. Client/Server Programming. A study of the principles governing client/server programming. Topics included are: client/server model, concurrency, protocols and interfaces, issues in software design, connectionless vs. connection oriented servers, iterative vs. concurrent servers, RPCs, and selected case studies. Prerequisite: CSC 2203 – Data Structures.

CSC 4273. Introduction to Data Communication. A study of the fundamental principles involved in data communication and a general overview of various data communication systems. Topics included are baud rates, modem controls, protocols, error detection and correction, communication line characteristics, synchronous and asynchronous communication, application interface software, network systems, analysis of communication systems. Prerequisite: CSC 3443 – Computer Organization.

CSC 4283. Introduction to Networking. A study of Local Area Network Standards and an implementation of a LAN. Topics covered include: LAN topologies, transmission media, access methods, OSI layer implementations, NOS installation, management, print servers, and network management software. Prerequisites: CSC 3443 – Computer Organization or consent of program.

CSC 4293. Numerical Analysis. An introduction to numerical methods of problem solving to include error analysis, interpolation procedures, differentiation, integration, solutions of non-linear and differential equations, and approximation of functions. Prerequisites: MTH 2045 – Calculus II and CSC 1104 – Foundations of Computer Science I.

CSC 4331-3. Independent Study. Independent study in an area of computer science selected by the student and faculty advisor. Credit will vary from one to three hours. May be repeated. Prerequisite: consent of program.

CSC 4421-3. Special Topics in Computer Science. Variable content course covering current and advanced topics in computer science. May be repeated with change in content. Prerequisite: consent of program.

CSC 4483. Computer Science Capstone. A project course requiring the computer science student to develop and implement a capstone project requiring the integration of software, hardware components, and human factors. Software engineering methodologies along with good written and verbal communications skills will be required. Program assessment tools will be administered. Prerequisites: CSC 3463 – Software Engineering, CSC 3113 – Database Theory, and CSC 3193 – Operating Systems.

CSC 4493. Artificial Intelligence. An introduction to machine intelligence. Topics covered include: AI languages, problem solving strategies, searching, knowledge representations, natural language processing, machine learning, expert systems, neural networks, and robotics. Prerequisite: CSC 3223 – Algorithm Analysis.

CSC 4503. Computer Graphics. A course that provides an introduction to basic 3D computer graphics programming techniques. Topics included are: OpenGL library, user interface design, projection and transformations, basic animation, etc. Prerequisite: CSC 3223 – Algorithm Analysis.

CSC 4513. Visual Programming. An introduction to visual programming. Topics covered include: interface design, object oriented concepts, Internet programming, data reporting, error handling, help file creation, linkages, etc. Prerequisite: CSC 3223 – Algorithm Analysis.

CSC 4621/6. Internship in Computer Science. The professional internship is intended to provide a learning opportunity for advanced students to: 1) apply knowledge and skills acquired in the classroom in a professional context; 2) understand which skills are transferable to new contexts; 3) identify and understand the practices and protocols of the industry in which they are working; and 4) refine and reassess their own career goals as a result of the experience. Current employment may not be used for credit in this course. This is a credit/no credit course and may be repeated for a maximum of 6 credit hours. Prerequisite: Consent of program.

Courses in Digital Media Design

DMD 1153 Digital Media Concepts. Students will be introduced to topics and terms related to the current digital and online media landscapes. The course covers the effects of the internet

and related technologies on the fields of journalism, media creation, interactive advertising, branding, and mobile platforms.

DMD 1143. Technical Skills for Media. Media, new media, and digital communication technology are the basis for many of the courses and projects within the Digital Media Production program. These encompass a vast amount of technical and creative knowledge. To participate in learning advanced ideas and methods, students must first have a base understanding of formats, concepts, and terminology for media creation in a technologically driven world. This course is designed to give students baseline knowledge of the latest trends in media creation, as well as offer a sound foundation for working in digital publication, and media design.

DMD 1221. Digital Media Practicum. Supervised work for one semester with student media. For this practicum course, students must also be enrolled in the Media Writing course. Co-requisite: DMD 1343 Media Writing.

DMD 1343. Media Writing. Students will learn basic reporting and writing skills for a variety of digital, print, and broadcast media. Students will gain intensive laboratory practice through gathering information, conducting interviews, and writing stories for a variety of campus media outlets. Co-requisite: DMD 1221 Digital Media Practicum.

DMD 2043 Media Law and Ethics. Survey of current media law, ethics, and literature in the United States. Emphasis on media and copyright law and the evolution of rights, privileges, and restrictions of personal and commercial media usage.

DMD 2061 Project Practicum. Students will work on previous media projects to complete unfinished goals or provide updates to previously completed projects. May be repeated for a maximum of 3 credit hours toward the degree. Prerequisite: DMD 2103 Project (Semester Topic).

DMD 2103 Project (Semester topic). Students engage in project-driven, team-based experiences blending media, popular culture and emerging technologies. Projects include app development, online vending and publication, game production, podcasting, game engine and green screen filmmaking, and specialized video production with tools such as 360° and drone cameras.

DMD 2061. Project Practicum. Students will work on previous media projects to complete unfinished goals or provide updates to previously completed projects. May be repeated. A maximum of three hours may be applied toward a degree. Prerequisite: DMD 2103 Project (Semester Topic).

DMD 2163. Podcasting. Introduction to the principles and practices of podcast production. Course also includes refining show topics, researching popular podcast genres, shows, and platforms for distribution.

DMD 2553. Visual Storytelling. Examines the various aspects of visual storytelling and digital media production such as directing, script writing, studio management, on-camera performance, hands-on experience with studio and field equipment, and storyboarding. The course introduces students to the technical and conceptual skills necessary to become a professional in the digital media and broadcasting industry. Students will learn the software and tools of the profession as well as survey the historical, theoretical, and legal aspects.

DMD 3213. Streaming Media Production. This class provides students with the basic tools to research, plan, and build streaming or digital content channels and websites. Using skills from business communication, innovative media, marketing, and many others, this course examines the fields that comprise the industry of modern video streaming.

DMD 3263. Video Art. Introduction to video medium as an art form. Will also explore creating generative, immersive, and interactive video art. Both analog and digital hardware will be used for art creation. Prerequisite: DMD 1143 Technical Skills for Media.

DMD 3363 Sports Broadcasting. Introduction and practice in producing sports programming for broadcast and streaming. Production of HSU Sports events will be required.

DMD 3283 Documentary Filmmaking. Students will research documentary films, including production techniques and theoretical perspectives, and write, direct, and edit a documentary film for possible showcase at festivals and online.

DMD 3503 Postproduction. Introduces students to the necessary steps of assuming the role of lead editor. Assignments relate to digital formats and aesthetic styles as well as audio and animation considerations. Many assignments will be related to the readings and projects assigned but some will require original concepts.

DMD 3163 Advanced Visual Storytelling. This course builds upon the technical and conceptual skills learned in Visual Storytelling and challenges students to discover and incorporate their own aesthetic style. Students will create video and audio stories across different mediums. Prerequisite: DMD 2553 Visual Storytelling.

DMD 3653 Alternative Videography. This course covers concepts, tools, and methods for producing video projects using alternative forms of videography. The class will explore tools such as drones, smartphones, 360 video cameras, and action cameras. Student projects exploring the unique qualities of these methods may be entered in film contests and submitted to festivals specializing in alternative video formats.

DMD 4043 Independent Study in Digital Media. Students work with projects developed by a faculty advisor or with projects proposed by the students themselves (the choice of the instructor). The emphasis is on advanced projects, some of which will be tied to actual clients. Requires the consent of the instructor.

DMD 4053 Special Topics in Digital Media. Issues in contemporary digital media will be studied as appropriate in a given semester. May be repeated.

DMD 4063 Online Feature Writing (WI). A writing-intensive study of the full range of feature and profile journalism for print or digital publications. The focus will be on analyzing, targeting, and writing for select professional markets, and on defining current trends in popular nonfiction writing.

DMD 4073 Internship. Prearranged and supervised employment with local, regional or national media — newspapers, radio, and television stations or with public relations, marketing, online media production firms, or civic groups. The goal is to offer students experience in areas that emphasize digital delivery systems. If taken while enrolled as a regular student, no more than three hours of credit may be gained in any one semester and may be repeated to a maximum of six hours of credit. Requires consent of the instructor.

DMD 4123 Advanced Project (Semester topic). Advanced-level project course where students are expected to take on more responsibilities within project teams. Prerequisite: DMD 2103 Project (Semester Topic).

DMD 4133. Project Management: (Semester Topic). Open to all students regardless of major. This advanced-level course is for students who have had IM Project 3. Students enrolled at this level are expected to bring project expertise, develop management skills, and assist with project management. This course gives students a leadership role on IM project teams. Prerequisite-DMD 4123, or permission of the instructor.

DMD 4221-3. Advanced Digital Media Practicum. Students serve as staff members of HSU student media and contribute content on a weekly basis. May be repeated for a maximum of six hours toward the degree. Prerequisites: DMD 1343 Media Writing and DMD 1221 Media Practicum.

DMD 4493. Pre Production (WI). Emphasis on the ability to plan a video or film shoot using industry techniques such as intellectual property creation and acquisition, copyrights, location scouting, budgeting, equipment acquisition, contracts, and scriptwriting for various formats (ex: television, film, and the web).

DMD 4823. Motion Graphics. This project-driven course gives students the opportunity to explore digital video editing and other motion-based, special effects tools and techniques using software such as Autodesk Maya and Adobe After Effects. Prerequisite: DMD 1143 Technical Skills for Media.

Courses in Data Science

DSC 2073. Applications for Business Information Systems. A study of the use of computers as a problem-solving tool for business, with opportunities to use existing office application software to solve various problems. Prerequisite: Computer proficiency in basic office applications OR instructor's consent.

DSC 2103. Programming for Business Applications. A study of basic programming concepts and techniques as they apply to business information systems. Topics include but are not limited to: algorithms, software development, data types, arithmetic and logical expressions, loops, input and output. Prerequisite: DSC 2073, Applications for Business Information Systems AND MTH 1243, College Algebra (or higher MTH) with a C or better & computer proficiency OR instructor's consent.

DSC 3103. Information Systems in Business. This is an advanced discussion of application, design and the use of computerized information systems in the business environment, including the use of e-commerce and ethical and security concerns of electronic data and information in business today. Prerequisite: 45 credit hours, ACC 2013 and DSC 2073.

DSC 3153. Data Management. This course provides an overview of fundamental concepts, tools, and techniques used to extract meaningful information from an organization's data in order to support strategic and operational decision making. Students will design and implement a relational database and use real-world datasets to organize and analyze data collections. Topics may include data architecture, data storage, meta-data, structured query language (SQL), data cleansing and ethics. Prerequisite: DSC 2103 with a C or better OR instructor's consent.

DSC 3163. Data Visualization. This course is an introduction into the study of data visualization. The objective of this course is to explore different techniques for presenting a wide variety of data for the purpose of making it meaningful to a targeted audience. Prerequisite: DSC 2103 with a C or better OR instructor's consent.

DSC 4043. Systems Analysis and Design. The study of the analysis, design, and implementation of information systems used to assist organizations in decision making. Emphasis is placed on the systems approach to decide what information is needed and how it should be collected, organized, and stored. The course examines the impact of information systems upon the organization structure. Prerequisites: DSC 3153 with a C or better OR instructor's consent.

DSC 4081-3. Independent Study. Independent study in the area of data science selected by student and faculty advisor. Credit will vary from one to three hours. May be repeated.

Prerequisite: Consent of the instructor.

DSC 4091-3. Special Topics in DSC. Variable content course, covering current and advanced topics in data science. Credit will vary from one to three hours. May be repeated with a change in content. Prerequisite: Consent of the instructor.

DSC 4153. Data Analytics. This course is an introduction to the study of data analytics. Students will apply management science models and simulation techniques to data sets to make future predictions. They will learn how to model business problems and communicate the results in a nontechnical language. DSC 3153, GBU 2013, & GBU 3133, all with a C or better OR instructor's consent.

DSC 4173. Data Mining. The objective of this course is to ensure that students have the skills and knowledge to recognize opportunities for data mining approaches and exploit the results. Data mining processes such as CRISP-DM (cross-industry standard process for data mining) and SEMMA (Sample, Explore, Modify, Model, and Assess) are compared. Students use large data sets to construct simple models in an effort to enhance their understanding of the techniques and challenges of working with big data. Emphasis is placed on framing the business problem and communicating the results, especially in nontechnical language. Prerequisite: DSC 3153, GBU 2013, & GBU 3133, all with a C or better OR instructor's consent.

DSC 4183. Analytics Practicum. The objective of this course is to ensure that students have the skills and knowledge to manage and implement an analytics project; it serves as a capstone course. Project management basics are covered along with consulting practices, ethics, and standard practices. Students are required to choose an appropriate methodology for a given problem; this task varies from previous coursework where a technique is given along with the problem. Students complete their studies with an actual project for a business from which they will most likely have the experience of working with less-than-perfect data. Prerequisites: DSC 3153, DSC 3163, DSC 4043, DSC 4153, DSC 4163, and DSC 4173, all with a C or better OR instructor's consent.

DSC 4283. DSC Internship. The course provides students with hands-on, practical, business-world experience in Data Science. Through an internship, students will have firsthand experience applying academic knowledge and skills, interacting and communicating with business professionals, while building a network of professional contacts and gaining self-confidence. Three semester hours credit maximum. Approval is required from the internship director and a faculty member in the student's focus area. Current employment may NOT be used for credit in this course. Prerequisite: Instructor consent and other appropriate approvals. This is a credit/no credit course.

Courses in Economics

ECO 2013 (ECON2103). Principles of Macroeconomics. A study of macroeconomic principles including the market system, national income equilibrium, money and the banking system. Emphasis is placed on policies regarding inflation, unemployment, and economic growth and the government's effect on general business conditions. Computer proficiency is desirable.

ECO 2023 (ECON2203). Principles of Microeconomics. A study of microeconomic principles, including the foundation of demand (consumer theory), supply (theory of the firm), the operation of the market system, and government intervention. Emphasis is placed on application of these principles for business and government decision making. This course may be taken prior to ECO 2013. Computer proficiency is desirable.

ECO 3223. Survey of Economics. Economics is the study of decision-making under conditions of scarcity. This course looks at the behavior of the individual consumer and firm, and their interaction with the government. The second half of the course studies the macro economy focuses on the causes of inflation, unemployment, and interest rate changes. The international economy will also be considered. This course does not fulfill any Business program undergraduate degree requirements.

Courses in Education

EDE 2063. Child Development. This course provides preservice teachers with the basic understandings of the professional knowledge base of early childhood growth and development necessary in providing developmentally appropriate instruction to diverse students in a wide range of early childhood educational settings. Prerequisite: EDU 2423.

EDE 3053. Inclusive Education for Diverse Learners. A study of the historical, philosophical, legal, and social foundations of general and special elementary education based on the belief that ALL children can learn. Emphasis will be placed on national standards and state frameworks leading to the formulation of developmentally appropriate practices, curriculum, assessment and environment. Prerequisites: EDE 2063 and SPE 3013.

EDE 3113. Literature for Elementary Students. Students are introduced to trade books through genre study while learning how to select, evaluate, and present literature to children while developing lessons using the language arts state standards.

EDE 3122. Creative Arts in Early Childhood Education. This course will involve students in projects concerning art, music, and literature with and for children in early childhood education programs. Its purpose is to also demonstrate various ways in which children learn through creative experiences.

EDE 3242. Arts Integration in the Classroom. This course supports learning through the arts to enrich experiences associated with other academic disciplines in ways that extend learning and deepen understanding. The role of arts integration in the classroom is introduced through research, hands-on experiences, field experiences, and guest artists. Assigned projects develop understanding of methods used to integrate instruction in multiple content areas. Prerequisite: EDU 2423.

EDE 3472. Family and Community Relationships. This course is designed to prepare education professionals who establish and maintain positive and collaborative relationships with children, families, and communities. Key components of this class are theory, research, legislation, and current events that impact education. Prerequisite: EDE 2063.

EDE 4283. Literacy and Language Arts in the Elementary Classroom. The purpose of this course is to introduce candidates to effective curricula and instructional methods for literacy instruction with an emphasis on writing instruction. Candidates will focus on strategies for teaching the Arkansas English Language Arts State Standards. Candidates will practice developing and implementing lessons and unit plans and reflecting on teaching

experiences. Significant field experiences will be required for this course in combination with the other content methods courses. Prerequisites: Admission to TEP, RDG 3092, RDG 3103.

EDE 4413. Social Studies in the Elementary Classroom. The purpose of this course is to introduce elementary teacher education candidates to effective curriculum and instructional methods used by practicing teachers. Candidates will review the Arkansas social studies curriculum as it relates to content, instructional planning, differences in learning styles, critical thinking, problem solving, performance skills, collaboration, and active learning (based on pedagogical standards identified by the National Council for the Social Studies). Special emphasis will be placed on the value of a democratic citizenship education, cultural diversity, and constructivist theories of learning. A field experience of 50 hours is required for this course in combination with the other content methods courses. Prerequisites: Admission to TEP, RDG 3203.

EDE 4423. Science/STEM in the Elementary Classroom. This course will provide an interdisciplinary approach to integrating STEM into practice across the elementary disciplines. The course will involve participation in problem-based and project-based learning activities, mathematics and science inquiry learning tasks, engineering design and using technology to gain and display information. Students will practice backwards design to develop STEM units. Significant field experience of 50 hours is required for this course in combination with the other content methods courses. Prerequisites: Admission to TEP, MTH 2543, RDG 3203.

EDE 4433. Math/STEM in the Elementary Classroom. The purpose of this course is to introduce pre-service teachers to effective curriculum and instructional methods used by practicing math educators. Candidates will focus on strategies for teaching the Arkansas academic standards in relation to the mathematical practices while providing additional experiences with inquiry-based learning and math manipulatives. Students will practice developing and implementing discovery-based lesson plans and reflecting on teaching experiences. Significant field experience will be required for this course in combination with other field-based courses. Prerequisites: Admission to TEP, MTH 1053, MTH 2483, and MTH 2543.

EDE 4556. Internship - K-6 Elementary Education Content. A 16-week experience in grades K-6 in a public school where knowledge of content is assessed by a content university supervisor and an experienced teacher, licensed in the content area. An Impact on Student Learning Project

is assessed based upon the content standards defined by ACEI. Together with *K-6 Elementary Education Clinical Internship*, a total of four evaluations will take place with corrective feedback shared in a post observation conference. Co-requisite: EDE 4566.

EDE 4566. Internship - K-6 Elementary Education Clinical. A 16-week experience in grades K-6 in a public school where knowledge and demonstration of pedagogical skills are assessed by a Teachers College, Henderson clinical university supervisor and an experienced teacher, licensed in the clinical area. A clinical assessment portfolio created through TK20 and exit presentation are required as culminating projects. Together with *K-6*

Elementary Education Content Internship, a total of four evaluations will take place with corrective feedback shared in a post-observation conference. **The appropriate Praxis PLT exam must be passed in order to receive credit for the course.** Co-requisite: EDE 4556.

EDM 3113. Literature for Middle Level Students. This course provides potential middle level teachers with a broad perspective of young adolescent literature. Students are introduced to trade books and become acquainted with the selection, evaluation, and presentation of literature to young adolescents for the development of standards-based lessons. Ten hours of field experiences are required. Prerequisite: EDU 2423.

EDM 3143. Middle Level Philosophy and Organization. This course introduces teacher candidates to the major components of teaching middle school students. The course investigates the philosophy and organization of middle schools as characterized by the Association of Middle Level Education. Prerequisite: EDU 2423.

EDM 3153. Adolescent Development and Practicum. This course introduces teacher candidates to the developmental theories of adolescents through the application of these developmental theories to teaching and learning in the middle and high schools. At least 15 hours of field experience are required. Prerequisite: EDU 2423.

EDM 4213. Math Practicum in the Middle Grades. The purpose of this course is to introduce pre-service teachers to effective curriculum and instructional methods used by practicing math educators. Candidates will focus on strategies for teaching the Arkansas academic standards in relation to the mathematical practices while providing additional experiences with inquiry-based learning and math manipulatives. Students will practice developing and implementing discovery-based lesson plans and reflecting on teaching experiences. Significant field experience will be required for this course in combination with other field-based courses. Prerequisites: Admission to TEP, MTH 1053, MTH 2483, and MTH 2543.

EDM 4223. Science Practicum in the Middle Grades. This course introduces pre-service teachers to curriculum and instructional methods used by professional middle level science educators. Students will review the middle school science standards they relate to learning and development, differences in learning styles, critical thinking, problem solving and performance skills, active learning, motivation, inquiry, collaboration, supportive classroom interaction, instructional planning, assessment, reflection, professional growth, and professional leadership. Significant field experiences of 50 hours are required. Prerequisites: Admission to TEP, RDG 3203.

EDM 4233. Language Arts Practicum in the Middle Grades. The purpose of this course is to introduce candidates to effective curricula and instructional methods for literacy instruction with an emphasis on writing instruction. Candidates will focus on strategies for teaching the Arkansas English Language Arts State Standards. Candidates will practice developing and implementing lessons and unit plans and reflecting on teaching experiences. Significant field experiences will be required for this course in combination

with the other content methods courses. Prerequisites: Admission to TEP, RDG 3092, RDG 3103.

EDM 4243. Social Studies Practicum in the Middle Grades. This methods course will assist candidates in developing a thorough understanding and appreciation of the existing relationship between social studies and language arts. Candidates will learn how to apply one area to the other in order to enhance instruction, produce genuine learning experiences with meaningful assessments. This course requires at least 50 hours of field experiences in which candidates will have the opportunity to experiment with their newly learned skills in a practical classroom setting. Prerequisites: Admission to TEP, RDG 3203.

EDM 4273. STEM: Collaborative Inquiry and Learning. This course introduces pre-service teachers to the STEM curriculum and instructional methods used by professional middle level STEM educators. Students will review the middle school Common Core content standards for STEM, Science, Math, Language Arts and Social Studies. Middle level teacher candidates will engage in critical thinking, problem solving and performance skills, active learning, motivation, inquiry, and collaboration. Through collaborative efforts, they will work with grades 4-8 classroom teachers in STEM and supportive content areas to solve real-world educational problems. Field experiences required. Prerequisites: Admission to TEP.

EDM 4296. Internship – 4-8 Middle School Content. A 16-week experience in grades 4-8 in a public school where knowledge of content is assessed by an experienced teacher, licensed in the content area, and a content university supervisor. An Impact on Student Learning Project is assessed based upon the content standards defined by AMLE. Together with *Clinical Internship* a total of four evaluations will take place with corrective feedback shared in a post-observation conference. Corequisite: EDM 4306.

EDM 4306. Internship – 4-8 Middle School Clinical. A 16-week experience in grades 4-8 in a public school where knowledge and demonstration of pedagogical skills are assessed by an experienced teacher, licensed in the clinical area and a clinical university supervisor. A clinical assessment portfolio created through TK20 and exit defense presentation is required as culminating projects. Together with *Content Internship* a total of four evaluations will take place with corrective feedback shared in a post-observation conference. The appropriate Praxis PLT exam must be passed in order to receive credit for the course. Co-requisite: EDM 4296.

EDU 2000L. Teacher Education Orientation. The purpose of this online laboratory experience is to prepare students for admission into the Educator Preparation Program. This course is required of all education majors to be completed during the first term of education coursework at Henderson. The lab introduces the student to the Educator Preparation Handbook, requirements for admission to the program, completion of admission interview, and requirements for Tk20 implementation. Students enrolled in this course will be assessed a Tk20 fee. Co-requisite: EDU 2423.

EDU 2023. Serious Play: An Introduction to Teaching and Learning Through Games.

This course explores the theory and implementation of educational games, simulations, and Internet culture for improved instructional engagement. Participants will explore the foundational, social and cultural implications of these new media. We will examine how educators can leverage students' interests in digital culture to extend their learning and keep them engaged in the course content. The course itself is organized as a game that explores the theories of educational gaming, and the practical aspects of evaluating and implementing games, simulations, and virtual environments for teaching and learning.

EDU 2043. Educational Technology. Assists prospective teachers with understanding the role that various forms of technology play in the teaching and learning process, basic theories of technical communication and collaboration, web-page design, web-based research, and the location selection, and evaluation of web based instructional tools. The use of computer software and hardware to develop instructional materials is addressed. Emphasis is placed on beginning the development of a digital portfolio.

EDU 2423. Introduction to Education. The purpose of the course is to provide prospective teachers a fundamental background of the teaching profession, including historical developments, educational infrastructure, career opportunities, and an understanding of students and the educational community. This course requires 30 hours of field experience. Co-requisite: EDU 2000L.

EDU 3123. Educational Psychology. A course which examines current learning theory and theorists for applied use in classroom situations. Behavioral, cognitivist, constructivist and social views are included. Broad concepts such as intelligence, development, creativity and motivation and their implications for teaching are emphasized. This course helps to prepare educator preparation candidates for principles of learning and teaching associated with the Praxis PLT exam. Prerequisite: EDU 2423.

EDU 4083 Classroom Management K-6. The purpose of this course is to provide undergraduate students with a fundamental background in the various skills and techniques needed in the teaching profession. These skills and techniques will be closely meshed with classroom management and control, organization and discipline. Danielson's four domains are presented. 30 hours field component required. Prerequisites: Admission to TEP, EDU 2423, EDU 2043, SPE 3013.

EDU 4101-3. Independent Study. A course designed for individuals wishing to work one-on-one with a faculty member to complete a project that is not necessarily research based. For example, the study of a topic that is of particular interest to a student but that might not currently be offered in the major curriculum. Permission of the program director required.

EDU 4113. Classroom Management (7-12). This course provides information related to the implementation of rules and procedures, use of lesson plans as management tools, practical application of discipline models, and skills needed for effective communication.

Content includes analysis and discussion of cases and research of current resources. The four domains of Danielson are presented. 30 hours field component required.
Prerequisites: Admission to TEP, EDU 2423, EDU 2043, SPE 3013.

EDU 4216. Secondary Teaching Internship Content. A 16-week experience in grades 7-12 in a public school where knowledge of content is assessed by an experienced teacher, licensed in the content area and a content university supervisor. An Impact on Student Learning Project is assessed based upon the content standards defined by the appropriate specialized professional association. Together with *Clinical Internship* a total of four evaluations will take place with corrective feedback shared in a post-observation conference.
Co-requisite: EDU 4256.

EDU 4241-3. Independent Research. A course designed for individuals wishing to work one-on-one with a faculty member to complete a project in a specific area of interest. Permission of the instructor is required.

EDU 4256. Secondary Teaching Internship Clinical. A 16-week experience in grades 7-12 in a public school where knowledge and demonstration of pedagogical skills are assessed by an experienced teacher, licensed in the clinical area and a clinical university supervisor. A clinical assessment portfolio created through TK20 and exit presentation is required as culminating projects. Together with *Content Internship* a total of four evaluations will take place with corrective feedback shared in a post-observation conference. **The appropriate Praxis PLT or pedagogy exam must be passed in order to receive credit for the course.** Co-requisite: EDU 4216.

EDU 4293. Practicum Early Childhood. Formal and informal assessment strategies, instructional practices and practicum experiences for early childhood education. Over 40 hours of significant field experiences required in Davis-Baker Preschool. Prerequisites: Admission to TEP, EDE 3053, EDE 3242.

EDU 4302. Assessment and Educational Measurement 4-8. The purpose of this course is to prepare prospective 4-8 teachers with practical knowledge and skills to plan and teach lessons, as well as to evaluate and analyze test results as they will be expected to do throughout their teaching careers. Admission to EPP required for enrollment. Prerequisites: EDU 2423, EDU 2043, SPE 3013.

EDU 4333, 4336. Practicum in Elementary Physical Education. Field Experience for Elementary Physical Education under the direct supervision of a qualified teacher while completing teacher internship, with guidance from the HPER program staff.

EDU 4402. Assessment and Educational Measurement (7-12). A study of modern techniques of measurement and evaluation, both formative and summative. Attention is given to making and analyzing classroom tests. Computer assistance is also discussed. Prerequisites: Admission to TEP, EDU 2043, SPE 3013, EDU 3123.

EDU 4433. Classroom Management 4-8. The purpose of this course is to provide undergraduate students with a fundamental background in the various skills and techniques needed in the teaching profession. These skills and techniques will be closely meshed with classroom management and control, organization and discipline. Danielson's four domains are presented. 30 hours field component required. Prerequisites: Admission to TEP, EDU 2423, EDU 2043, SPE 3013.

EDU 4483/5483 Acquisition of English as Another Language. A study of factors influencing language acquisition and literacy development, including the foundations of linguistics, the social and academic functions of language, English syntax, the conventions of written English, rhetorical patterns and ranges of genres in written English, and pragmatics and sociolinguistics. An introduction to the International Phonetic Alphabet (IPA). Field assignments required. May be taken concurrently with EDU 4543/5543

EDU 4533/5583 Methods and Materials for Teaching English Learners. Planning, creating, or selecting materials appropriate for K-12 English learners; implementing effective instructional strategies for all ELLs at any English Language Proficiency Level based on valid and reliable formative and summative assessment data. Aligning learning objectives with state and national standards and using backward design to differentiate learning activities and assessments. Ten hours of clinical experience required. May be taken concurrently with EDU 4503/5603 Assessment of English Language Proficiency.
Prerequisites: EDU 4543/5543 Learners and EDU 4483/5483 or permission of instructor.

EDU 4543, 5543. Exploring Perspectives of Linguistically and Culturally Diverse Learners. A study of the relationship between language and culture, including the impact of cultural experiences on language development, disposition, and learning. Understanding acculturation and assimilation and their influence on people's perception of immigrants. Emphasis on continual professional development and research in ESOL and the importance of the educator as a professional resource and advocate for English learners and their families. Attendance at two multicultural events required.

EDU 4603/5603 Assessing English Language Proficiency of K-12 Learners. A study of federal laws and policies impacting English learners in K-12 public education; identification, placement, and exit of English language programs; formative and summative assessments of language proficiency and content knowledge; validity, reliability, and culture and language bias in assessments; norm referenced and criterion referenced assessments. Two hours of field experience required. Prerequisites: EDU 4543/5543 and EDU 4483/5483

EDU 4833. Special Methods: Business and Technology Education. The teacher candidates will create lesson plans and supplementary materials for teaching business and technology education and related subjects. Practice teaching sessions will include implementing successful teaching methods, techniques, and assessment. A minimum of ten hours of field experience and observation may be required during which candidates teach 7-12 grade students and assess their impact on student learning. Preparation for

teacher internship will be conducted including updating the candidate's web-based portfolio. Fall only. Prerequisite: Admission to EPP required.

EDU 4890. Orientation to Internship. The purpose of this laboratory experience is to prepare students for admission to the Professional Internship semester.

Courses in Engineering

EGR 1011. Engineering Shop. This course introduces manufacturing processes and their relation to the design of machine elements. Basic and advanced machine tools operations, press tool operation, metal lathe and welding are studied.

EGR 1203. Introduction to Engineering. This course is designed to introduce the student to the engineering profession, problem solving, engineering design and presentation of technical information. Prerequisite: College Algebra (MTH 1243).

EGR 1413. Engineering Graphics. This course is designed to introduce the student to mechanical drawing employing the conventions of computer-aided drafting and modern engineering graphic principles. Prerequisite: College Algebra (MTH 1243).

EGR 1423. Engineering Modeling Applications. A continuation of EGR 1413 Engineering Graphics, covering 3D CAD features and solid modeling techniques including patterning, configurations, library features, sketch blocks, assemblies of parts, multi-body parts, and 3D printing. Prerequisite: EGR1413

EGR 2033. Introduction to Materials. A study of chemical, physical, and electrical properties of materials using fundamental atomistic approach. The materials of interest are metals, polymers, ceramics, and composites. The interactive relationship between structure, properties, and processing of materials will be emphasized. For various engineering applications. Prerequisite: PHY 2244

EGR 2101-2. Engineering Internship. This course is designed to give the student practical engineering experience working with a professional engineer in a staff approved industrial setting. This allows the beginning engineer to build a network of contacts and develop a broad range of important skills that cannot be learned in the classroom. Prerequisite: program approval.

EGR 2253. Engineering Computation. This course is designed to introduce the student to the problems encountered in engineering with analysis and solution of these problems using computational techniques. Prerequisite: MTH 1294, PHY 2234.

EGR 2363. Statics. Principles of vector analysis, static equilibrium, analysis of structures, friction, internal forces, center of gravity, moment of inertia, and product of inertia. Prerequisite: PHY 2234, MTH 1294.

EGR 2584. Electric Circuits I. An introduction to circuit theory and electrical devices. Topics include resistive circuits, independent and dependent sources; analysis methods, network

theorems; RC and RL first order circuits, and RLC second order circuits. Three (3) hours lecture, two (2) hours laboratory. Prerequisite: PHY 2244

EGR 3043. Engineering Thermodynamics I. An introduction to thermodynamics, including thermodynamic properties of pure substances, heat and work, the first and second laws of thermodynamics, and entropy with applications to power and refrigeration cycles. Prerequisite: PHY 2234, MTH 1294

EGR 3053. Engineering Thermodynamics II. A continuation of EGR 3043. The study of thermodynamics is extended to the investigation of relations for simple substances, non-reacting mixtures, reacting mixtures, chemical reactions and a study of availability analysis. Power and refrigeration cycles are studied in more depth. Prerequisite: EGR 3043

EGR 3114. Strength of Materials. Stress and deformation of members in tension, compression, torsion, and bending, and the design of these members. Columns, statically indeterminate beams, and simple connections. This course requires 3 hours of lecture and 2 additional hours of lab per week. Prerequisite: EGR 2363

EGR 3143. Signals and Systems. Signal representation, including Fourier and Laplace transforms. System definitions and properties, such as linearity, causality, time invariance, and stability. Use of convolution, transfer functions and frequency response to determine system response. Prerequisite: EGR 2253, MTH 4123

EGR 3434. Digital Electronics. Introduction to the analysis and design of digital circuits including number systems, Boolean algebra, combinational and sequential logic. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment. Three (3) hours lecture, two (2) hours laboratory. Prerequisite: PHY 2044 or PHY 2244.

EGR 3464. Electric Circuits II. A study of the principles of DC and AC circuits. Passive linear components including resistor, capacitor, inductor. Basic circuit laws. Thevenin and Norton equivalent circuits. Transient and frequency domain analysis of linear circuits. Power and power transfer in circuits. Impedances and electrical units. Three (3) hours lecture, two (2) hours laboratory. Prerequisite: EGR 2464.

EGR 3474. Electronics I. Theory, analysis, and introductory design of diode, bipolar junction transistor, operational amplifier, and field effect transistor devices and circuits. Three (3) hours lecture, two (2) hours laboratory. Prerequisite: EGR 2584

EGR 3484. Electronics II. A continuation of EGR 3474 with emphasis on transistor amplifier design, frequency response, feedback principles, stability, analog integrated circuits, electronics circuit design, and applications. Three (3) hours lecture, two (2) hours laboratory. Prerequisites: EGR 3474

EGR 3493. Dynamics. A continuation of EGR 2363. Study of the problems of unbalanced force systems. Kinematics and kinetics of rigid bodies. Work and energy, impulse and momentum. Prerequisites: EGR 2363, MTH 2044

EGR 3503. Engineering Optics. This course gives an introduction to geometrical optics and physical optics, including interference, diffraction, dispersion, absorption, and polarization of light, as well as optics application and practical solutions. Prerequisites: PHY 2244, MTH 1294

EGR 3543. Engineering Measurements. This course is an introduction to the principles and applications of measurement methods and instrumentation techniques, as used in various engineering disciplines. Specific devices for measuring such parameters as displacement, force, strain, pressure, flow, temperature, motion, time and frequency are discussed. Prerequisite: EGR 2584

EGR 4063. Computer Engineering Design I. This course gives A study of engineering design and creative computer engineering problem-solving through design projects, presentations, and activities. Prerequisite: CSC-2173, EGR 2584, EGR3434

EGR 4073. (WI) Computer Engineering Design II. A continuation of EGR 4063 Engineering Design I, covering individual and/or team design projects that require creative application of computer engineering and basic science knowledge. Prerequisite: EGR 4263

EGR 4123. Heat Transfer. Basic thermal energy transport processes; conduction, convection, and radiation; and the mathematical analysis of systems involving these processes in both steady and time-dependent cases. Prerequisite: EGR 3043, EGR 4513

EGR 4133. Power Systems. Basic concepts of AC systems, single-phase and three-phase networks, electric power generation, transformers, transmission lines, electric machinery and the use of power. Prerequisite: EGR 3464

EGR 4153 Professional Engineering Practices. This course focuses on project management, the engineering code of ethics, engineering economy and the role of the engineer in modern society. Includes case studies. Prerequisite: Junior Standing or Consent of instructor

EGR 4263. Engineering Design I. A study of engineering design and creative engineering problem-solving through design projects, presentations, and activities. Prerequisite: EGR-2584, EGR 3043. Prerequisite or Corequisite: EGR 3493

EGR 4443. Embedded Microprocessors. A study of the programming, architecture, and interfacing of microprocessors with emphasis on engineering applications. Prerequisite: EGR 2584 Electric Circuits I

EGR 4513. Fluid Mechanics. A study of the statics and dynamics of incompressible fluids. Major topics include the basic fluid flow concepts of continuity, energy and momentum, dimensional analysis, viscosity, laminar and turbulent flows, and flow in pipes. Prerequisites: EGR 3493, MTH3104

EGR 4523. Engineering Electromagnetics. A study of time invariant electric and magnetic fields in free space and in materials, electrical current flow as a function of electric field, magnetic flux, interaction of magnetic fields with electrical current and voltage, electrical and magnetic potentials, time changing electric and magnetic field, Maxwell's Equations and steady-state behavior of wave on transmission lines. Prerequisites: EGR 2584, MTH 3104.

EGR 4531, 4532, 4533, Independent Research. Independent work in engineering physics under direct supervision of a faculty member. Prerequisite: program approval.

EGR 4553. (WI) Engineering Design II. A continuation of EGR 4263 Engineering Design I, covering individual and/or team design projects that require creative application of engineering and basic science knowledge. Prerequisite: EGR 4263

EGR 4563. Control Systems. Mathematical modeling of dynamic systems, stability analysis, control system architectures and sensor technologies. Time-domain and frequency-domain design of feedback control systems: lead, lag, PID compensators. Special topics in microprocessor implementation. Prerequisite: EGR 2584 and MTH 3124

EGR 4571, 4572, 4573. Special Topics in Engineering. This senior level elective is designed for the program to offer courses relevant to an instructor's area of expertise, to offer courses of particular interest to current students, or to address contemporary topics in engineering not covered elsewhere. May be repeated for up to six hours total, provided topics are different. Course title to appear on transcript.

Courses in English

ENG 0231 Enriched Writing & Rhetoric I. Required for students who need a co-requisite to earn transferable credit. Co-Requisite hour requires 1 hour per week of additional practice, workshopping, and individualized conferencing. Successful completion with a "C" or better is required to advance to Writing and Rhetoric II.
Co-Requisite: 15, 16, 17 English ACT or equivalent plus departmental placement exam; 1-hour weekly co-requisite workshop (co-requisite for English 1463).

ENG 1463 Freshman English A. A course designed primarily to develop the student, by working with a variety of texts, the ability to read with understanding and appreciation, to think coherently, to gain knowledge of the structure of the language, and to write clearly and effectively. Must be completed with a "C" or better. Prerequisite: ACT score in English of 19, or equivalent score on alternate test, or a "C" or better in ENG 0423.

ENG 1473 Freshman English B. A course designed as a sequel to ENG 1463 to refine the ability to think logically and coherently; to read with understanding, critical acumen, and appreciation; to gain further knowledge of the structure of the language; and to write clearly and effectively. The study of short stories, poetry, drama, and essays provides topical ideas for essays. Must be completed with a "C" or better before enrolling in any other English course. Prerequisite: ENG 1463 with a grade of "C" or better.

ENG 1803. Honors Freshman English. A course focusing on the writing process, particularly as it relates to analysis, evaluation, and argumentation. The study of fiction, poetry, and drama provides the student the opportunity to read carefully and critically, to cultivate an appreciation of literature, and to work toward both oral and written expression characterized by clarity,

coherence, completeness, economy, specificity, and correctness. Substitutes for ENG 1473, Freshman English B. Prerequisite: honors standing.

ENG 2013. World Literature I (ENGL2113). A survey of major works of world literature through the 17th century. Prerequisites: ENG 1463 and ENG 1473 (or equivalent preparation) with a "C" or better. Counts toward the English major and minor.

ENG 2023. World Literature II (ENGL2123). A survey of major works of world literature from the 18th century to the present. Prerequisites: ENG 1463 and ENG 1473 (or equivalent preparation) with a "C" or better. Counts toward the English major and minor.

ENG 2053 (ENGL2213). Studies in Literature. A general education course designed to offer students opportunities to read closely, analyze, evaluate, discuss, write about, and come to appreciate great literature. Depending upon the instructor, the course may be genre based, author based, period based, or any combination. Check with the instructor for class focus. Prerequisites: ENG 1463 and ENG 1473 (or equivalent preparation) with a "C" or better.

ENG 3043. Non-Western Literature. A study of the literature of those cultures not included in the Western tradition. Texts read in the course will include those by Africans, Asians, Latin Americans, and writings from the nations of Islam. Readings may include classical non-Western works at the discretion of the instructor; however, the major focus of the course will be on more contemporary texts to provide students with some insight into divergent worldviews as seen through modern non-Western literature. Fulfills non-western requirements and 3 hours of English major or minor.

ENG 3613. Technical Writing. A service course for majors in business, pre-engineering, nursing, pre-law, mass media, and the sciences. Required for Writing Specialization minor. Does not count toward the English major or minor. Can fulfill the junior/senior-level writing course requirement in the Liberal Arts Core.

ENG 4163, 5163. Modern Grammar. An analysis of the English language through descriptive, generative, and performance models. Content includes intensive analysis of the structure and syntax of English. Required for teacher certification in English.

ENG 4453, 5453. (WI) Advanced Composition. An emphasis on composing texts that range in form and content, including research and argumentation. Attention to scholarly and academic writing conventions is emphasized. Required for teacher certification in English. Can fulfill the junior/senior-level writing course requirement in the Liberal Arts Core.

ENG 4563, 5563. Literature for Adolescents and Young Adults. A study of western and nonwestern literature for and about adolescents and/or young adults; critical study, interpretation, and evaluation of the genre; examination of modes and themes found in the literature; selection of literature appropriate for use in 7th-12th grade classrooms. Selections

span classic to contemporary and include the play, novel, short story, poem, graphic novel, film, and other genres appropriate for and attractive to adolescents and young adults, as well as interdisciplinary methods, media, and materials for selecting, teaching, assessing, facilitating, and encouraging student reading, including English language learners. Standards of both NCTE/CAEP and CCSS are addressed. Required for Teacher Licensure in English. Open to all students, including English majors and minors, who have satisfactorily completed Freshman English requirements.

ENG 4843. Special Methods: English. Special methods in the teaching of English. Required for Teacher Licensure in English. Does not count toward English major or minor.

ENG 4963 Special Topics in English. This course focuses on various genres and themes in literature and language as well as individual authors. Topics may include, but are not limited to, specialized literature and/or writing, as the professor deems appropriate. Course content varies, so students may take this course twice for a total of six hours of credit if the topics are different.

Courses in Finance

FIN 2183. Financial Literacy. A study of the basics of personal money management. Topics include budgeting, banking services, credit, insurance, real estate, savings and investments, estate and retirement planning, and taxes.

FIN 2233. Beginning Investments. Beginning Investments. An overview of essential investment topics such as the types and characteristics of financial securities, investment industry structure and controls, and ethics and regulation. Includes an overview of the essential business areas of accounting, macroeconomics, microeconomics, and statistics. Prerequisites: Clear of remediation, computer proficiency, Sophomore or higher standing recommended.

FIN 3033. Money and Banking. A study of the functions of money, banks, credit, and their relation to price levels and business transactions. Emphasis is on the Federal Reserve System. Prerequisite: ECO 2013.

FIN 3043. Business Finance. An introductory broad study of the field of finance with an emphasis placed on financial decision making in a business entity. Topics include financial statement analysis, stock and bond valuation, risk and return, capital budgeting, and sources and costs of financing. Prerequisites: ACC 2023; ECO 2013; ECO 2023; GBU 2013.

FIN 3103. Investment Planning. A study of fundamental topics essential to providing investment advice to clients with emphasis on investment topics covered on the CFP® exam. Topics include economic factors, investment vehicle characteristics, client investment recommendations and strategies, regulations, and portfolio management. Students actively manage the Ross Whipple Student Managed Investment Fund. Activities include portfolio construction, performance attribution, and risk management.

FIN 3133. Fundamentals of Financial Analysis. A study of the learning outcome statements in the CFA® Program Level I curriculum with an emphasis on fundamental topics. Topics include

security valuation, financial statement analysis, and industry analysis. Prerequisites: FIN 3092 (with a C or better) or as corequisite, FIN 3043 (with a grade of C or better).

FIN 3173. Insurance Planning. A study of the basic ideas, problems and principles found in all types of modern-day insurance and of other methods of handling risks. Topics include life, health, disability, long-term care, property, Social Security, and personal liability insurance.

FIN 3194. Real Estate Principles. A comprehensive study of real estate, covering the economics of real estate, real estate appraising, real estate regulation, real estate valuation, real estate finance, rights in real property and their transfer, public programs relating to real property. Designed to help prepare students for real estate licensing examinations in Arkansas.

FIN 3303. Retirement & Employee Benefits. This course provides a comprehensive overview of qualified (defined benefit, profit share, 401(k)) plans and nonqualified (deferred compensation, incentive stock options, employee stock purchase plans) retirement plans, other tax-advantaged plans (SIMPLE, ROTH and traditional IRAs), and employee benefits. This course also presents an overview of the Social Security disability and health care programs such as Medicare.

FIN 3323. Estate Planning. This course provides professionals with an introduction to wills, trusts, the probate process and the taxation of estates. Course participants will also learn the tax implications of gifts and bequests during lifetime and at death. The approach provides students with taxation avoidance and minimization techniques useful in planning a client's estate.

FIN 4073. Advanced Financial Management. A review and extension of topics covered in FIN 3043 with a more rigorous and in-depth approach. Notable topics include asset valuation, working capital management, cost of capital, and capital structure. Prerequisites: FIN 3043.

FIN 4123. Financial Planning. This course addresses all of the major financial planning issues and problems that individuals and families encounter. The major financial planning tools and techniques are discussed. It covers topics essential for students who will be taking the Certified Financial Planner exam. Prerequisite: FIN 2183; FIN 3043.

FIN 4143. Professional Finance Examination. By utilizing one of the global review preparation programs, candidates prepare to sit for exams leading to a professional finance designation such as the CFP® certification or the CFA® charter. Prerequisites: FIN 3103 (with a C or better), FIN 4123 (with a C or better) or as corequisite, Senior standing.

FIN 4161-3. Special Studies in Finance. Individual or group research and discussion on special issues in the field of finance. Prerequisite: FIN 3043 and consent of the instructor.

FIN 4213. Security Analysis. Students evaluate companies to determine their suitability for equity and debt investments. Topics include financial statement analysis, financial modeling, industry analysis, and asset valuation. Prerequisites: FIN 3103 (with a C or better), FIN 3043 (with a C or better), ACC 3053 (with a C or better) or as corequisite, GBU 3133 (with a C or better).

FIN 4221. Portfolio Management Lab. Applications in Portfolio Management. Students actively manage the Ross Whipple Student Managed Investment Fund. Activities include portfolio general business construction, performance attribution, and risk management. Requirements include presenting a written and oral report to fund stakeholders. Prerequisites: FIN 3103 (with a C or better).

FIN 4253. Finance Internship. The course provides students with hands-on, practical, business-world experience in Finance. Through an internship, students will have firsthand experience applying academic knowledge and skills, interact and communicate with business professionals, while building a network of professional contacts and gaining self-confidence. Three semester hours credit maximum. Approval is required from the internship director and a faculty member in the student's focus area. Current employment may NOT be used for credit in this course. Prerequisite: Instructor consent and other appropriate approvals. This is a credit/no credit course.

Courses in General Business

GBU 1311. Business Professional Skills - Part 1. This course provides students with an introduction to basic professional skills. Course participants will focus on self-image, social networks and the internet, personal social skills, written and oral communication skills, appreciation of volunteerism, basic business computer skills, understanding leadership, and other business concepts.

GBU 1321. Business Professional Skills - Part 2. This course provides students with higher level professional skills in the field of business. Course participants will focus on building additional skills in self-image, social networks, and the internet, personal social skills, written and oral communication skills, and other business concepts. Additionally, course participants will build on basic study skills and develop appropriate etiquette skills as related to business courses.

GBU 2013. Quantitative Analysis for Business Decisions. A study of basic principles of linear algebra and calculus with emphasis on applications to business problems. Includes: mathematical modeling, optimization, linear programming, calculus, mathematics of finance, probability and statistics. Prerequisites: MTH 1243 or MTH 1273; computer proficiency is desired.

GBU 2143 (BLAW2003). Legal Environment of Business. An introduction to the fundamental elements of the Anglo-American legal system and its common law origins. The scope of the course will include the application and operation of the legal system in the remedy of business disputes, the development and operation of the court system, and the regulation of American business and industry by the U.S. Government.

GBU 2331. Business Professional Image. This course will work with students to develop, mentor, and coach them professionally. The purpose of the course will be to intensely focus on marketing yourself through a strong professional image. Prerequisite: 24 earned hours

GBU 2341. Business Career Readiness. This course will work with students to develop, mentor, and coach them to ensure that they are prepared to successfully obtain a

career-oriented position after graduation. Students will also work to strategically enhance networking, job searching and interview skills. Prerequisite: GBU 2331.

GBU 3073. Global Business & Cultural Immersion. The Global Business and Culture Immersion course serves as an experiential learning opportunity for students to experience cross-cultural differences and how this impacts business operations (managing, marketing, production, customer relations, etc.) and strategy in a world of multiculturalism and globalized businesses. A major component of this course is, therefore, a travel to an international region, country, city or community outside of the U.S. mainland.

GBU 3133. Descriptive Analytics. The study of statistical methods for describing and analyzing data for use in business decisions. Topics include: data sources, descriptive statistics (frequency charts and graphs, central tendency, dispersion), probability and special probability distributions, sampling distributions, estimation techniques, hypothesis testing of means and proportions, analysis of variance, nonparametric statistics, regression analysis, time series and forecasting techniques, and quality control procedures. Prerequisite: GBU 2013.

GBU 3213. Foundations of Entrepreneurship. This course covers the broad foundations of entrepreneurship. This study of entrepreneurship will focus on the initiation, planning, growth, and development of new and emerging ventures.

GBU 3253. Innovation Management. In this course, the student will explore approaches used by managers and organizations to create and sustain high levels of innovation. This course distinguishes innovation from entrepreneurship, focusing on the practices of managing innovation and creativity in the firm. Further, the student will understand the operational considerations of managing innovation and will explore how to develop creative problem-solving processes for themselves and others.

GBU 3263. Critical Design Thinking. Creativity/Innovation are needed for leading industries and companies. Critical Design Thinking is a way of deciding whether a claim is true or false. Design Thinking uses a set of methods to develop ideas/solutions to challenges in a discipline or profession. This course will focus on developing students' critical design thinking process.

GBU 4003. Internship in Business. The course provides students with hands-on, practical, business-world experience in their field of study. Through an internship, students will have firsthand experience applying academic knowledge and skills, interact and communicate with business professionals, while building a network of professional contacts and gaining self-confidence. Three semester hours credit maximum. Approval is required from the internship director and a faculty member in the student's focus area. Current employment may NOT be used for credit in this course.

Prerequisite: Instructor consent and other appropriate approvals. This is a credit/no credit course.

GBU 4173. Business Mentorship Experience. This course provides students with opportunities to network with mentoring professionals. The course will allow for practical application of professional skills and generate an understanding of one's professional identity. Mentors will offer suggestions on improving personal and professional skills. Mentors will also provide students perspectives on what the business world expects of them as new graduates.

The course serves as a great opportunity for students to build professional networks and develop future career-related plans. Course may only be taken once.

GBU 4191-3. Business Research Seminar. This course is designed to guide students in researching and writing a paper, which is to be submitted for publication. There will be a review of basic research methodology. The course includes a review of organizations, publications and the types of research they accept for publication. Prerequisite: Consent of the instructor.

GBU 4223. Applied Entrepreneurship: This course is designed to develop an understanding of entrepreneurship. This course offers the student an opportunity to evaluate the business skills and commitment necessary to successfully operate an entrepreneurial venture and review the challenges and rewards of entrepreneurship. Topics will include entrepreneurial mindset, corporate entrepreneurship and entrepreneurial creativity and innovation.

GBU 4273. Special Topics in Entrepreneurship. Variable content course, covering current and advanced topics in entrepreneurship. May be repeated with a change in content.

General Education Courses

GEN 2133 Introduction to Population Health. Population health is the field of science that “brings significant health concerns into focus and addresses ways that resources can be allocated to overcome the problems that drive poor health conditions in the population.” Introduction to Population Health is designed to foster interdisciplinary collaboration utilizing a system thinking approach. Candidates will utilize data to design interventions that embody the concepts associated with their respective discipline of study. Candidates will learn the processes of local, state, and national health systems and health policies. Additionally, candidates will address the factors outside of health care that influence health outcomes. Activities will foster communication, collaboration, and coordination across disciplines to strengthen analytical and design skills.

Courses in Geography

GEO 1023 (GEOG1103). Introduction to Geography. Presents the nature of geographic study; illustrates world conditions, environmental and cultural; introduces map reading; and examines basic concepts.

GEO 2163 (GEOG2103). World Geography. An examination of world regions from a geographic perspective. Emphasis on cultural features and natural environments.

Courses in Health and Human Performance

HHP 1102. Introduction to Health & Human Performance. This course is an introduction to health care delivery systems, associated career opportunities, and related trends. It examines the industry as a whole and the integration of services and professions, emphasizing rehabilitative therapy and strength and conditioning. Students explore career choices, including educational requirements, job outlooks, governing agencies, occupational requirements, pay ranges, professional needs, and employer expectations. This course will

also include orientation into OSHA guidelines and infection control and introduce the student to professional certifications and organizations, such as the National Strength and Conditioning Association and the American College of Sports Medicine.

HHP 2043. Prevention and Treatment of Athletic and Exercise Related Injuries. A study of care and prevention of athletic and exercise-related injuries seen in the physically active population for health and human performance, physical education, and recreation majors. Emphasis is given to the care and prevention of athletic and physically active injuries with extensive training in prophylactic taping. Each student is given comprehensive and systematic instruction on the basic material, concepts, and protocols for preventing and treating athletic and exercise and related injuries.

HHP 2052. Medical Terminology. This course is designed to prepare the student to utilize medical terminology in various health and human performance roles. The student will learn the definitions and use of medical terms common to many health-related disciplines. The student will also learn the pronunciation, plural forms, etymology, and abbreviation of words and medical phrases used in medicine.

HHP 2243. Injury Management in Health & Human Performance. This course is an intermediate-level study for the health and human performance student concerning the care, prevention, and management of injuries as seen in the physically active population. Each student will be given comprehensive and systematic instruction on the materials, concepts, and protocols in injury prevention and management. These skills will be carried forward to the advanced stages of the HHP degree.

HHP 3003. Sport Psychology in Health & Human Performance. This course primarily emphasizes sport psychology and evaluative concerns and procedures about the head and related structures. Principles of sport psychology are applied to individual and team behavior and performance issues. A head and facial anatomy review of injuries, evaluation, and care will also be of primary concern. Research is emphasized, including personality, motivation and arousal, perception, stress, and anxiety during competition, diversity in sports, ethics in sport psychology, nutrition, and head-related traumas. Prerequisite PSY 1013 General Psychology.

HHP 3064. Assessment of Upper Extremities. The purpose of the course is to develop knowledge, skill, and understanding of the evaluation process of common performance injuries, including in-depth studies of the anatomical, physiological, and pathological processes that occur due to injury and illness. Etiology, mechanisms, signs, symptoms, and special tests will be covered. Arm, head, neck, thorax, and abdominal injuries and illnesses will also be examined. Practical evaluation skills and injury disposition proficiency will be improved. This class will incorporate the use of practical laboratory experiences.

HHP 3074. Assessment of Lower Extremities. The purpose of the course is to develop knowledge, skill, and understanding of the evaluation process of common performance injuries, including in-depth studies of the anatomical, physiological, and pathological processes that occur due to injury and illness. Etiology, mechanisms, signs, symptoms, and special tests associated with the thorax, abdominal, thoracic, and lumbar spine, hip, knee, ankle, and foot injuries and illnesses will be examined. Practical evaluation skills and injury

disposition proficiency will be improved. This class will incorporate the use of practical laboratory experiences—Pre requisite HHP Assessment of Upper Extremities.

HHP 3084 Therapeutic Modalities (WI). The student will explore and discuss the modern philosophies concerning therapeutically treating the injuries seen in health and human performance. The student will study and learn the current trends and concepts of applying modalities to improve and treat injuries to the physically active individual. Through both didactic and laboratory components, the student will plan a successful rehabilitation protocol involving a wide variety of therapeutic modalities.

HHP 4094 Rehabilitation and Therapeutic Exercise. This course is designed for the student to attain competency in procedures and techniques used in injury rehabilitation. Specific indications, contraindications, physiological effects, and resistance methods will be investigated. Through both didactic and a laboratory component, the student will plan a successful rehabilitation protocol. When the course is completed, the student should understand rehabilitative prescriptions relating to therapeutic and preventative exercises.

HHP 3123. Health & Human Performance Administration (WI). This course provides students with an overview of concepts and issues related to healthcare leadership. The student will understand medical documentation, state and federal laws, and insurance coverage. Further study will include advanced interpersonal communication skills between health professionals, human performance specialists, and other stakeholders such as coaches, parents, teachers, and athletes. Topics include healthcare leadership, organizational design related to the uniqueness of healthcare organizations and facilities, managing professionals, and diversity in the workplace.

HHP 3273. General Medical Conditions with Pharmacological Interventions. This course will present the assessment, identification, referral, and treatment of general medical illnesses. It will further emphasize legal and illegal drug use among diverse populations. Topics include indications, contraindications, interactions, effects, and side-effects of commonly used over-the-counter and prescription medications, ergogenic aids and illegal substances in athletics; and neurophysiology and pharmacology related to the impact of drugs on the human body. This course will also address common general medical conditions as seen in active populations, their prevention, signs, and symptoms, as well as first aid and pharmacological treatments.

HHP 4022. Applied Exercise Physiology. This course aims for the student to experience and learn the practical application of exercise physiology to physical activity, exercise, and athletes' training. Course content includes advanced programming of short-, intermediate-, and long-term training protocols for improving various physical performance outcomes, including cardiovascular endurance, strength, power, hypertrophy, and flexibility. Pre requisites: HPE 3224 Kinesiology and HPE 4234 Exercise Physiology.

HHP 4113. Professional Internship. The HHP internship class allows the student an opportunity to gain valuable clinical experiences in a professional setting while working closely with credentialed supervisors. This internship site placement will be at a traditional workplace setting that meets individual students' professional goals. The internship is designed to meet the partial requirements of many professional and graduate schools.

Courses in History

HIS 1013. World Civilization to 1660. A survey of the civilizations of the world, focusing on the evolution of ideas, politics, and societies to 1660.

HIS 1023. World Civilization since 1660. A survey of the major civilizations of the world, focusing on the evolution of ideas, politics, and societies since 1660.

HIS 1043. World Civilization since 1660 Honors. A survey of the major civilizations of the world, focusing on the evolution of ideas, politics, and societies since 1660.

HIS 1323. World Civilization to 1660 Honors. A survey of the civilizations of the world focusing on the evolution of ideas, politics and societies to 1660.

HIS 2053. U.S. to 1877. A survey of the nation's political, economic, social, and military past in the colonial and early national periods through the American Civil War.

HIS 2063. U.S. since 1877. A survey of the nation's political, economic, social, and military past since the American Civil War.

HIS 4241. Competencies in Social Science Education. All Social Science Education majors must enroll in this course to demonstrate their proficiency in the concepts and curriculum standards established by the National Council for Social Studies. This course is a prerequisite to HIS 4913 Special Methods: Social Studies. Admission to the Teacher Education Program is required or the consent of the Social Sciences program. This 1-credit course replaces HIS 4240.

HIS 4363 Special Topics in American History. This elective is designed for the exploration of a selected topic in American History which is not regularly offered in the department's curriculum. May be repeated with change of content.

HIS 4473 Special Topics in World History. This elective is designed for the exploration of a selected topic in European or World History which is not regularly offered in the department's curriculum. May be repeated with change of content. Will count for the World History upper-level requirement when the topic is World History.

HIS 4913. (WI)Special Methods: Social Studies. The purpose of this course is to introduce pre-service teachers to curriculum and instructional methods used by professional secondary social studies educators. Students will review the social studies curriculum as it relates to learning and development, differences in learning styles, critical thinking, problem solving and performance skills, active learning and motivation, inquiry, collaboration, supportive classroom interaction, instructional planning, assessment, reflection, professional growth, and professional leadership (based on pedagogical standards identified by the National Council for the Social Studies). At least 10 hours of field component required. Fall only. At least 30 hours field component required. Fall only. Admission to the Teacher Education Program is required. Prerequisite: HIS 4240.

Courses in Health and Physical Education

HPE 1350. Orientation of Health and Physical Education. This course is required of all declared Health and Physical Education majors. It provides an orientation to the health and physical education curriculum, affecting the students' licensure requirements. The students are assisted in meeting necessary deadlines for registration for Praxis Testing, Teacher Education Program applications, and opportunities for becoming involved in professional organization memberships and volunteering opportunities. A variety of topics will be presented to acquaint the student with the field of health and physical education. Co-Requisite: HPE 2083 Health and Physical Education Principals.

HPE 2003. Teaching Team Sports. The course is designed to introduce the student to the pedagogical theory and practice of a variety of team sports – softball, volleyball, soccer, basketball, football (flag), kickball, and indoor multi cultural team games specifically – and to prepare the student to be able to teach these sports/team games across grade levels K-12. The course will be taught following the five SHAPE physical education content standards and the Arkansas State Standards for physical education, personal fitness, leisure, and recreational activities.

HPE 2013. Teaching Individual Sports. The course is designed to introduce the student to the pedagogical theory and practice of a variety of individual sports – specifically the racquet sports of tennis, badminton, pickleball, and table tennis; a variety of recreational activities – including walking, running, cycling, hiking, fishing, canoeing/kayaking, archery, etc.; and a variety of individual sports – specifically the sports of golf and bowling – and to prepare the student to be able to teach those sports across grade levels K-12. The course will be taught in accordance with the five SHAPE physical education content standards and the Arkansas State Standards for physical education, personal fitness, leisure, and recreational activities.

HPE 2021. Teaching Contemporary and Modern Dance. The course is designed to introduce the student to the pedagogical theory and practice of a variety of social, contemporary, and modern dances – including folk, square, line, ballroom, step, current trends & multicultural dances – and to prepare the student to be able to teach these dances across grade levels K-12. The course will be taught in accordance with the five SHAPE physical education content standards, the National Dance Standards, and the Arkansas State Standards for physical education, personal fitness, leisure, and recreational activities.

HPE 2023. Sports Officiating. Fundamentals of officiating with special emphasis on football, track, basketball, softball, and baseball. Students will be required to apply basic officiating skills in certain sports and activities by being assigned practicum hours in officiating events at various levels of activities and competitive sports. Also, the students will be given certain activities and sporting events to observe and critique the officiating. Students will have the opportunity to obtain their sport officiating certification.

HPE 2083. Health and Physical Education Principles. This is a freshman/sophomore level class designed as a general overview in the discipline of physical education for major/minor certification or state certification. Co-Requisite: HPE 1350 Orientation of Health and Physical Education.

HPE 2203. Essentials of Human Anatomy and Physiology I. This is an introductory course in human anatomy and physiology. This course includes studying the structure and function of cells, tissues, and the integumentary, skeletal, muscular, and nervous systems, the study of the endocrine, cardiovascular, lymphatic/immune, respiratory, digestive, urinary, and reproductive systems. Introduces common human disease and injury processes. This course will prepare students to plan, implement, demonstrate and evaluate these activities across grade levels K-12 and the Health and Human Performance professions. Prerequisite: BIO 1013/1021 Introduction to Biology & Lab

HPE 2663. Motor Development & Skill Acquisition. This course focuses on the behavioral, biomechanical, and neural bases of the development, acquisition, and performance of functional movement skills. Acquisition of skill is examined over the lifespan in typically developing and impaired individuals. Movement analysis is used to elucidate the neuromotor control processes underlying skilled performance in everyday functional behaviors, sport, and dance. Students who plan to go into professions in which research related to human motor skill is required, or who majoring in professions in which assisting people to learn (or relearn) motor skills is an important part of the job, such as teaching, coaching, physical therapy, occupational therapy, industrial training, athletic training, and various medical/rehabilitation related careers, etc. Various topics related to the cognitive and motor processes influencing the learning of motor skills will be discussed throughout the course. Specifically, topics to be covered will include the assessment of learning, changes during learning, attention, augmented feedback, transfer of knowledge.

HPE 2732. Methods of Rhythmic Games, Gymnastics, and Playground Activities. This class is an activity class to give prospective elementary teachers a broad range of developmentally appropriate activities for the different developmental skill levels of elementary-age children.

HPE 2753. Methods of Elementary Physical Education Pre K-5. This course introduces prospective elementary teachers to research-based teaching strategies, developmentally appropriate basic locomotor, non-locomotor, and manipulative physical activities as guided by the Society of Health and Physical Educators (SHAPE) National Standards and Grade-Level Outcomes for K-5 Physical Education. The first half of the course will focus on the K-2 curriculum, while the second half focuses on the 3-5 curriculum. Students are expected to apply developmentally appropriate practices concurrently by planning and teaching pre-K-2 grade students during the first half and planning and teaching 3-5 grade students during the second half. Prerequisite HPE 1350 (Orientation of Health and PE), HPE 2083 (Health and Physical Education Principles), HPE 2663 (Motor Learning Developmental and Skill Acquisition, and Methods of Teaching Elementary PE).

HPE 3033. Psychological Ethics and Coaching Theory. The course is designed to introduce the student to the major physical, psychological, sociological, and educational theories and concepts affecting the act of coaching K-12. The information presented in the

course coverage shall provide the student with the essential knowledge and framework necessary to the practicing coach. The course is also designed to introduce the student to the fundamental psychological and philosophical understanding and theory of coaching for grades K-12. The course will center on applying such knowledge to coaching, emphasizing the unique demands presented while working within athletics.

HPE 3293. Measurement and Evaluation for Health and Physical Education. The study of tests and measures that the physical educator may wish to evaluate physical fitness, sports skills, knowledge of, and attitudes about physical activities and sports. Basic elementary statistics are presented so the student may construct tests, norms, and evaluate tests now in use. Students must be admitted to the Teacher Education Program before enrolling in this course.

HPE 3224. Kinesiology. This course reviews the human skeletal, muscular, and nervous systems, introduces basic biomechanical principles, and applies this knowledge to the teaching and coaching of sports and physical education activities and athletic training. Prerequisite: HPE 2203 Essential of Human Anatomy and Physiology I

HPE 3502. Health and Fitness for Children. A study of the characteristics of the elementary school child with implications for physical education: program content, teaching techniques, and materials.

HPE 3763 Methods of Secondary Physical Education ED 1 6-8. This course is designed to introduce the students to the principles of curriculum development and pedagogical theory and teaching of a variety of individual and team sports to middle school students (grades 6-8) as guided by the Society of Health and Physical Educators (SHAPE) National Standards and Grade-Level Outcomes for 6-8 Physical Education. A variety of Instructional/teaching models such as sport education, cooperative learning, peer teaching, and teaching personal and social responsibility will also be covered. The first half of the course will focus on individual/dual sports and games, recreation activities, and individual performance activities, while the second half will focus on team sports/games. Students are expected to apply developmentally appropriate practices concurrently by planning, teaching, and evaluating 6-8 grade students. Prerequisite HPE 1350 (Orientation of Health and PE), HPE 2083 (Health and Physical Education Principles), HPE 2663 (Motor Learning Developmental and Skill Acquisition, and Methods of Teaching Elementary PE).

HPE 3773 Methods of Secondary Physical Education ED II 9-12. This course is designed to introduce the students to the principles of curriculum development and pedagogical theory and teaching of a variety of individual-performance activities, lifetime activities, and fitness activities to high school students (grades 9-12) as guided by the Society of Health and Physical Educators (SHAPE) National Standards and Grade-Level Outcomes for 9-12 Physical Education. A variety of Instructional/teaching models such as inquiry teaching, personalized instruction, personal teaching, and social responsibility will also be covered. The first half of the course will focus on lifetime and individual-performance activities, while the second half will focus on dance and fitness activities. Students are expected to apply developmentally appropriate practices concurrently by planning, teaching, and evaluating 9-12 grade students. Prerequisite HPE 1350 (Orientation of Health and PE), HPE 2083

(Health and Physical Education Principles), HPE 2663 (Motor Learning Developmental and Skill Acquisition, and Methods of Teaching Elementary PE).

HPE 4042. Coaching Team Sports. The course is designed to cover principles and coaching theories of football, softball, volleyball, basketball, and baseball. The fundamentals of individual and team play, offense and defense, strategies, and conditioning will be covered in all sports. This course will be taught in accordance with the SHAPE Standard and the Sport Coaching Standards. Prerequisite: HPE 3033 Psychology and Ethics and Coaching Theory

HPE 4052. Coaching Individual Sports. The course is designed to cover the principles, history, rules, practice routines, strategies, sport-specific physical conditioning exercises, and selection of proper attire and equipment for track and field, swimming, tennis, and golf. This course will be taught in accordance with the SHAPE Standards and the Sports Coaching Standards. Prerequisite: HPE 3033 Psychology and Ethics and Coaching Theory

HPE 4073. Adapted Physical Education. This course is designed to provide basic knowledge of the history of adapted physical education; federal and state laws about the education of individuals with disabilities and gifted and talented individuals; psychological, psychomotor, social, and behavioral characteristics of individuals with disabilities and gifted and talented individuals; program planning and teacher effectiveness including assessment, task analysis, and behavior management.

HPE 4113. Practicum for Teaching School Health Education. This course supports the components of the Health, Education, and Social Sustainability Conceptual Framework. It is designed to help student teachers enhance their skills and knowledge to analyze and implement effective teaching methods within the student-teaching experience. Students will also facilitate the transition from student teacher to professional by encouraging participation in professional activities (i.e., professional conferences, in-service meetings, etc.). Course requirements such as mock interviews and the development of professional portfolios will prepare students to pursue employment. This required course meets one or more of the standards for accreditation (CAPE) and program approval as stated on the course syllabus. Students completing this course will be prepared to meet the competencies associated with the licensure standards addressed in this course. Prerequisite: HPE 4183 Methods of Teaching Healthy Decisions I and HPE 4193 Methods of Teaching Healthy Decisions II

HPE 4183. (WI) Methods of Teaching Healthy Decisions I: Nutrition, Drugs, and Disease. Course content will cover methods and materials of teaching health education—following the ten content areas of health, six adolescent risk behaviors (Centers for Disease Control), and the eight National Health Education Standards for grades K-12.

HPE 4193. (WI) Methods of Teaching Healthy Decisions II: Family, Relationships, and Human Sexuality. Course content will cover methods and materials of teaching health education following the ten content areas of health, six adolescent risk behaviors (Centers for Disease Control), and the eight National Health Education Standards for grades K 12.

HPE 4234. Exercise Physiology. A study of the current literature and research into the human body's acute and chronic responses to physical activity. Emphasis will be given to the muscular, nervous, cardiovascular, respiratory, and endocrine systems, as well as the

bio-energetic demands of exercise and nutritional and fluid support. Formally scheduled laboratory sessions will be required. Lab sessions are designed to introduce the student to the theory and practice of various conditioning methods – multiple strength, aerobic exercise, and flexibility programs specifically. This course will prepare students to plan, implement and evaluate these activities across grade levels K-12 and the athletic training program. Prerequisite: HPE 2203 Human Anatomy and Physiology I, HPE 3224 Kinesiology.

HPE 4603. (WI) Special Methods: Health and Physical Education. This course is designed to prepare the student with the knowledge, techniques, and materials necessary to competently enter their internship semester teaching Health and Physical Education in the public schools of Arkansas for grades K-12. This course shall also help the student prepare for passage on the professional testing and assessments required for Arkansas Teacher Licensure.

HPR 1011. Life Fitness Concepts. This course is designed for all general college students. Content develops a healthy lifestyle through physical, psychological, and social concept formation through lecture and laboratory experiences. Class meets two days per week.

HPR 1076. Emergency Medical Technology. This course covers the first phase of training in the Emergency Medical Technician career structure. It includes all techniques of emergency medical care presently considered within the responsibilities of the Emergency Medical Technician. The specific content of the course is based on the National Highway Safety Bureau Program Standard No. 11 and guidelines and recommendations for training ambulance personnel prepared by the Committee on Emergency Medical Services of the National Academy of Sciences.

HPR 1301. Walk, Jog, Run for Fitness. The purpose of this course is to develop basic knowledge about aerobic fitness by participating in a vigorous activity designed to improve muscle tone and the cardiovascular system through a planned program of fitness walking and jogging.

HPR 1341. Wii Sports Fitness. This course is designed for the students to learn to develop exercise programs utilizing technology such as gaming consoles and online tools. The students will obtain knowledge of the health implications of physical activity, physical fitness, and nutrition. The students will also become familiar with various exercise programs to improve their current level of physical fitness.

HPR 1451. Dance for Fitness. This class is a choreographed fitness class with music incorporating cardio, strength, and stretch moves for a total body workout. The movements are taken from hip-hop, Yoga, Pilates, kickboxing, modern dance, and resistance training.

HPR 1461. Advanced Yoga. This class is a continuation of Yoga. This class is designed for the student who has been introduced to the learning of correct positions of yoga postures and will advance to learning more aspects of the study of Yoga. Prerequisite: HPR 1851.

HPR 1471. Beginning Swimming. This course is designed to help the swimming challenged in becoming comfortable and somewhat proficient in their swimming ability. For those who

may already be comfortable and proficient, an attempt will be made to help them improve their skills and cardiovascular fitness.

HPR 1481. Intermediate Swimming. This course is designed for students who are somewhat proficient as a swimmer but would like to improve their skills to the point where they would be ready for Water Safety Instruction.

HPR 1531. Conditioning. This course is designed to prepare the adult for life fitness and knowledge in the wellness approach to lifestyles.

HPR 1551. Tae Kwon Do (Beginning). This course aims to give each student a brief history of martial arts and a basic understanding of the arts and introduce the basic physical fundamentals of martial arts.

HPR 1601. Recreational Flag Football. This course introduces the fundamentals and rules of flag football. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational flag football.

HPR 1691. Recreational Basketball. This course introduces the fundamentals and rules of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball.

HPR 1851. Yoga. This class focuses on health and wellness: physically, mentally, emotionally, socially, and spiritually. Students will learn and practice the correct positions of yoga postures, understand the specific benefits, and practice proper yogic breathing and deep relaxation.

HPR 2053. Water Safety Instructor. This course aims to train instructor-candidates to teach American Red Cross Swimming and Water Safety Courses. Prerequisite: Be at least 17 years old and successfully pass a pre-course written and skills test.

HPR 2173. Lifeguard Training & Waterfront Lifeguarding. The primary purpose of this course is to provide lifeguarding candidates and lifeguards with the skills and knowledge necessary to keep patrons of aquatic facilities safe in and around the water. This course includes certification of CPR for the professional rescuer. Also, a waterfront lifeguarding module is included in the course. This covers swimming areas such as rivers, lakes, reservoirs, streams, etc. Prerequisite: Tread water for two minutes using legs only. Swim 500 yards continuously using at least 100 yards of front crawl, breaststroke, and sidestroke. Submerge to a depth of seven feet and retrieve a 10-pound diving brick.

HPR 2551. Tae Kwon Do (Intermediate). This course aims to enhance skills previously learned in HPR 1551 Tae Kwon Do Beginning and apply those skills through sparring and self-defense. Prerequisite: HPR 1551 Tae Kwon Do Beginning.

HPR 2611. Tennis. This course is a study of the basic skills in tennis, of the rules of play, to allow playing and enjoying the game, develop acceptable etiquette while playing, and provide the student an opportunity to learn teaching techniques for various levels and abilities.

HPR 2621. Golf. This course is designed to help the beginning golfer gain a better understanding of the game. Special emphasis will be placed on learning the basic golfing skills and techniques and using and improving these skills and techniques through active participation.

HPR 3551. Tae Kwon Do (Advanced). This course is intended to enhance skills previously learned in HPR 1551 Tae Kwon Do Beginning and HPR 2551 Tae Kwon Do Intermediate and apply those skills through sparring and self-defense. In addition, students will begin working in an assistant instructor role in preparation for the teaching requirements of the black belt. Prerequisites: HPR 1551 Tae Kwon Do Beginning and HPR 2551 Tae Kwon Do Intermediate.

HPR 3973. History and Philosophy of Non Western Leisure, Culture, Wellness & Sport. A survey of various nonwestern cultures emphasizes how the values of these cultures are expressed and reflected in their individual games, sports, recreational & leisure activities, and their societal approach to ensure personal health and wellness.

HPR 4731, 4732, 4733. Independent Studies. An in-depth study of a specific problem(s) in health, physical education, and athletic training. Permission of instructor & Program Director (or their appointee) is required.

Courses in Management

MGM 3013. (WI) Management Communications. Emphasis is placed on applying and understanding principles of written communication as applied to the management process. Topics covered include letters, procedures, short case analysis, business reports, channels of communications, social networks, resumes, and job interviews. This is a writing intensive course.

MGM 3113. (WI) Principles of Management. The study of concepts, principles, and practices necessary for effectively managing an organization in a dynamic environment. The course gives comprehensive coverage of such topics as formal and informal structure, environmental forces, planning, decision-making, and leading teams. Prerequisites: 45 semester hours of credit.

MGM 4023. Human Resource Management. This course examines the principles, theories and systems for attaining maximum contribution from each member of an organization toward the achievement of organizational objectives. The course explores how individual goals can be successfully merged with organizational goals through human resource planning, recruitment/selection, training/development, employee relations, and compensation and reward systems. Prerequisite: MGM 3113.

MGM 4053. Nonprofit Management. This course is designed to introduce students to the theory and practice of nonprofit management. It will focus on topics that are pertinent for effective management and leadership across different types of organizations that make up the nonprofit sector. Special emphasis will be given to critical functions such as fundraising, marketing, communications, volunteer management, leadership, accountability and performance as well as ethical and the legal foundations of the non-profit sector. Special topics such as advocacy and lobbying, governing and managing international organizations, and social entrepreneurship may be covered. The service-learning component of this course will give students an opportunity to study a nonprofit organization. Prerequisites: MGM 3113.

MGM 4063. Grant Writing and Management. This course will introduce students to how nonprofit, public, and individual institutions obtain and manage financial resources. Areas of focus include earned income strategies, writing, and execution of practical grant proposals and managing contracts that result from successful grants application in the nonprofit, government and other relevant institutions. Students will engage in designing programs, outcome and process objectives, budget development and evaluation plans applied to the preparation of an actual proposal. Grant contract management will include monitoring, performance evaluation and reporting program and fiscal data. The experiential learning aspect of this course involves the use of regional or local funders to review and provide expert feedback on students' written proposals.

MGM 4073. Operations Management. A study of the principles and quantitative techniques of management utilized by the operations manager in the allocation of resources in manufacturing and service firms. The application of classical quantitative methods and current management science techniques to business problems. Prerequisites: GBU 3133; MGM 3113.

MGM 4083. Managing Public Budgets. This class covers the practical approach to managing public sector budgets and finances. Topics covered include the role of public managers in the preparation, approval, and implementation of budgets; the types of budget (including line-item, program and performance-based budgeting), operations, capital budgets, and improvement plans. Students will estimate fringe benefits for personnel budgets and assess property value to generate tax revenues using varied techniques and models. It also covers some critical public financial management strategies including cash, debt and cut back management— 60 hours of coursework completed or with instructor's permission.

MGM 4093. Organizational Behavior. This course addresses the application of behavioral science theories and research to understanding the behavior of persons in the workplace. The course aims to help students develop an understanding of human behavior and develop people skills. The course will emphasize those factors that impact workers' morale, group dynamics, and worker efficiency, including the impact of technology on work behavior in modern business organizations.

MGM 4133. Strategic Management. Emphasis is placed on the development of a philosophy of management by examining the strategic factors affecting organizations and management. Strategic management decisions are analyzed in order that they may be related to the whole philosophical framework of business. Detailed investigations are made on the effects of strategic decisions on sales, production, personnel, finance and international business. Special attention is given to ethical considerations in making business decisions. The BAT score (the exit exam

required of all B.B.A. candidates) is an important part of the student's semester grade in this class. This class must be taken during the last 18 hours prior to graduation. Prerequisites: FIN 3043; MGM 3013, 3113, MGM 4073; MKT 3013.

MGM 4143. Small and Family Business. This course aims to enhance students' understanding of the many facets surrounding the management and growth of small firms and family businesses. Topics will include small firm and family business characteristics and significance, developing business plan, financing startup and growth, managing operations, marketing, and emerging issues in small firm and family businesses. Prerequisites: ACC 2023, MGM 3113, MKT 3013, or consent of the instructor.

MGM 4153. Leadership and Ethics. Organizational leadership is a study of the leader's influence on employee perceptions, feelings, and actions within the organization. Environmental factors, organizational objectives, company culture, and individual and group ethical standards will be examined to incorporate situational determinants of leadership effectiveness. Prerequisite: MGM 3113.

MGM 4193. International Business. Introduction to the environment of international business with emphasis on cultural diversity, international institutions, government business interface, and global competition. Case studies will be used to emphasize issues. Country studies (both written and oral) will be developed and presented. Prerequisites: FIN 3043, MGM 3113, MKT 3013.

MGM 4241-3. Special Studies in Management. Individual or group research and discussion on special issues in the field of management. Prerequisites: MGM 3113 and consent of the instructor.

MGM 4283. Management Internship. The course provides students with hands-on, practical, business-world experience in Management. Through an internship, students will have firsthand experience applying academic knowledge and skills, interact and communicate with business professionals, while building a network of professional contacts and gaining self-confidence. Three semester hours credit maximum. Approval is required from the internship director and a faculty member in the student's focus area. Current employment may NOT be used for credit in this course.

Prerequisite: Instructor consent and other appropriate approvals. This is a credit/no credit course.

Courses in Marketing

MKT 3013. Fundamentals of Marketing. This course provides an introduction to basic concepts and terminology in marketing, including the following: the role of marketing in the economic system, the process of developing a marketing strategy, the external influences that affect a marketing strategy, the global and ethical considerations, and the basic analytical tools appropriate to marketing decision making. Prerequisites: ECO 2023.

MKT 4033. Retailing. This course presents the principles and methods of modern retailing with particular emphasis on entrepreneurship and global and ethical issues. Project, paper and presentation required. Prerequisite: MKT 3013 or consent of the instructor.

MKT 4053. Integrated Marketing Communications. A course designed to improve the student's understanding of all of the major marketing communication functions: advertising, direct marketing, internet, sales promotions, public relations and personal selling. Students will learn how to plan, implement and evaluate an Integrated Marketing Communications strategy for a business. Prerequisite: MKT 3013.

MKT 4113. Marketing Research. Basic research concepts and techniques are applied to a marketing problem. Course is project based with a paper and presentation required. Prerequisites: GBU 3133; MKT 3013.

MKT 4131-3. Special Studies in Marketing. Individual research and group discussion on special problems in the field of marketing. Prerequisites: MKT 3013 and consent of the instructor.

MKT 4143. Marketing Internship. The course provides students with hands-on, practical, business-world experience in Marketing. Through an internship, students will have firsthand experience applying academic knowledge and skills, interact and communicate with business professionals, while building a network of professional contacts and gaining self-confidence. Three semester hours credit maximum. Approval is required from the internship director and a faculty member in the student's focus area. Current employment may NOT be used for credit in this course. Prerequisite: Instructor consent and other appropriate approvals. This is a credit/no credit course.

MKT 4153. Sales Management. This course focuses on the details of the personal selling process in a contemporary business environment. It examines how organizations and individuals create value for customers through the personal selling process and customer relationship management. It also includes a survey of the unique challenges managers face working with professional salespeople. Prerequisite: MKT 3013.

MKT 4163. Consumer Behavior. The study of buying units and the exchange processes involved in acquiring, consuming, and disposing of goods, services, experiences, and ideas. The main focus of the course involves identifying how an understanding of the exchange process, the individual influencers, and the environmental influencers can be used to develop marketing strategy. Prerequisite: MKT 3013.

MKT 4183. Digital Marketing. The course provides an introduction to digital marketing, including the following: search engine optimization, paid search, display advertising, web analytics, email marketing, social media strategy, and mobile marketing.

Courses in Mathematics

MTH 0003. Elementary Algebra. This course is designed for students who desire or need a stronger understanding of the numeration system and how to operate within that system. It is designed to enhance students' understanding of algebraic expressions and equations. Students will analyze functions using graphical and algebraic techniques. Students with a mathematics ACT score below 17 (or equivalent score on admission exams approved by HSU) are required to complete the course with a grade of C or better before enrolling in MTH 0013. This course cannot be used for degree requirements.

MTH 0032. Quantitative Literacy Review. Students will learn and review basic mathematical concepts as well as calculator skills that are needed to succeed in Quantitative Literacy. Students must be enrolled in MTH 1033 (Quantitative Literacy) to enroll in MTH 0032. This course is required for students whose ACT mathematics score is below 19 who are enrolled in MTH 1033, but is open to any student enrolled in MTH 1033.

MTH 0242. College Algebra Review. Students will learn and review basic mathematical concepts as well as calculator skills that are needed to succeed in College Algebra. Students must be enrolled in MTH 1243 (College Algebra) to enroll in MTH 0242. This course is required for students who are enrolled in MTH 1243 whose ACT mathematics score is 17, 18 or 19, but is open to any student enrolled in MTH 1243. Students must enroll with the same instructor for both College Algebra and College Algebra Review.

MTH 1033 (MATH 1003). Quantitative Literacy. This course consists of units dealing with logic, proportional reasoning, the mathematics of finance, exponential growth and decay, geometry (plane and solid), voting theory, applications of mathematics to music and art, and probability and statistics. Prerequisite: A mathematics ACT score of at least 19 OR concurrent enrollment in MTH 0032 OR a C or better in MTH 0003.

MTH 1034. Quantitative Literacy - Enhanced. This course consists of units dealing with logic, proportional reasoning, the mathematics of finance, exponential growth and decay, geometry (plane and solid), voting theory, applications of mathematics to music and art, and probability and statistics. Meets three hours plus an additional two-hour laboratory per week. Prerequisite: MTH 0003 (with a grade of C or better), or a mathematics ACT score of at least 17 (or equivalent score from an admission exam approved by HSU).

MTH 1053. Number Operations and Number Sense. Numeration systems from natural numbers through real numbers will be developed including operations and properties with applications using the mathematical practices and supported by varied representational tools, including concrete models as appropriate to the P-8 teacher. Prerequisites: Mathematics ACT score of at least 19 (or equivalent math score from an admission exam approved by HSU) or a grade of C or better in either MTH 1244, MTH 1243, or MTH 1274.

MTH 1213. Algebra for Elementary and Middle Grades. A course designed to meet the needs of students preparing for elementary and/or middle school licensure. Topics include linear and non-linear equations, linear inequalities; inverse, polynomial, rational, exponential and logarithmic functions. Concepts will be developed using appropriate manipulatives and technology. Prerequisite: MTH 0013 (with a grade of C or better), or a mathematics ACT score of at least 19 (or equivalent math score from an admission exam approved by HSU). An ACT math score of 22 or above is recommended.

MTH 1233. Applied Trigonometry. Emphasis on applications instead of solving trigonometric equations and proving identities. Topics include angular measurement, trigonometric functions, graphing, Law of Sines, Law of Cosines, Heron's formula, polar coordinates, parametric equations, and two- and three-dimensional vectors. Students preparing for MTH 1294 should take MTH 1253 instead. Prerequisite or corequisite: MTH 1213, MTH 1243, MTH 1244, MTH 1273, or program permission.

MTH 1243 (MATH 1103). College Algebra. A course designed to meet the general education needs of students in business, sciences, and other programs outside of mathematics. Topics include linear, non-linear, inverse, polynomial, rational, exponential and logarithmic functions; systems of linear equations, linear and quadratic inequalities. Problem-solving techniques will be discussed with and without the use of technology. Prerequisites: A mathematics ACT score of at least 20 OR a mathematics ACT score of at least 17 and concurrent enrollment in MTH 0242 OR a C or better in MTH0003 and concurrent enrollment in MTH 0242 OR a C or better in MTH 0013. A mathematics ACT score of 22 or above is recommended.

MTH 1244. College Algebra-Enhanced. A course designed to meet the general education needs of students in business, sciences, and other programs outside of mathematics. Topics include linear, non-linear, inverse, polynomial, rational, exponential and logarithmic functions; systems of linear equations, linear and quadratic inequalities. Problem-solving techniques will be discussed with and without the use of technology. Meets three hours plus an additional two-hour laboratory per week. MTH 0003 with a grade of C or better, or MTH ACT of 17 or better.

MTH 1274. Precalculus Mathematics. Selected topics from algebra, trigonometry, and analytic geometry. Provides necessary background for students who plan to take MTH1294. Prerequisite: Math ACT score of at least 25, or a C or better in MTH 1243 or MTH 1244.

MTH 1294 (MATH 2405). Calculus I. Topics include limits, derivatives, and integrals of algebraic and transcendental functions. Theory, computation, and applications are emphasized. Prerequisites: A C or better in MTH 1274 or (MTH 1243 and MTH1253) or (MTH 1244 and MTH 1253) or consent of the program.

MTH 2044. Calculus II (MATH 2505). This course is a continuation of MTH 1294-Calculus I. Additional topics will include integration techniques, improper integrals, infinite series, parametric equations and polar coordinates. Theory, computation, and applications are emphasized. Prerequisite: MTH 1294 or consent of the program.

MTH 2283. Discrete Mathematics. A study of mathematical structures that are fundamentally discrete rather than continuous in nature. The course includes a study of logic, mathematical writing and proofs, an introduction to set theory, relations, and counting methods. Prerequisites: MTH 1243 or MTH 1274; MTH 1294 recommended.

MTH 2483. Geometry I for the Elementary and Middle Grades. Geometry concepts appropriate for P-8 grade levels will be developed. Topics will include appropriate geometric terminology, lines, angles, plane curves, polygons and other plane regions, polyhedra and other space figures, measure, constructions, transformations, congruence, similarity and geometric

reasoning. Prerequisites: A grade of C or better in MTH 1053 and in one of the following: MTH 1244, MTH 1243, or MTH 1273.

MTH 2543. Data Analysis, Statistics, and Probability for the Elementary and Middle Grades. Concepts of data analysis, statistics, and probability appropriate for P-8 grade levels will be developed using the mathematical practices and supported by appropriate technology and varied representational tools, including concrete models. Topics include univariate and bivariate graphical techniques, measures of center and dispersion, normal distribution, discrete probability with applications, geometric probability with applications, and simulation. Prerequisites: A grade of C or better in MTH 1053 and in one of the following: MTH 1244, MTH 1243 or MTH 1274.

MTH 2553. Survey of Calculus. Survey of the basic concepts of calculus, including limits, derivatives and integrals using polynomials, rational functions, exponential and logarithmic functions. Models and applications in a variety of areas will be included. Credit will not be given for both MTH 2553 and MTH 1294. Prerequisite: Math ACT score of 25, or a grade of C or better in MTH 1213, MTH 1243, or MTH 1244.

MTH 2611-6. Internship in Mathematics. See MTH 4621.

MTH 3023. (WI) Systems of Geometry I. The course introduces the concept of an axiomatic mathematical system through the development of neutral and Euclidean geometries with an emphasis on valid arguments. Non-Euclidean geometry will also be investigated. Prerequisites: MTH 1294 and MTH 2283.

MTH 3063. Advanced Algebra for the Elementary and Middle Grades. The course reviews the basic concepts of algebra, use of manipulatives, and the use of technology. Prerequisite: MTH 2483.

MTH 3073. Geometry II for the Middle Grades (4-8). An informal study of the concepts of position, shape, size, construction with straightedge and compass, structure of geometry, and measurement. Prerequisite: MTH 2483.

MTH 3104. Calculus III. A study of 2-D and 3-D vectors and geometry, vector functions, partial differentiation, multiple integration, Lagrange multipliers, and vector calculus. Prerequisite: MTH 2044.

MTH 3124. Differential Equations. Analytic, approximate, and graphical solutions to ordinary differential equations, the theory of the existence and uniqueness of solutions, and applications of these ideas to the physical sciences. Prerequisite: MTH 2044.

MTH 3163. Probability and Statistics I. The course deals with the mathematical theory of probability and application of this theory to statistical inference. Topics include descriptive statistics, independence, conditional probability, expectation, variance, discrete and continuous distributions, moment generating functions, and the central limit theorem. Prerequisites: MTH 2283 and MTH 2044.

MTH 3383. Mathematics for Secondary Teachers. This course develops problem-solving strategies and proofs in a variety of mathematical contexts, emphasizing the connections between algebra and geometry. The historical development of mathematics and how it affects mathematics today will be explored. **Prerequisites:** MTH 1243 or MTH 1253 or MTH 1274, MTH 2283. dean

MTH 3553. Foundations of Calculus for the Middle Grades. An intuitive understanding of limits, derivatives with applications, and integration with applications will be developed using the mathematical practices and supported by appropriate technology and varied representational tools, including concrete models as appropriate for middle-level mathematics teachers. Prerequisite: grade of C or better in MTH 2483 and in one of the following: MTH 1213, MTH 1243, MTH1244, MTH 1273.

MTH 3633. Advanced Mathematics for Middle Grades. A course designed to meet the needs of students preparing for middle school licensure. At the completion of this course, students should be able to demonstrate their understanding of the basic concepts of advanced mathematics by representing, describing, interpreting, modeling, and generalizing mathematical phenomena. Technology and tools will be used strategically. Prerequisites: grade of C or better in MTH 2483 and in one of the following: MTH 1213, MTH 1243, MTH1244, MTH1273.

MTH 3663. Applied Linear Algebra. Topics may include systems of linear equations, vector spaces, linear transformations, matrix decompositions, orthogonality, determinants, eigenvalue problems, and diagonalization. Emphasis will be on concepts, calculations, applications, and appropriate software. Only one of MATH 3113 and MATH 3663 may be applied to a mathematics, computer science, or statistics degree, track, minor, or certificate. Prerequisite: MTH 1294.

MTH 4331-3, 5331-3. Independent Study. Independent study in an area of mathematics selected by the student and faculty advisor. Credit will vary from one (1) to three (3) hours. May be repeated. Prerequisite: consent of faculty advisor.

MTH 4491-3, 5491-3. Special Topics in Mathematics Education. A broad range of topics in mathematics content that will include, but not be limited to, algebra, geometry, probability, statistics, and data representation, and the use of technology. Topics will be addressed to middle school and/or high school teachers. Students will be able to repeat the course for credit when different topics are being presented than when the student previously took the class. A designation of the topics covered will be recorded on the transcript. Prerequisites: Secondary - MTH 1243, MTH 1294, or consent of the instructor. Middle School - MTH 1053, MTH 2483 or program consent.

MTH 4563. Math Modeling and Applications for the Middle Grades. This course will serve as the capstone course for students pursuing licensure in Middle School Mathematics and Science. Connections between other mathematics courses in the program will be broadened and explored using appropriate materials through laboratory experiences. The use of technology, including the Internet as an instructional source, as is appropriate for the middle grades will be incorporated to enhance problem-solving, communication and reasoning skills. Prerequisite: MTH 2553 or MTH 3633 or program consent.

MTH 4893. (WI) Special Methods/Math. This course emphasizes the strategies of teaching mathematics, the planning for teaching mathematics, and mathematical assessment programs. Topics include developing objectives, creating lessons, building units, designing an assessment plan, and appropriate use of manipulatives and technology. Prerequisite: MTH 3383 or program consent.

MTH 4961-3, 5961-3. Special Topics in Mathematics. Topics selected from the areas of analysis, algebra, geometry, topology, logic, statistics, or other areas according to student needs and the instructor's specialization. The student's transcript will indicate the specific topic covered. Because course content will vary, students may repeat the course for a maximum of six hours credit. Prerequisite: program consent.

Courses in Music

MUS 1011, 3011. Band. A performing band available to all university students by audition with the director. Includes participation in the "Showband of Arkansas®" marching band. Required of instrumental music education majors through the junior year. Three class meetings per week. Fall semester only. May be repeated for credit.

MUS 1011, 3011. Concert Band. The Concert Band is comprised of university students who wish to continue performing traditional band literature in a traditional university "campus band" setting. The ensemble is dedicated to broadening the artistic level and interest of its members while performing music of artistic and historical significance. The Concert Band also serves as a practicum for music education majors, and collaborates with the Pep Band for athletic events and university functions. All bands incorporate improvisation as part of ensemble skills taught in the course. Membership is open to all university students and community, regardless of major, and is by audition only. Two class meetings per week. Spring semester only. May be repeated for credit.

MUS 1021, 3021. University Chorale. A highly selective and actively performing choral ensemble choosing literature from a wide range of choral classics. Audition required. Two class meetings per week. May be repeated for credit.

MUS 1031. Class Piano for Non-Majors. A beginning course in group piano introducing fundamentals such as keyboard topography, technique, and theory that are necessary for the development of competent sight-reading and playing skills at the elementary level. One class meeting per week. May be repeated for credit. A \$40.00 lab fee is assessed. Selected semesters only.

MUS 1051, 1061. Class Piano I and II. A beginning course in group piano, for non-keyboard music majors, designed to develop functional skills such as technique, sight-reading, harmonization, transposition, improvisation, play-by-ear, and solo playing at the early-elementary and late-elementary levels. Sight-singing and music theory skills are an integral part of the group piano curriculum. Two class meetings per week. A \$40.00 lab fee is assessed. Prerequisites: MUS1823 or by placement. Music majors only; music minors and non-majors by instructor permission only.

MUS 1071, 3071. Concert Choir. A large performing vocal ensemble designed for the music major and the general university student who enjoys singing by audition with the director. Three class meetings per week. May be repeated for credit.

MUS 1080, 3080. Performance Laboratory. A recital class comprised primarily of weekly general student recitals, junior and senior music degree recitals, ensemble presentations, and faculty and guest artist programs. Required of all music majors for a minimum of seven semesters. Students receive a grade of CR or NC for the course. A \$25.00 lab fee is assessed.

MUS 1171, 3171. Opera Workshop. A workshop setting in which acting and interpretation skills are developed. These skills are then incorporated into the performance of opera scenes or one-act chamber operas. Open to all university students by audition. Three class meetings per week. May be repeated for credit.

MUS 1221, 3221. String Orchestra. A performing string orchestra available to all university students by audition with the director. Two class meetings per week. May be repeated for credit.

MUS 1233, 1243. Theory I and II. Study of the diatonic compositional principles of the 18th century from music fundamentals through elementary chromatic harmonies and modulations. Three class meetings per week. Prerequisites: MUS1823 or by placement.

MUS 1251, 1261. Aural Skills I and II. Development of sight-singing and aural skills. Two class meetings per week. Prerequisites: MUS1823 or by placement.

MUS 1321, 3321. String Ensemble. A small instrumental ensemble required of string instrument majors on scholarship, and open to all university students by audition. Two class meetings per week. May be repeated for credit.

MUS 1451, 3451. Jazz Improvisation Laboratory. The study of the fundamentals of jazz, including chord nomenclature, scale construction, form, and improvisational techniques. Prerequisite: permission of instructor. Two class meetings per week. May be repeated for credit.

MUS 1493, 3493. Composition. A beginning and intermediate study of the techniques of music composition. Three class meetings per week. Selected semesters only.

MUS 1531, 3531. Symphony Band. The Symphony Band is comprised of student musicians who have demonstrated an outstanding level of musicianship and commitment to musical excellence. The Symphony Band performs two on-campus concerts during the spring semester, featuring works for larger wind bands in addition to works that are considered to be among the core wind repertoire. All bands incorporate improvisation as part of ensemble skills taught in the course. is open to all university students, regardless of major, and is by audition only. Three class meetings per week. Spring semester only. May be repeated for credit.

MUS 1641, 3641. Woodwind Ensemble. A small instrumental ensemble required of woodwind instrument majors on scholarship, and open to all university students by audition. Two class meetings per week. May be repeated for credit.

MUS 1671, 3671. Percussion Ensemble. A small instrumental ensemble required of percussion instrument majors on scholarship, and open to all university students by audition. Two class meetings per week. May be repeated for credit.

MUS 1771, 3771. Jazz Ensemble. An instrumental ensemble which performs and studies jazz and contemporary music. Open to all university students by audition. Three class meetings per week. May be repeated for credit.

MUS 1781. Techniques of Ensemble Playing. Basic training in sight-reading and experience in playing repertoire for piano, four- and eight-hands, and for chamber groups with piano. Two class meetings per week. Selected semesters only.

MUS 1791. Techniques of Accompanying. Instruction in the principles and practices of the art of accompanying. Two class meetings per week. Selected semesters only.

MUS 1801, 3801. Accompanying. Two hours weekly of studio and/or ensemble accompanying with additional rehearsals as needed. Prerequisite: MUS 1791 or permission of instructor. May be repeated for credit.

MUS 1823. Introduction to Music Theory. Establishment of the fundamentals of music theory, aural skills, and piano. Three class meetings per week. A \$25.00 lab fee is assessed. Fall semester only.

MUS 1851, 3851. Brass Ensemble. A small instrumental ensemble required of brass instrument majors on scholarship and open to all university students by audition. This course is designed to help students develop their musicianship and performance skills while increasing their familiarity with brass repertoire. Two class meetings per week. May be repeated for credit.

MUS 1941, 3941. Reddie Pep Band. A small ensemble of wind and percussion instrumentalists which plays at basketball games. Open to all university students with permission of the instructor. May be repeated for credit.

MUS 1951, 3951. Wind Ensemble. The Wind Ensemble is comprised of the university's finest wind and percussion musicians and performs traditional and contemporary wind repertoire of the highest quality in a smaller ensemble setting. The Wind Ensemble performs two on-campus concerts every spring semester, as well as an annual tour which includes performances at national and state conferences and in the public schools. All bands incorporate improvisation as part of ensemble skills taught in the course. Membership is open to all university students, regardless of major, and is by audition only. Two class meetings per week in the fall, three per week in the spring. May be repeated for credit.

MUS 1971, 3971. Women's Choir. A performing vocal ensemble designed for the general university female student who enjoys singing. Two class meetings per week. May be repeated for credit. Selected semesters only.

MUS 2033. Humanities: Music. A course designed to heighten the student's awareness of music's role in society, to introduce the elements of music, to assist in the development of

analytical listening skills, and to broaden the student's musical appreciation. Satisfies the humanities requirement of the Liberal Arts Core. Three class meetings per week.

MUS 2091. Instruments for Singers. The study of string, wind, and percussion instruments for students with no instrumental music experience. This course is designed to give choral and choral/keyboard majors a functional knowledge of band and orchestra instruments. Students in the course must be able to read pitches and rhythms. Open to all university students with permission of the instructor. Two class meetings per week. Spring semester only in odd-number years.

MUS 2151. Voice Class for Non-Majors. An elementary course in singing, employing both group and individual techniques. The problems of singing and of voice improvement are studied through exercise and song interpretation. One class meeting per week. May be repeated for credit.

MUS 2183. American Popular Music. A survey course of the history and development of popular music in America from the 19th to the 21st century. The course combines cultural and social history with an analytical study of musical styles. Satisfies the humanities requirement of the Liberal Arts Core. Online only in fall semesters.

MUS 2191, 2201. Language and Diction I and II. Phonetics applied to the study of English, Italian, German, and French song literature. The study of diction problems applicable to all song literature. Two class meetings per week.

MUS 2212. Introduction to Music Literature. Study of significant musical works from all style periods of music history. Emphasis is placed on techniques of listening. Two class meetings per week. Spring semester only.

MUS 2273. Theory III. A study of theory including 19th century harmony and chromaticism. Three class meetings per week. Prerequisite: MUS 1243.

MUS 2333. Form and Analysis. A study of various concepts of harmony and form as found in music of the 18th and 19th centuries. Three class meetings per week. Prerequisite: MUS 2273.

MUS 2402. Public School Music. Optional course for all P-4, 4-8 education majors. A study of music fundamentals and methods necessary for elementary classroom music instruction. Two class meetings per week. For P-4, 4-8 Education majors only, or by permission of the instructor.

MUS 2521-3, 4521-3. Special Studies in Music. Individual research on worthy music projects. Permission of program director: required. Selected semesters only.

MUS 2543. Music Education Technology. This is a course for music education majors to participate in field experiences, lectures, readings, discussions, writing assignments, and interactive projects, which are designed to provide an introduction to music education technology. Three class meetings per week.

MUS 2601, 2611. Class Piano III and IV. Further development of keyboard functional skills necessary for the preparation for piano proficiency. Hymnal and open-scores, instrumental/vocal

accompaniment, and intermediate-level standard solo repertoire are included. Sight-singing and music theory skills continue to be an integral part of the curriculum. Two class meetings per week. A \$40.00 lab fee is assessed. Music majors only; music minors and non-majors by instructor permission only. MUS 1061 is prerequisite to MUS 2601; MUS 2601 is prerequisite to MUS 2611.

MUS 2621. Aural Skills III. Further development of sight-singing and aural skills. Two class meetings per week. Prerequisite: MUS 1261.

MUS 3001. Introduction to Electronic Music. Use of electronics in music composition. Open to all university students by permission of the instructor. Selected semesters only.

MUS 3041. Band History and Repertoire. The history and development of the American wind band and the study of representative band compositions for beginning, middle school, and high school bands. Two class meetings per week. Fall semester only.

MUS 3282. Post-1900 Theory. A study of theory from advanced chromatic harmony through 21st century art and popular music techniques. Two class meetings per week. Prerequisite: MUS 2273. Spring semester only.

MUS 3293. Counterpoint. Study of compositional principles in 18th century contrapuntal forms. Three class meetings per week. Prerequisites: MUS 1243, MUS 2273, and MUS 3282. Fall semester only in odd-number years.

MUS 3302. Service Playing. Training in the playing of hymns, anthems, arranging piano accompaniments for organ, improvisation, and modulation. Selected semesters only.

MUS 3313. Conducting. Basic techniques of the baton and interpretation of the musical score required of all music majors. Three class meetings per week. Prerequisites: Successful completion of the Sophomore Performance Assessment and three semesters of Class Piano, Aural Skills, and Music Theory. Fall semester only.

MUS 3340. Junior Recital. This course represents the applied music project for junior music performance majors. A public recital will be given during junior-level applied study and with the approval of the applied teacher. This course is taken in addition to applied music during the Junior Recital semester. Prerequisites: successful completion of the Sophomore Performance Assessment and applied music as required by the degree.

MUS 3392. Vocal Pedagogy. A study of pedagogical techniques and materials for instruction of voice. Two class meetings per week. Spring semester only in even-number years.

MUS 3461. Percussion Methods. A study of percussion pedagogical techniques, including elementary and advanced teaching procedures and analysis of student problems. All students will demonstrate a basic proficiency in percussion. Two class meetings per week. Spring semester only.

MUS 3473. Survey of Non-Western Music. A course designed to heighten the student's awareness of music from nonwestern cultures. Folk, sacred, and traditional music from

countries such as Africa, India, and Eastern Europe will be studied. This course will fulfill the general education requirement in non-western cultures for all university students. Required of music majors.

MUS 3482. Organ Pedagogy. A study of pedagogical techniques for instruction of organ. Selected semesters only.

MUS 3592. Piano Pedagogy. A study of pedagogical techniques for individual and group piano instruction at the elementary level. Course content includes, but is not limited to, the survey of major keyboard methods, learning styles, supplementary teaching repertoire, the business of teaching, and the incorporation of technology into an independent piano curriculum. Selected semesters only. Permission of the instructor is required.

MUS 3632. Post-1900 Aural Skills. Development of sight-singing and aural skills incorporating music from the 20th and 21st centuries. Two class meetings per week. Prerequisite: MUS 2621. Spring semester only.

MUS 3861. Voice Methods. This course provides students with both theoretical and experiential understanding of how the voice works, as well as the skills necessary for working with groups of singers at both the elementary and secondary levels. Required of all instrumental music education majors. Two class meetings per week. Spring semester only.

MUS 3551. Brass Methods. A one-semester study of pedagogical techniques of major brass instruments, with students demonstrating a general knowledge of brass pedagogy and basic technical proficiency on one or two brass instruments.

MUS 3561. Woodwind Methods. A study of the pedagogical techniques of the major woodwind instruments. Students will demonstrate a general knowledge of woodwind pedagogy and basic technical proficiency on one or more woodwind instruments.

MUS 3931. Class Piano Pedagogy. A study of pedagogical techniques for group piano instruction at the college level. Course content includes, but is not limited to, the survey of major instructional textbooks, classroom management, the integration of ear-training/sight-singing, theory, and keyboard skills, and the use of technology for teaching and student learning. Selected semesters only. Permission of the instructor is required.

MUS 3961. String Methods. A study of string pedagogical techniques, including elementary and advanced teaching procedures and analysis of student problems. Required for instrumental music education students. Two class meetings per week. Fall semester only.

MUS 4351. Senior Recital. This course represents the final applied music project for music majors. A public recital will be given after the completion of junior-level applied study and with the approval of the applied teacher. This course should be taken in lieu of applied music during the Senior Recital semester. Prerequisites: successful completion of the Sophomore Performance Assessment and applied music as required by the degree.

MUS 4363, 4373. (WI) History of Music I and II. A detailed study of styles, genres, and composers of music in the history of Western Civilization from ancient Greece to 1900. Three class meetings per week. Prerequisites: MUS 2273 and MUS 2621.

MUS 4382. (WI) Post-1900 Music History. A study of the history and styles in music since 1900. Post-romanticism, nationalism, neoclassicism, and later trends in contemporary music will be studied. Two class meetings per week. Prerequisite: MUS 4363 or MUS 4373. Fall semester only.

MUS 4413. Advanced Choral Conducting/Choral Literature. An advanced course for choral (vocal and keyboard) students dealing with literature, score study, rehearsal techniques, and conducting. Three class meetings per week. Prerequisite: MUS 3313. Spring semester only.

MUS 4432. Orchestration. Basic elements of instrumental arranging. Study of transpositions, ranges, limitations and advantages of commonly used instruments in ensemble settings. Orchestral terminology and practical score and parts preparation is included. Two class meetings per week. Prerequisites: MUS 1243, MUS 2273 and MUS 3282. Spring semester only.

MUS 4501. Capstone Experience. This course is intended to synthesize a student's musical knowledge, methodology and skill into a culminating senior project. To be completed in close consultation with an advisor, the Capstone Experience may take the form of an undergraduate thesis, lecture recital, or other approved comprehensive semester project. This course is for Bachelor of Arts in Music majors only. Prerequisites: successful completion of the Sophomore Courses in Performance Assessment and approval of the program director.

MUS 4511. Advanced Instrumental Conducting. Advanced techniques in instrumental conducting, score study, and rehearsal techniques. Prerequisite: MUS 3313. Three class meetings per week. Spring semester only.

MUS 4722. Special Methods: Secondary Choral. Special methods in the teaching of Junior and Senior High School vocal music. Two class meetings per week. Prerequisites: MUS 3313. Fall semester only. This course requires 10 hours of field experience. EDU 4113 or EDU 4433 should be taken concurrently.

MUS 4732. Special Methods: Instrumental. Special methods in the administration of instrumental program K-12 and rehearsal techniques. Two class meetings per week. Prerequisite: successful completion of the Sophomore Performance Assessment. Spring semester only. This course requires 10 hours of field experience. EDU 4113 or EDU 4433 should be taken concurrently.

MUS 4742. Special Methods: Marching Band Techniques. Special methods in rehearsal techniques for marching band. Two class meetings per week. Prerequisite: successful completion of the Sophomore Performance Assessment. Fall semester only. This course requires 10 hours of field experience.

MUS 4752. Special Methods: Music-Elementary. Special methods in the teaching of Elementary and Middle School general music. Two class meetings per week. Prerequisites: successful completion of the Sophomore Performance Assessment and admission to Teacher Education Program or concurrent enrollment in courses leading to admission to Teacher Education Program. Spring semester only. This course requires 10 hours of field experience.

MUS 4903. Piano Literature I. Survey of keyboard literature from the English virginalist school through the works of Haydn and Mozart. Prerequisites: MUS 1243, MUS 2273 and MUS 3282 or permission of instructor. Selected semesters only.

MUS 4913. Piano Literature II. Survey of keyboard literature from the works of Beethoven through the works of avante garde composers. Prerequisites: MUS 1243, MUS 2273 and MUS 3282 or permission of instructor. Selected semesters only.

Courses in Nursing

NSG 2561. Nursing as a Profession. This course is designed to introduce students to the nursing profession. Components addressed will include the evolution of the nursing profession, the image of nursing, the education and socialization of nursing, cultural competency and social issues of the nurse, nurse practice roles, and legal, ethical and health policy issues.

NSG 2573/NSG 2573L. Basic Skills for Healthcare Providers. This course provides an introduction to the basic skills of nursing. Emphasis will be placed on foundational care provided to adults. Course structure includes 1 credit lecture and 2 credits skills lab. This course will be offered August Interim before courses begin in the fall.

NSG 3173. Nursing Transitions. This course initiates RN student transition by building on previous knowledge and skills applicable to professional nurse practice. The roles of teacher, caregiver, researcher, and leader are explored in relation to client systems and expanded nursing practice. This course addresses role development, socialization, communication, and critical thinking skills necessary for successful program completion. Three (3) semester hours. Prerequisites: Admission to the Nursing Program and current Registered Nurse license.

NSG 3353 – Legal & Ethical Healthcare Principles. This course introduces undergraduate nursing and allied health students to current legal and ethical issues. Principles and theories of law and ethics and their relationship to health care delivery systems are explored. Students will examine contemporary and challenging health care dilemmas to provide a foundation for good decision-making in the delivery of patient care.

NSG 3586/NSG 3586L. Basic Concepts in Nursing. This course focuses on basic concepts and skills that form the foundation of nursing practice in the following areas: health, wellness-illness, safety, communication, patient-centered care, teamwork and collaboration, evidenced based practice, and quality improvement. Students will embark on the skill of critical thinking, gain knowledge of and implement the use of the nursing process, study therapeutic communication techniques and principles of teaching-learning styles to establish

and facilitate nurse client/family relationships in developing and providing a basic plan of care. Course structure includes 2 credits lecture and 4 credits clinical lab. Prerequisite: Admission to the Nursing Program.

NSG 3594/NSG 3594L. Psychiatric and Mental Health Nursing. This course focuses on the basic psychopathology of mental disorders, therapeutic communication, and legal/ethical guidelines. Emphasis will be placed on individuals, families, or groups experiencing maladaptive alterations in mental health. Course structure includes 3 credits lecture and 1 credit clinical lab. Prerequisite: Admission to the Nursing Program.

NSG 3603. (WI) Healthcare Research for Evidence Based Practice. This course provides students with basic healthcare research skills necessary for evaluation of research and integrates student's learning of the research process with their ability to analyze research studies in a written critique format. Students use critical thinking to explore scientific methods of inquiry, research design and methodology, and ethical consideration in human subject investigation. Written APA-style research critique and evaluation will be introduced as a foundation for evidence-based practice. (Meets discipline specific writing intensive course requirements and Communicating across the Curriculum requirement.)

NSG 3612. Nursing and Healthcare Delivery Theories. This course introduces philosophies and theories of nursing, healthcare, and related fields as a foundation to the practice of professional nursing. Concepts of person, health, and environment will be explored within the four functions of theory (description, explanation, prediction, and control). Students will examine different perspectives of knowing and reflect how these impact their future healthcare practice.

NSG 3626/NSG 3626L. Adult Health I. This course provides the opportunity to examine and practice concepts, research, issues and trends in caring for adults with basic and commonly concurring health care needs. Content includes internal and external environmental factors affecting the health of adults with basic and commonly occurring health care needs. Emphasis is on the role of the professional nurse in health promotion and maintenance, illness care, and rehabilitation of adults. Course structure includes 4 credits lecture and 2 credits clinical lab. Prerequisite: Admission to the Nursing Program.

NSG 3636/NSG 3636L. Family/Child Nursing. This course presents basic nursing theory of childbearing family and pediatric health care. Unfolding case studies, lectures, evidence based guidelines, clinical simulation and clinical experiences are used to guide the student from the preconception period through adolescence. Course structure includes 3 credits lecture and 3 credits clinical lab. Prerequisite: Admission to the Nursing Program.

NSG 3643. Transcultural Health Care. Emphasizing non-Western cultures, this course assists student exploration and analysis of the influence of culture on health beliefs, attitudes, values, health norms, and practices. Examines how providers from various cultures differ in their approach to healthcare and how assessment and intervention techniques apply to specific cultural groups. Meets the university requirement of a Non-Western Cultures course.

NSG 4301-4. Independent Study. This course is designed to allow the individual student to explore an issue of importance to professional nursing in depth. The student identifies the

area of concentration and explores the existing nursing literature, related literature, and other resources (such as expert nursing leaders, authorities in the community, and population groups). Consent of faculty.

NSG 4321-3. Special Topics in Nursing. These courses are designed to allow groups of students to explore a broad range of topics in nursing that include, but are not limited to historical, sociological and political influences in the development of professional nursing. May also include special courses in clinical reasoning, NCLEX-RN review, gerontology, pediatrics, and women's health. Pre/Co-requisite: Consent of faculty teaching the course.

NSG 4334/NSG4334L. Nursing Health Assessment. This course provides undergraduate nursing students with the tools to perform a comprehensive health assessment on clients. Principles of anatomy, physiology, pathophysiology and health assessment skills previously attained are utilized. Normal findings, cultural and age variations of adults are emphasized.

NSG 4363. Nursing Capstone. This capstone course provides the RN-to-BSN student a unique opportunity to integrate theories and knowledge from nursing courses in order to engage with other health care professionals to lead and manage an evidenced-based project in the health care setting. This course builds on the foundation of competencies attained by the student such as leadership and management and evidenced-based research.

NSG 4656/NSG 4656L. Adult Health II. This course provides the opportunity to examine and practice concepts, research, issues and trends in caring for adults with complex health care needs. Emphasis is on the role of the professional nurse in the use of the nursing process with adults experiencing complex health care needs and their families. Course structure includes 3 credits lecture and 3 credits clinical lab. Prerequisite: NSG 3626 Adult Health I.

NSG 4672. Disaster Nursing and Emergency Preparedness. This course introduces nursing roles in the planning for and participation in mass casualty disasters. The causes and unique characteristics of disasters and their effects on communities will be presented. The nurses' participation in the multidisciplinary organizational and clinical management of disaster will be emphasized.

NSG 4692. Health Promotion and Wellness. Explores nursing health promotion strategies to facilitate individual, group, and community health and wellness across the lifespan. The development of disease states and methods to prevent or decrease risk factors will be discussed. Emphasis is on the role of the professional nurse in planning and implementing effective teaching and interventional behaviors. Prerequisite: Admission to the Nursing Program.

NSG 4709/NSG 4709L. Adult Health III. This course provides the opportunity to examine and practice concepts, research, issues and trends in caring for adults with complex, multisystem healthcare needs in structured and unstructured settings. Content includes managing nurse resources, delegation, patient progress through the continuum of care, and skills practice at a competency level necessary to assume the beginning level as a professional nurse. Course structure includes 4 credits lecture and 5 credits clinical lab. Prerequisite: NSG 4656 Adult Health II.

NSG 4714/NSG 4714L. Community Based Nursing. This course introduces students to the basic concepts of community based nursing. Students gain an understanding of community resources with an emphasis on community based settings, disease states, community health models and theories, barriers to healthcare services, and the needs of vulnerable populations. Course structure includes 3 credits lecture and 1 credit clinical lab. Prerequisite: Admission to the Nursing Program.

NSG 4722. (WI) Leadership Principles. This course presents basic leadership theory and skills for novice to advanced beginner healthcare providers. Evidence based best practices coupled with systems thinking form a foundation for the concepts of change, transformation, risk taking, and vision as they relate to the leadership role. Co-requisite: NSG 4709 Adult Health Nursing III; or in one of the last two semesters for RN-to-BSN students. (Meets Communicating in the Discipline/Writing Intensive)

NSG 4735/NSG4735L. Palliative and Gerontological Care. This course provides the foundational basis for professional nursing care for the chronic, end of life clients of all ages, and the older adult clients and their families. Core course concepts include comfort, chronicity, and optimal sense of wellness and functional status. This course explores and builds on theories related to the end of life and aging, normal changes of the aging, complex interactions of chronic comorbid physical and mental conditions, and associated nursing care common to the chronically ill patient and older adult. Course structure includes 3 credits lecture and 2 credits clinical lab. Prerequisite: Admission to the Nursing Program.

Courses in Physical Science

PHS 1053. Earth Systems and the Environment. A study of the earth and earth history, emphasizing interrelationships between earth's dynamical systems and human activity. Course activities include periodic field experiences and planetarium presentations. No prerequisites are required.

PHS 1073. Meteorology. An introductory course that treats the composition and structure of the atmosphere, thermodynamic processes, forces and related small-and large-scale motions, air masses, fronts, tropical cyclones, solar and terrestrial radiation, general circulation and weather forecasting. Format may include field trips and guest lectures. No prerequisites are required.

PHS 1133. Introduction to Physical Geology. An examination of the basic concepts of physical geology, stratigraphy, mineralogy, and landforms.

PHS 3154/PHS 3154L. Physical Science for Teachers. A study of the principles and concepts of physical science designed for elementary teachers. Three (3) hours lecture, two (2) hours laboratory

PHS 4183, 5183. Higher Order Thinking in Science. This laboratory-based course stresses the learning of science as active, integrated, constructive processes involving experimentation, investigation, communication, reasoning and problem solving. The course builds foundations in content to show connections and relevant applications in the areas of life systems, earth systems, and physical systems. The goals of the course are to help teachers extend content learning, to help teachers create successful learning environments for every student by teaching

them to use manipulatives, calculators, science equipment, and various learning strategies, and to provide access to appropriate materials, equipment and technology.

PHS 4953. Special Methods: Physical Science. Special methods in the teaching of physical science.

Courses in Physics

PHY 1024 (PHSC1204). Introduction to Astronomy. A general education course for non-science majors. The methods, history, and philosophy of science are studied in the context of modern astronomy. Ideas are emphasized through periodic planetarium presentations as the course traces human understanding from prehistory to the edges of the known cosmos. Laboratory activities include outdoor observation sessions. No prerequisites are required.

PHY 2034 (PHYS2014). General Physics I. An introductory course in the fundamental principles of mechanics, heat and sound with an emphasis on problem solving. Three (3) hours lecture, two (2) hours laboratory. Prerequisite: MTH 1243.

PHY 2044 (PHYS2024). General Physics II. A continuation of PHY 2034. Fundamentals of electricity, magnetism and light. Three (3) hours lecture, two (2) hours laboratory. Prerequisite: PHY 2034.

PHY 2234. (PHYS2034) University Physics I. An introductory course in mechanics, heat, and sound intended for students of science and engineering who are taking an introductory calculus course concurrently. Three (3) hours lecture, two (2) hours laboratory. Corequisite: MTH 1294.

PHY 2244 (PHYS2044). University Physics II. A continuation of PHY 2234. An introductory course in electricity, magnetism, and light. Three (3) hours lecture, two (2) hours laboratory. Prerequisites: PHY 2234 or PHY 2034 and MTH 1294.

PHY 2363. Statics. Principles of vector analysis, static equilibrium, analysis of structures, friction, internal forces, center of gravity, moment of inertia, and product of inertia. Prerequisite: PHY 2234, MTH 1294.

PHY 3053. (WI) General Astronomy. A study of the solar system, stars, clusters, nebulae, gravitation, instrumentation, and the search for life beyond earth. Includes observation sessions and development of planetarium activities. Prerequisite: PHY 2034 or PHY 2234 or the equivalent.

PHY 3083. Mechanics. Particle dynamics in inertial and accelerated reference frames. Newton's law of gravitation, orbit theory, and elementary rigid body dynamics. Prerequisites: PHY 2234 or PHY 2034, and MTH 2044.

PHY 3103. Modern Physics. An introduction to the topics of modern physics including relativity, atomic physics, quantum mechanics, condensed matter physics, nuclear physics and elementary particles. Prerequisites: PHY 2244 or PHY 2044 and MTH 1294.

PHY 3103L. Modern Physics Laboratory. Experiments in modern physics. Corequisite: Registration in or completion of PHY 3103.

PHY 3173. Optics. This course is an introduction to geometrical optics and physical optics, including interference, diffraction, dispersion, absorption, and polarization of light. Prerequisites: PHY 2044 or PHY 2244, and MTH 1294.

PHY 3201. (WI) Laboratory Physics Techniques. Experiments in the principles of physics designed for the junior physics student. Experiments in modern physics, mechanics, and optics. Corequisite: Registration in or completion of a 3000 or 4000 level physics course.

PHY 3493. History of Physics. A survey of important developments in the field of physics. The course will explore famous experiments and theories, as well as the physicists who performed and developed them. An emphasis will be placed on the role advances in physics played in events at the time and how history influenced the progress of physics. Prerequisite: PHY 2044 or PHY 2244.

PHY 3233. Geophysics. This course introduces the basic theory of geophysical instrumentation, data collection and reduction, and interpretation. The basic laws of physics are applied to study the internal characteristics of the earth such as geomagnetism, paleomagnetism, geogravity, earth tides, elastic waves, earthquake processes, and radioactivity. Prerequisite: PHY 3083.

PHY 3323. Applied Acoustics. The physical nature of vibration and its relation to music, speech, and hearing. Vibratory sources of sound used in music, mechanics of hearing, electronic recording, reproducing and synthesizing sound. No prerequisites are required.

PHY 3434. Digital Electronics. Introduction to the analysis and design of digital circuits including: number systems, Boolean algebra, combinational and sequential logic. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment. Three (3) hours lecture, two (2) hours laboratory. Prerequisite: PHY 2044 or PHY 2244.

PHY 3464. Electric Circuits. A study of the principles of DC and AC circuits. Passive linear components including resistor, capacitor, inductor. Basic circuit laws. Thevenin and Norton equivalent circuits. Three (3) hours lecture, two (2) hours laboratory. Prerequisite: PHY 2044 or PHY 2244.

PHY 3473. Computational Physics. This course gives an introduction to the basic methods to model physical and engineering systems using a programming package such as MATLAB. Basic computational tools and routines, including the ones for differential equations, spectral analysis, and matrix operations, are dealt with through relevant examples, and more advanced topics, such as Monte Carlo simulations and molecular dynamics. Prerequisite: PHY 2244.

PHY 3483. Atomic and Molecular Physics. A study of the structure and interaction of atoms and small molecules. Beginning with the study of the structure of the hydrogen atom and advancing to multi-electron atoms and molecules, the course will also cover the interaction of electrons, ions, and photons with atoms and molecules. Additional topics to be covered include

atomic and molecular spectra, particle detection, accelerators, perturbation methods, and scattering theory. Prerequisites: PHY 3103 and PHY 3473.

PHY 4093. Thermal Physics. A unified development of the basic principles of thermodynamics, statistical mechanics and kinetic theory. Prerequisite: PHY 3083.

PHY 4183. Electrodynamics. A study of electrostatics, electric and magnetic properties of materials. Amperes and Faraday's laws, and Maxwell's equations. Prerequisite: PHY 3083.

PHY 4211-3. Independent Research. Independent work in physics under direct supervision of a faculty member. Prerequisite: program approval.

PHY 4253. (WI) Advanced Physics Lab. Experiments in mechanics, electrodynamics, modern physics and optics using modern instrumentation and equipment. Corequisite: Registration in or completion of a 3000 or 4000 level physics course.

PHY 4273. Introduction to Quantum Mechanics. Solutions of the Schrodinger wave equation, including the infinite square well, finite square well, harmonic oscillator, the hydrogen atom, and perturbation theory, and associated topics. Prerequisite: PHY 3103.

PHY 4283. Advanced Mechanics. A continuation of PHY 3083. Rigid bodies; moving coordinate systems; continuous media; Lagrange's Equations. Prerequisites: PHY 3083

PHY 4293. Non-Western Cosmology. This course develops insight into how the cosmological worldview affects and reflects aesthetics, morality, religion, politics, sexuality and other aspects of human experience. People of every culture view the same sky and extrapolate these observations into a story that explains their place in the cosmos. Case studies include native American, ancient non-Western, medieval and Islamic cosmologies. Prerequisite: PHY 1024 or instructor permission.

PHY 4311-3. (WI) Independent Study. Independent work in physics under direct supervision of a faculty member. Prerequisite: program approval.

PHY 4343. Astrophysics and Cosmology. A unified study of relationships between natural physical laws and the structure and evolution of the cosmos. The course surveys recent results from observational astronomy and related applications of quantum theory, nuclear physics, field theory, particle physics, and general relativity. Prerequisites: PHY 3083 and PHY 3103.

PHY 4443. Embedded Microprocessors. A study of the programming, architecture, and interfacing of microprocessors with emphasis on engineering applications. Prerequisite: PHY 3434.

PHY 4453. Signal Processing. Introduction to the fundamental concepts and mathematics in signal processing. Use of the fundamental transform techniques (Laplace transform, discrete Fourier transform, z---transform). Discrete time representation of signals, linear time invariant systems. Correlation, coherence, power spectral density, and time delays. Bode plots, poles and zeros, state space. Prerequisite: 3473.

PHY 4571, 4572, 4573. Special Topics in Physics. This senior level elective is designed for the program to offer courses relevant to an instructor's area of expertise, to offer courses of particular interest to current students, or to address contemporary topics in physics not covered elsewhere. May be repeated for up to six hours total, provided topics are different. Course title to appear on transcript.

Courses in Political Science

PSC 1013. American National Government. The principles, organization, and functioning of the national government of the United States.

PSC 1013. American National Government. The principles, organization, and functioning of the national government of the United States.

PSC 1263. American National Government – Honors . A critical examination of foundational principles, organization and the process of the national government of the U.S. with special focus on the degree to which it is both responsive and accountable to the needs and demands of a diverse citizenry.

Courses in Psychology

PSY 1013 General Psychology. Introduction to the science of behavior and mental processes, discusses social, developmental, and biological influences on these processes. Topics may include personality, motivation, emotions, learning, memory, sensation, perception, mental illness, psychotherapy, and social behavior. **Note:** *General Psychology* is a prerequisite that must be taken before taking any other psychology course, except diversity courses (*Human Diversity, Cross-Cultural Psychology, and Multicultural Mental Health*), or in special cases other courses approved by the program director. .

PSY 1073 General Psychology-Honors (WI). This course is an experimentally oriented and writing-intensive introduction to the science of behavior, examining overt actions and covert mental processes, addressing all aspects of life including biological, cognitive, developmental, ethical, social, and spiritual dimensions. Weekly seminar readings and discussions explore these dimensions; students may choose to lead these seminar sessions initiating and discussing topics inherent to the discipline of psychology.

PSY 2023 Abnormal Psychology. The identification, treatment, and social implications of abnormal behavior, emphasizing etiology (causes), symptoms, and diagnosis of specific mental illnesses according to Diagnostic and Statistical Manual 5 (DSM-5) criteria (APA, 2013)². Topics include obsessions, compulsions, addictions, stress, phobias, anxiety, depression, schizophrenia, personality disorders, senility, amnesia, multiple personality, sexual difficulties, eating disorders, learning disabilities, childhood behavioral problems, and more. *Prerequisites:* *General Psychology (PSY1013)*.

PSY 2033 Applied Psychology. Application of research methods and psychological theories to modern day settings and everyday life, with particular emphasis on behavior modification, personal adjustment, and social relationships.

Examines opportunities for occupations, internships, and practicum experiences in psychology and related areas. *Prerequisites: General Psychology (PSY1013).*

PSY 2143 Research Statistics. Experimental design and analysis. An introduction to basic statistical principles and analyses including measures of central tendency, variability, the normal curve, hypothesis testing, bivariate regression, and an introduction to inferential statistics. Incorporates statistical and graphics computer software programs like Statistical Package for the Social Sciences (SPSS) and others. *Prerequisites: General Psychology (PSY1013).*

PSY 2263 Developmental Psychology. This course concentrates on human development from conception to death. Topics include prenatal environment, genetics, physical development, cognitive development, adulthood and aging. The approach of this course is life-span change and issues include the nature versus nurture, continuity versus stages, and stability versus change debates. *Prerequisites: General Psychology (PSY1013).*

PSY 2373 Human Diversity. The variety of human experience is examined, focusing on differences and similarities in individual human behavior as related to issues such as race, ethnicity, gender, gender roles, creed, religion, culture, age, body type, physical conditions, sexual orientation, learning differences, social skills differences, intelligence level, regional differences, language, dialect, socioeconomic status, cliques, and other areas of individual and group differences. We focus on individuals rather than the groups themselves. Not limited to cultural issues, diversity concerns both majorities and minorities, including many areas (such as body type, intellectual skills, etc.) which do not involve simple group membership. *Prerequisites: None.*

PSY 3003 Special Topics in Psychology. This elective is designed for faculty to teach special courses in their areas of expertise, to offer courses of particular interest to students, and to address contemporary issues in the study of psychology. The topics will vary each time the course is taught, and will be announced when the course is offered. Junior-level special topics covered have included *Media Psychology*, *Psychology in Film*, and *Batman*. Course may be repeated when a different topic is taught, and can range from 1-3 credit hours. *Prerequisites: General Psychology (PSY1013).*

PSY 3043 Cross-Cultural Psychology. Emphasizing non-Western cultures, this course focuses on the influences of culture upon individual human behavior, examining factors leading to socio-cultural similarities and differences in action, thought, emotion, personality, and behavioral norms. Also examines how theorists from various cultures differ in their approach to the science of psychology. *Meets the university requirement for a Non-Western Cultures course.* *Prerequisites: None.*

PSY 3053 Multicultural Mental Health. This course examines Non-Western perspectives on mental health, including issues that pertain to the definition of mental health contrasted in the context of culturally-bound psychological aberrations, their etiology, diagnosis, and treatment. This course therefore examines unique culture bound syndromes rarely found in Western societies. Coverage includes social and cultural determinants of psychopathology and the range of problems in individuals, families, and communities; mental health of indigenous peoples,

ethnocultural minorities, immigrants, and refugees; cultural views on related issues such as suicide; mental health issues among native Americans and other citizens of non-Western/non-European descent; and the influence of Eastern philosophies on areas of contemporary psychology, views toward mental health, and how the mentally ill are treated. *Meets the university requirement for a Non-Western Cultures course. Prerequisites: None.* 2 American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*. American Psychiatric Publication.

PSY 3063 Social Psychology. Scientific study of human interaction. Topics of discussion include intimate relationships, aggression, prejudice, deception, attitudes, propaganda, conformity, obedience, group dynamics, social influence, decision making, and cognitive biases etc. Major theories to understand these social phenomena include cognitive dissonance, social learning, and attribution theories, among others. *Prerequisites: General Psychology (PSY1013).*

PSY 3083 Cognitive Neuroscience. This course introduces and bridges cognitive and neural processes such as vision, attention, language, decision making, thinking, memory, cognitive control, and consciousness etc. in humans, and provides introductory information on basic neuroanatomy, brain scanning techniques, and instruments that measure behavior and cognition. Cognitive Neuroscience asks intriguing questions about how memories are stored in the brain? Why with limited attention humans are still able to process enormous amounts of information? What is consciousness and how do humans make use of it? Is language innate or learned?

PSY 3093 Drugs & Behavior. This course introduces basic psychopharmacology and the effects of different psychoactive substances on the human body and mind; how drugs impact physical and psychological wellness and ill-health. The course reflects on biological, psychological and sociological factors involved in drug-seeking and maintaining behavior; and also looks at treatment, recovery, and prevention methods that are effective in recuperating drug-user's health. Issues pertaining to legal and illegal drug use, abuse and dependency will also be covered.

PSY 3113 Personality. The major theories of personality and their integration of biological, developmental, environmental, and learning determinants. Theoretical approaches discussed include psychodynamic, behavioral, humanistic, developmental, cognitive, social learning, and other perspectives. The course examines the theorists and their theories, looking at how their lives shaped their different theoretical perspectives as well as how they influenced their fellow theorists. *Prerequisites: General Psychology (PSY1013).*

PSY 3153 Cognitive Psychology (WI). This is a writing-intensive course that puts heavy emphasis on areas like perception, memory, knowledge, language, thinking, and reasoning, and includes examination of a number of experimental studies that served as crucial milestones in developing the area of cognitive psychology. *Prerequisites: General Psychology (PSY1013).*

PSY 3213 Infancy and Childhood.* Theories and empirical findings on social, perceptual, physical, cognitive, moral, personality, and emotional development in the period of child growth from conception to the beginning of adolescence, with discussion of issues including child-rearing, nature versus nurture, continuity versus stages, and stability versus change. Both

normal and abnormal development are considered, including examination of learning differences and early psychopathology. *Prerequisites: General Psychology (PSY1013).*

PSY 3233 Critical and Analytical Thinking.* Examines specific techniques for solving problems through evaluative thinking. Students learn the steps in thinking critically and analytically, how to evaluate the accuracy and value of information in everyday life, and how to apply these skills to specific topics. Topics discussed include advertising, persuasion, doubletalk, debunking pseudoscience, and more. A section of the course focuses on preparation for portions of standardized tests such as the GRE or LSAT. *Prerequisites: General Psychology (PSY1013).*

PSY 3273 History and Systems. Explores historical antecedents of the science of psychology as well as the evolution of contemporary experimental, physiological, and clinical psychology. The course discusses pioneers and contemporary thinkers in the history of psychology within the contexts of their personal lives, respective Zeitgeists, and areas of specialization. Methods of exploration and philosophical perspectives on recurring questions in the history of psychology are examined. *Prerequisites: General Psychology (PSY1013).*

PSY 3303 Motivation. Analysis of the physiological, emotional, social, and psychological determinants of behavior. Examines the basic question of what motivates animal and human behavior as well as factors that can modify behavior. *Prerequisites: General Psychology (PSY1013).*

PSY 3333 Forensic Psychology.* The course covers the psychology of crime, crime solving, and court processes; examines causes, classification, prevention, intervention, and treatment of criminal behavior from a social psychological perspective, as well as applications of psychology in criminal investigation and in the courtroom. Topics may include con artists, street crime, domestic violence, financial crimes, sex crimes, stalkers, serial killers, lie detection, eyewitness memory, insanity defense, and more. *Prerequisites: General Psychology (PSY1013) or Introduction to Sociology (SOC1013).*

PSY 3533 Learning. A historical and an applied approach to traditional and contemporary theories of learning. The course explores fundamental concepts, principles and phenomena of classical and instrumental conditioning. Discusses biochemical bases of learning and biological constraints on learning. Includes a computer laboratory that incorporates data collection and analyses of basic conditioning phenomena with a virtual rat. *Prerequisites: General Psychology (PSY1013), Co-requisite: Learning Laboratory (PSY 3541).*

PSY 3541 Learning Laboratory. Students conduct basic conditioning exercises through computer simulations. Computer laboratory incorporates data collection and analyses of basic conditioning phenomena with a virtual rat. *Prerequisites: General Psychology (PSY1013), Co-requisite: Learning (PSY 3533).*

PSY 3733 Research Methods (WI). Students in this course will learn methods of experimental design, statistical procedures, ethical principles, scientific integrity, collegiality, and the spirit and philosophy inherent to our discipline psychology. *Prerequisite: General Psychology (PSY1013), Experimental Statistics (PSY 2143).*

PSY 4003 Special Topics in Psychology. This senior college course is an elective designed for faculty to teach special courses in their areas of expertise, to offer courses of particular interest to students, and to address contemporary issues in the study of psychology. The topics will vary each time the course is taught, and will be announced when the course is offered. Senior-level special topics covered have included *Batman, and Drugs and Behavior*. Course may be repeated when a different topic is taught, and can range from 1-3 credit hours. *Prerequisites: General Psychology (PSY1013).*

PSY 4073 Comic Studies Project. In this course students will apply the journalistic, documentarian, analytical, and cartoonist skills developed in the Comics Studies Minor to create nonfiction comics worthy of publication (in print and digital form) or scholarly presentation.

PSY 4283 Sensation and Perception (WI). This writing-intensive course is designed to introduce important philosophical questions regarding perceptual phenomena to students. These questions address and analyze physiological, psychophysical, and computational aspects of sensation and perception, in animal and human context. The objective of the course is to lead students to critically appreciate a rich heritage of philosophical and empirical underpinnings of the field. *Prerequisites: General Psychology (PSY1013).*

PSY 4293 Physiological Psychology (WI). A writing-intensive course exploring the inextricable link between physiology and behavior. Topics include anatomy and function of the nervous system (especially human and non-human primate), psychopharmacology, sensory and perceptual processes, needs and motivations, emotions, motor functions, memory, and psychological disorders. *Prerequisites: General Psychology (PSY1013).*

PSY 4323 Applied Behavior Analysis. Applied Behavior Analysis provides an introduction to the analysis of problem behavior in terms of its environmental antecedents and consequences. Many of the most common interventions used to decrease the occurrence of problem behavior are also covered. Course topics include single subject research designs, functional analysis of problem behavior, and the use of environment-based interventions for drug and alcohol addictions. *Prerequisite: General Psychology (PSY1013).*

PSY 4343 Advanced Experimental Statistics. Advanced experimental design and analysis. Highlights the selection, computation, and interpretation of randomized, repeated measures, and multifactor analyses of variance. Explores other parametric analyses including post-hoc tests, student *t*-tests, and multiple regression. Non-parametric analyses include chi-square designs, Mann-Whitney U tests, and Kruskal-Wallis analyses etc. Incorporates statistical and graphics computer software programs, like SPSS. *Prerequisite: General Psychology (PSY1013), Research Statistics (PSY2143).*

PSY 4353 Psychology in Literature (WI). Psychological study of literature, explores structure, function, and psychological value in literature. Topics of discussion include symbolism, archetypes, genres, the purpose of

storytelling, applications of psychological theories and concepts, accuracy in the depiction of psychological variables and mental health professionals, how writing and reading reflect cognitive processes, and the therapeutic value of literature. Character analyses involve examination of personality, mental illness, developmental issues, conflicts, and motivation. *Prerequisites: General Psychology (PSY1013).*

PSY 4363 Verbal Behavior.* A functional approach to speech development and language analysis. Topics of discussion include speech disorders, functions of speech in the modern world, physiology of speech, forensic linguistics, rule-governed behavior, social interaction, and communication in cyberspace. *Prerequisites: General Psychology (PSY1013).*

PSY 4383 Problems of Adolescence. This course focuses on the problems that adolescents face in the process of development in American society. It examines the major problems, the resources available for dealing with these problems, and the difficulties that these problems of adolescence cause for the larger society. *Prerequisites: General Psychology (PSY1013) or permission from the instructor.*

PSY 4433 Psychological Tests and Measurements. Fundamentals of psychological test construction, administration, and application to modern clinical and counseling practice. Includes a survey of the most widely used instruments in psychological testing. *Prerequisite: Research Statistics (PSY2143).*

PSY 4693 Love and Sexual Behavior.* Intimate relationships including friendship, romance, sex, and marriage. The material looks at relational behavior that is normal or abnormal, mature or immature, healthy or unhealthy. Discussions will examine factors that may play roles in determining whether relationships succeed or fail, such as communication, negotiation, gender differences, cultural differences, and predictors of divorce. Topics include attraction, courtship, dating, mating, marriage, parenting, divorce, jealousy, fidelity, sexual response cycle, dysfunctions, paraphilias, obsession, impulsivity, sex crimes, and Internet relationships. *Prerequisites: General Psychology (PSY1013).*

PSY 4723 Psychology of Religion. This course examines empirical research and psychological theories involving religious beliefs, practices, and experiences. At completion of this course, students should be knowledgeable of the psychological functions of religion for individuals. *Prerequisites: General Psychology (PSY1013).*

PSY 4743 Counseling Theories and Techniques. Examines the therapeutic process and practical elements of counseling interactions. Discussions include consideration of ethical and professional issues. An experiential laboratory promotes essential listening and attending skills. The course promotes the development of self evaluation, writing, and critical thinking skills; encourages integration of theoretical and experiential learning; facilitates the formation of a personal model of the counseling process; challenges self-reflection on personal qualities that support and hinder attempts at being therapeutic for others; and helps students understand ways to apply the major theories to specific cases. *Prerequisites: General Psychology (PSY1013).*

PSY 4833 Advanced Experimental Psychology (WI). A writing-intensive, closely supervised research course designed for those students who wish to take up designing and conducting independent studies. Students may select a topic in the realm of psychology that interests them.

The course has to be contracted and approved by the professor. The course can be repeated. *Prerequisites:* At least 9 hours of completed psychology coursework and consent of the professor. *Prerequisites:* *General Psychology (PSY1013)*, *Research Statistics (PSY2143)* and *Research Methods (PSY3733)*.

PSY 4863 Advanced Social Psychology (WI). A writing-intensive course designed to study human interaction with advanced readings in the classic and current research in social psychology. Students will design, conduct, and present experimental studies of social behavior, subject to instructor approval and internal review of ethical and procedural issues and standards. *Prerequisites:* *General Psychology (PSY1013)*, *Research Statistics (PSY2143)*, *Research Methods (PSY3733)*, and either *Social Psychology (PSY3063)* or *Personality (PSY3113)*.

Courses Outside the Classroom: *Directed Independent Study*, and *Practicum in Psychology* are special courses for advanced students who must submit a formal plan for the proposed project or volunteer work, which must be approved by the mentoring professor and the person who will supervise the work on-site.

PSY 4703 Directed Independent Study (WI). Closely supervised study on a topic in the realm of psychology by an advanced student, in accordance with the student's interest and as contracted with the professor. The student will conduct advanced readings within a topic that meets the student's needs or interests, and will design, conduct, and report results of an advanced research project concerning this topic. May be repeated and can range from 1-3 credit hours. *Prerequisites:* At least 9 hours of completed psychology coursework and consent of the professor.
Prerequisites: *General Psychology (PSY1013)*.

PSY 4713 Practicum in Psychology. Closely supervised field experience by an advanced student in an applied setting in which psychological services are provided. Responsibilities include but are not necessarily limited to the following: ten hours a week (depending on nature and difficulty of the work) of volunteer work, keeping a record of practicum activities, and obtaining a written statement from the on-site supervisor describing and evaluating the student's work. Can range from 1-3 credit hours. *Prerequisites:* At least 9 hours of completed psychology coursework, consent of the program director, contract with the mentoring professor and the on-site supervisor. *Prerequisites:* *General Psychology (PSY1013)*.

Course not offered every academic year. Check with the director for the next offering.

Courses in Reading

RDG 0043. Academic Reading. Students will improve their comprehensive and critical thinking skills first by intensive, analytical practice with short reading passages followed by the application of these skills to longer and increasingly difficult essays and articles. (Non-degree credit)

RDG 3092. Scientific Approaches to Reading. This course is to allow candidates to demonstrate knowledge of the theoretical models of reading and the five essential

components of a comprehensive reading program with an emphasis on evidence-based practices. The course content will include phonology, word analysis skills, vocabulary, fluency, and comprehension.

RDG 3103. (WI) Emergent and Developing Literacy. This course is designed to cover the basis of reading instruction, process, and terminology as related to the elementary and middle level classroom curriculum. Prerequisite: EDU 2423.

RDG 3203. Reading and Writing in the Content Area. A study of materials and techniques used in teaching reading strategies to middle level and secondary students to enhance their learning in the content areas. Special emphasis is placed on diagnosis and provision for meeting individual needs within the content area courses. Prerequisite: RDG 3103.

Courses in Recreation

REC 1330. Orientation to Recreation. This course is required of all declared Recreation majors, emphasizing both Natural Resource Management and Leisure Services Management. This will be an introduction to the Recreation profession, which will provide an overview of the Recreation curriculum, areas of study, and opportunities available for a career in the field. A variety of topics will be presented and discussed to support and familiarize the student with the program and curriculum and the field of Recreation. The student will attain a B.S. degree in Recreation upon completion of the program. Co-requisite: REC 2003 Introduction to Recreation or REC 2253 Introduction to Sport Management.

REC 2003. Introduction to Recreation and Sport. This course is an introduction to the field of Recreation with class lectures and discussion on the historical, philosophical and theoretical aspects of leisure, Recreation, and play, as well as an overview of the recreation profession and its impact on society. Co-requisite: REC 1330 Orientation to Recreation.

REC 2153. Practicum in Recreation and Sport. This course provides practical experiences leading to understanding and appreciation for the work and function of various agencies offering recreation services in the community. It will also provide experience working with and observing various recreation agencies.

REC 2213. Introduction to Outdoor Recreation and Natural Resources. This course examines the history, use, and management practices of natural resources for outdoor Recreation, considering multiple-use, environmental ethics, risk management, and other current issues. Students will develop a basic understanding of outdoor recreation activities and an appreciation of the natural environment.

REC 2223. Leadership Techniques in Recreation and Sport. This course develops knowledge related to leadership theory, principles, group dynamics, and face-to-face leadership techniques. Students gain an understanding of effective leadership theories and techniques as they are applied in a field setting.

REC 2253. Introduction to Sport Management. The course will examine the historical development, current trends, best practices, and future trends of sport management. Principles will be taught within the framework of professional, collegiate, interscholastic, non-traditional, youth, and community sport in areas to include: 1) the history of sport management and current curriculum, 2) careers in sport management, 3) marketing, 4) management, 5) communications, etc.

REC 3023. Program Planning and Practicum. This course is designed to facilitate programming concepts of Recreation. Topics include needs identification assessment, program formats, program development, and delivering leisure programs in conjunction with practical experiences of local recreation and leisure agencies.

REC 3033. Recreation and Sport Facility Design, Maintenance, & Management. Planning concepts, design principles, and maintenance techniques in Recreation are emphasized. Also, technical design concepts and firsthand experiences in the maintenance of facilities are included. Sport and recreation facility management strategies will be integrated into course content.

REC 3143. Travel and Tourism. This required course will take a cross-disciplinary approach to examine the many facets of tourism. The social sciences perspective provides students with practical knowledge that can effectively be applied to the hospitality industry. The course also provides advanced information that can serve as a bridge to analyze this study further.

REC 3173. Wilderness Policy and Management. The purpose of this course is to provide students with an opportunity to better understand the origin and implications of policies and legislation related to the management of wilderness areas. The course will provide outdoor recreation students with the managerial skills necessary to oversee a wide variety of wilderness management situations.

REC 3253. Inclusive Recreation and Sport. This course will introduce inclusive Recreation and other dimensions of diversity relevant to the profession of leisure, youth, and human services. This course will explore inclusive recreation practice in various leisure settings such as community recreation, nonprofit Recreation, youth, human services, parks, private/commercial recreation facilities, outdoor recreation, therapeutic recreation, and tourism agencies

REC 3263. Commercial Recreation and Sport. This course focuses on the establishment, organization, management, and marketing of various commercial recreation services. Areas to be addressed include travel and tourism, commercial Recreation, leisure services in the outdoor environment, hospitality, and retail outlets.

REC 3273. Marketing and Fundraising in Recreation and Sport. This course will examine the complex and diverse nature of Recreation and sports marketing from a strategic marketing perspective. Specific emphasis will be placed on the contingency framework for strategic Recreation and sports marketing with attention to market selection, marketing mix decisions, and the implementation and control of the strategic marketing process. Additionally, this course will examine marketing through sports, using it as a platform for developing strategies and tactics for fundraising and selling non-sports products.

REC 4053. Evaluation and Research in Recreation and Sport. This course studies evaluation and research tools for assessing community recreation programs and provides practical experience in using these instruments and techniques. This class should be taken during the senior year and is open to recreation majors only.

REC 4066. Field Experience I. This course is a supervised leadership experience in a functioning recreation program. This class should be taken during the senior year and is open to recreation majors only. Prerequisites: REC 2153 Practicum in Recreation and REC 4233 Internship Recreation and Sport Leisure Seminar.

REC 4076. Field Experience II. This course is a supervised leadership experience in a functioning recreation program. This class should be taken during the senior year and is open to recreation majors only. Prerequisites: REC 2153 Practicum in Recreation and REC 4233 Internship Recreation and Sport Leisure Seminar.

REC 4083. (WI) Organization and Administration of Recreation. This course is an overview of organizational patterns, policies and administrative processes, and problems which confront those in executive positions. Also, this course provides a comprehensive analysis of individual and group behavior in organizations. (Open to recreation majors only.)

REC 4183. Outdoor Adventure Leadership. The purpose of this course is to introduce leadership styles and traits. The course builds on previously gained recreational knowledge and is designed to help equip recreational professionals with the fundamental knowledge, beliefs, and skills related to outdoor leadership.

REC 4193. Special Events. This course will focus on activities produced by a group. These are activities not normally included in the organization and administration of the daily program. This category contains exhibitions, shows, demonstrations, festivals, sports gatherings, celebrations, bazaars, and pageants.

REC 4203. Corporate Wellness. The course will focus on the administrative patterns, financing, programming, staffing, and legal concerns in program design for employee motivation and productivity.

REC 4233. Internship in Recreation, Sport Management & Leisure Seminar. This course is designed to help students enhance the skills and knowledge necessary for an effective student intern experience. It will also facilitate the transition from student intern to professional by encouraging participation in professional activities (e.g., self-assessments, searching for intern opportunities, cover letter development, resume development, interview skills, etc.). Course requirements, such as the student assessment projects and professional portfolios, will prepare students to pursue internships and employment.

REC 4283. Legal Issues and Risk Management in Recreation and Sport. The course addresses the legal aspects of the Sport, Recreation, and leisure services, focusing on liability, human rights, and risk management. Legal concepts of negligence, principles of risk management will be covered. Legal Issues and Risk Management related to the use of equipment, facility management, and accommodation for special populations will be addressed.

Courses in Sociology

SOC 4143.5203 Special Topics This elective is designed for faculty to teach special courses in their areas of expertise, to offer courses of particular interest to students, and to address contemporary issues in the study of sociology, criminal justice, social work, and human services. The topics will vary each time the course is taught and will be announced when the course is offered. Senior level special topics may include Sociology of Religion, Corrections, Victimization, The Aging Criminal Population and Social Issues, Cultural Study Trips. The course may be repeated when a different topic is taught. Maximum of 6 hours will count toward the degree. On demand.

SOC 1013 (SOC 1013). Introduction to Sociology. A basic course in sociology. Fall, Spring, Summer.

SOC 2023 (SOC 2013). Social Problems. The nature, cause, and treatment of selected current social problems with emphasis on the student's development of critical analysis skills. Fall, Spring.

SOC 2193. Racial and Cultural Diversity. A study of the interaction of ethnic and cultural groups in America; process leading to group prejudices, conflicts, and accommodations. Consideration will be given to racism, sexism, and ageism. Fall.

SOC 4023, 5023. Social Welfare Policy. Study of the origin and development of social welfare institutions, their organizational structure, and their mode of operation. Critical analysis of social policy is emphasized. Prerequisite: HS/SW 2013.

SOC 4033, 5033 Marriage and Family. A functional course which will acquaint the student with research findings of sociology, psychology, and home economics, and which relate to the institution of the family and the practice of courtship and marriage. Behaviors and values will be explored using the technique of cross-cultural comparisons. Fall, Spring.

SOC 4043, 5043. Sociology of Education. Studies of social processes and interaction patterns of the school to the community, to other social institutions, and to social change. Spring.

SOC 4063, 5063. World Cultures. A worldwide survey of traditional non-Western cultures, from small-scale foragers and farmers to socially complex non-Europeans of the recent past and present. We will look comparatively at ways that different people solve universal human problems, examine closely a sample of cultures to consider the interconnections among social, ideological and material aspects of life and consider relationships between Western and non-Western cultures on issues of worldwide concern like ecological change, warfare, and industrialization. Meets the non-Western cultural requirement. Fall, Spring.

SOC 3073. Complex Organization. An examination of the relationship between labor and management in different organizational structures and under differing management philosophies. Prerequisite: SOC 1013, or consent of the instructor. On demand.

SOC 3103. Statistics. A basic course in descriptive and inferential statistics. General education math requirements must be met before taking this course. Fall, Spring, Summer.

SOC 3043. North American Indians. Survey of American Indian cultures north of Mexico, including an examination of their origins, prehistory and archeology, and cultural diversity. A selection of Indian cultures in each of the geographic subdivisions of North America will be examined in detail, including Indians of Arkansas. Similarities and differences among Indian groups in respect to ecology, as well as social, political and religious cultural subsystems will be explored. Meets the non-Western Cultural requirement. Spring.

SOC 4113. (WI) Contemporary Theory. The development and convergence of modern sociological theories. Prerequisite: six hours of sociology. Spring.

SOC 3133. Juvenile Delinquency. This course will apply sociological analysis to the social problem of juvenile delinquency. Theory, cause, control and prevention will be the major themes of the course. Prerequisite: SOC 1013 or instructor's permission. Spring.

SOC 3143. Social Psychology. A survey of the major theoretical perspectives and research areas in the field. Emphasis is placed upon the traditional perspectives in sociology: symbolic interactionism, including therein dramaturgy, ethnomethodology, and phenomenology. A clear distinction is made between a sociological and a psychological perspective. Every other Spring.

SOC 4403, 5403 (WI) Social Movement. This is a writing intensive course. An examination of the nature of social movements particularly in light of the nature of protest and potential for violence. This study will examine a variety of local, national, and international movements. Prerequisites: 9 hours of sociology, criminal justice, human services or combination of sociology, human services, and criminal justice. Fall, and on demand.

SOC 3243. Demography. A study of the characteristics, problems, and issues relating to the population of the United States and the world. Attention is given to birth and death rates, expectation and span of life, migration, and levels of living. Prerequisite: SOC 1013 and six additional hours of sociology, geography, and economics. On demand.

SOC 4253, 5253. Group Dynamics. An analysis of small group structure and function with emphasis on leadership, membership, attitude and value formation, and role theory. Prerequisite: SOC 1013 or consent of the instructor. On demand.

SOC 4273, 5273 Community Service. Designed to provide concerned students an opportunity to make relevant contributions to the community through service in an organization, agency, or program in the forefront of combating social and environmental problems. Students will spend from eight to 10 hours each week in supervised community service. On demand.

SOC 3343. Deviant Behavior. Analysis of the extent, distribution, and character of deviance with particular emphasis on the sociological explanations of underlying factors. Prerequisite: SOC 1013. Fall, Spring.

SOC 3513 Due Process and Criminal Procedure. This course is designed to explore and evaluate the requirements of the American system of criminal procedure, especially regarding the legal requirements of search and seizure, interrogation, right to counsel, identification, remedies for Constitutional violations and professional misconduct, court proceedings before and during trial, and conviction and post-conviction. Prerequisite: Nine hours of sociology, or instructor approval. Fall.

SOC 4093. Criminological Theory and Behavior. Theories of causation, methods of treatment, preventive programs, and the practices of institutions and agencies working with crime and criminals. Prerequisites: SOC 1013, 2023. Fall.

SOC 4123, 5123. Seminar in Sociology. An analysis of selected aspects of social organizations. Prerequisite: nine hours sociology. On demand.

SOC 4173. (WI) Research Problems. An analysis of current problems, and development in sociological study with emphasis on acquisition, analysis, and interpretation of social information. Includes directed research relating to educational, occupational, and community problems of sociological significance. Designed to encourage the student to apply sociological principles and concepts to practical social problems with coordination and sharing of research problems and results as they develop. Prerequisite: 12 hours in social sciences including at least six hours of sociology. On demand.

SOC 4183, 5183. Death and Dying. An inquiry into various issues in dying, death, and bereavement, with attention to existing research, pertinent theory, relevant social organization and processes, and philosophical and ethical questions. An experiential study, which examines feelings and attitudes toward death of others and of oneself. Spring.

SOC 4213. (WI) Research Methods. The principal techniques of sociological analysis with emphasis on measurement and design. Fall, Spring.

SOC 4223, 5223. Childhood Socialization. A study of the processes and outcomes of socialization from birth to adolescence. Special attention is given to subcultural patterns and the different agencies of socialization. Prerequisite: SOC 1013 or consent of the instructor. Prerequisite: SOC 1013 or consent of the instructor. Summer.

SOC 4263, 5263. Stratification and Poverty. A study of the social forces and processes leading to socio-economic inequality and how this is manifested in the class structure of our society. A special focus is given to the impact of poverty. Prerequisite: six hours of sociology. Every other Fall.

SOC 4293, 5293. Sex and Gender. A study of the changing roles of women and men in American society. Comparisons are made with other societies. Fall, Spring.

SOC 4303, 5303 Urban or Rural Sociology. This course will alternate themes on demand to cover either the influences of urbanization upon the social, economic, intellectual, and cultural aspects of life using urban research techniques or an examination of the unique social, economic, intellectual, and cultural aspects of rural life utilizing techniques of rural research and analysis. Prerequisite: SOC 1013 or consent of the instructor.

SOC 4323. (WI) Senior Thesis. A capstone course for all seniors majoring in sociology involving the realization of the sociological imagination exemplifying the process of theory, conceptualization, research methods, operationalization, observations, data processing, and analysis in a directed project. Students will make an oral presentation of their project results through a program approved review process or an approved undergraduate symposium. Prerequisites: SOC 3103, SOC 4213, and SOC 3113. Fall, Spring.

SOC 4383. Social Gerontology. An introduction to gerontology of analysis of aging in its individual, social, and cultural aspects. Fall.

SOC 4443. Human Services for the Aged. Consideration of programs at the federal, state, local, and private levels. Preparation in planning, coordination, and administration of multipurpose institutions for the aged. Spring.

SOC 4483, 5483. Medical Sociology. An examination of the institution of medicine and social causation of disease, illness, and rehabilitation. Topics include health-care service delivery, social aspects of healing, and the nature of the health profession. Fall.

SOC 4503, 5503 Domestic Violence. This course will treat theories of physical and psychological violence and aggression as they apply to the interpersonal relationships within the home. Rape, child abuse, spouse battering, sibling abuse and elder abuse are focal topics. Summer or on demand.

SOC 4603, 5603 Women and Law. This course will center on the historical and current operation of gender in the law and society. This course will uncover the social, psychological, political and economic effects of gender implications in the law on individuals and groups. Using sociological, historical and legal methods and theories, the course will uncover the impact of gender, and the intersections of gender with race and class.

SOC 4233 5083 Qualitative Methods. This course will emphasize tools in the qualitative social scientist's research toolkit. Students will gain in-depth understanding of interviewing, fieldwork, focus groups, unobtrusive methods, content analysis, case studies, auto-ethnography, and narrative analysis.

SOC 4313 Environmental Sociology. This course applies theories from sociology, architectural design and science along with field-tested market solutions to a range of environmental issues. We examine nature as social construction; the sustainability predicament; consumption and materialism; the ideology of environmental justice relative to theological outlooks; and race, class, gender, and other power dimensions that intersect environmental issues in national and global contexts.

SOC 4353 Political Sociology. This course will center on the acquisition, utilization and maintenance of power by groups including nations, organizations and social movements. We examine the social bases of power; strategies for developing political influence; focus of power in the United States and globally; relations between citizens and authorities; problems and methods of achieving and maintaining political legitimacy.

SOC 4353 Women and Social Movement. This course will center on the historical and current operation of gender in the formation and activities of social movements and activism. The course will uncover the social, psychological, political and economic effects on individuals and groups of the participation of women as activists. Using sociological, historical and legal methods and theories, the course will uncover the impact of gender, and the intersections of gender with activism in a wide array of circumstances. The student will learn to recognize,

analyze and discuss both verbally and in writing the various dimensions of gender present in the structures and effort to change structures in U.S. society.

SOC 4283 Critical Race Theory: Race and Law. This course will center on the historical and contemporary implications, causes and consequences of race and the law in the United States. Using sociological, historical and legal methods and theories the course will uncover the impact of race, and the intersections of race with gender and class, on various groups. The course will examine the social, political and economic effects of structural and legal components on individuals and groups. The student will learn to recognize, analyze and discuss both verbally and in writing the various dimensions of race and law present in aspects of U.S. society.

Courses in Spanish

The Spanish curriculum provides students with the opportunity to learn a foreign language spoken by millions of people and to learn about Spanish-speaking cultures worldwide. Spanish courses should be taken sequentially and without interruption.

Freshmen seeking a B.A. degree who have taken at least two years of Spanish classes in high school and choose to satisfy the foreign language requirement by taking Spanish are encouraged to take SPA 1023 (Spanish 2); these students who then successfully complete Spanish 2 (SPA 1023 with an A or B) may apply to have Spanish 1 (SPA 1013) waived.

Freshmen who have graduated from high school with an IB degree or who have taken a Spanish AP exam should speak with an advisor about proper course placement and awarded credits, which vary by AP score and test. Students may receive up to six credits in Spanish (Spanish 1 and 2) through the CLEP exam. The CLEP exam must be taken before students begin taking courses in university level Spanish.

Heritage speakers (those who have grown up speaking Spanish at home) and native speakers should speak with an advisor before enrolling.

SPANISH AP CREDITS: The course credits awarded for successful completion of an AP exam vary based on which of the two AP Spanish exams is taken, and the score made on the exam, as follows: Spanish Language and Culture AP Test: -- a "3" = 6 hours of credit: 1013, 1023 (Spanish 1 & 2)

SPA 1013 (SPAN1013). Spanish 1. A beginning course designed for students having little or no knowledge of Spanish. Emphasis on basic oral and aural skills necessary to participate in simple conversations about one's immediate environment. Development of reading and writing skills needed for basic functioning in a Spanish-speaking situation. In the context of the development of language skills, students are introduced to the contemporary culture and customs of the Spanish speaking world. Stress is placed on vocabulary acquisition, pronunciation, and command of elementary structure.

SPA 1023 (SPAN1023). Spanish 2. A continuation of SPA 1013. Continued vocabulary acquisition and development of conversational and comprehension skills. Further development of reading and writing skills. Students learn to express a sequence of events and deal with the

expression of more abstract ideas. Cultural emphasis is on the modern world with readings from contemporary sources. Prerequisite: SPA 1013 or equivalent.

Courses in Special Education

SPE 3013. Psychology of the Exceptional Child. A course designed to introduce the student to a study of those children who deviate from the normal pattern of development. The course includes a review of the causes of individual differences and a survey of materials and methods used in the field of special education. 30 hours of field experience required. Prerequisite: EDU 2423.

SPE 3051-3. Integrated Curriculum and Practicum. Integrated Curriculum and Practicum is designed to provide students a supervised experience that allows them to develop, sharpen and demonstrate their skills as future special education teachers. The Practicum is a repeatable course that is a one hour, two hour, and three hour requirement for candidates in the Special Education program.

SPE3073. Methods and Modifications of Math and Science. This course is designed to acquaint the pre-service special education teacher with materials, strategies, techniques, methods and modifications for teaching mathematics and science in k-12 special education and inclusive classrooms. Significant field experiences will be required for this course. Special Education teacher candidates will identify appropriate modifications for developmentally appropriate practices based on individual student needs (below basic, proficient, advanced).

SPE3083. Methods and Modifications for Literacy. This course is a study of developmentally and individually appropriate curriculum content, literature, and instructional practices in the continuum from readiness through proficiency in language, reading, and writing. Significant field experiences will be required for this course. Special Education teacher candidates will identify appropriate modifications for developmentally appropriate practices based on individual student needs (below basic, proficient, advanced).

SPE 3503. Special Education and the Law. This course is designed to provide an introductory overview of the federal and state laws concerning provision of services to students with exceptionalities in the public schools. The course emphasizes the rights and responsibilities contained in the Individuals with Disabilities Education Act (IDEA) and a review of the political, legal, and social history leading to its passage. The Rehabilitation Act of 1973: Section 504 and the American Disabilities Act (ADA) are also discussed. Selective court cases, legal readings and educational law and policies for the State of Arkansas are included. Prerequisite: SPE 3013.

SPE 3513. Behavior Management. This course provides an introduction to the strategies, principles, and techniques of behavior management. The course also provides a basic understanding of the social, cultural, emotional, motivational and environmental factors and issues which influence student behavior and development. Strategies, techniques and principles to promote self-esteem, autonomy and self-regulation will be discussed and

reviewed through assignments based on school field experiences and current research based readings. Candidates will be required to spend at least ten hours in school classrooms. Prerequisite: SPE 3013.

SPE 4103/5103. High Incidence Disabilities. This course provides a series of experiences in which the candidate designs, implements, and evaluates appropriate individualized instructional programs for individuals with mild to moderate disabilities. Significant field experiences are required. Prerequisites: SPE 3503, SPE 3513, EDE 4433, EDE 4423, EDE 4413, EDE 4283.

SPE 4116. Special Education (K-12) Internship Content. A 16-week special education experience in a K-12 public school setting, during which candidates are exposed to a full range of disabilities and grade levels. Knowledge of content is assessed by a special education university supervisor and an experienced special education teacher. An Impact on Student Learning Project is assessed based upon the content standards defined by the Council for Exceptional Children (CEC). Together with *Clinical Internship* a total of four assessments will take place with corrective feedback shared in a post-observation conference. Corequisite: SPE 4126.

SPE 4126. Special Education (K-12) Internship Clinical. A 16-week experience in a K-12 public school setting. Knowledge and demonstration of pedagogical skills are assessed by an experienced teacher, licensed in the clinical area and a clinical university supervisor. A clinical assessment portfolio created through TK20 and exit presentation is required as culminating projects. Together with *Content Internship* a total of four assessments will take place with corrective feedback shared in a post-observation conference. **The appropriate Praxis PLT must be passed in order to receive credit for the course.** Co-requisite: SPE 4116.

SPE 4213/5213. Introduction to Autism Spectrum Disorder. The course is an examination of the psychological, physiological, social, and educational characteristics of individuals who have been identified as having Autism Spectrum Disorder (ASD). By the end of this course, candidates will demonstrate knowledge and skills related to planning intervention options for individuals who are considered in need of special education services.

SPE 4393/5393. Low Incidence Disabilities. This course is designed to provide an intensive study in the curriculum, methods, techniques and materials that have been developed specifically for those students with moderate, severe and profound disabilities. This study will focus on a functional and age appropriate curriculum base and community based instruction (CBI) as well as methods and approaches for successful inclusion within the general education program. Alternate assessment will also be addressed. Field experiences are required. Prerequisites: SPE 3503, SPE 3513, EDE 4433, EDE 4423, EDE 4413, EDE 4283.

SPE 4403/5403. Diagnostic Assessment. The purpose of the course is to provide students with the basic understanding of the legal and ethical issues that impact assessment, eligibility and placement of students with disabilities, measurement theory, practices and devices

required for appropriate services. The focus will be to gain an understanding and to demonstrate educational responsibility for knowing assessment devices and procedures. Field experiences are required. Prerequisites: SPE 3503, SPE 3513, EDE 4433, EDE 4423, EDE 4413, EDE 4283.

Courses in Statistics

STA 0312. Statistical Reasoning Review. Students must be enrolled in STA1313 (Statistical Reasoning) to enroll in STA 0312. Students will learn and review basic statistical concepts as well as calculator skills that are needed to succeed in Statistical Reasoning. This course is required for students whose ACT mathematics score is below 19 who are enrolled in STA 1313, but is open to any student enrolled in STA1313.

STA 1313. Statistical Reasoning. Topics include basic descriptive statistics, correlation, regression, probability, sampling, experimental design, and distributions with an emphasis on analysis instead of computation. Prerequisite. A mathematics ACT score of at least 19 OR concurrent enrollment in STA 0312 OR a C or better in MTH0003.

STA 1314. Statistical Reasoning - Enhanced. Topics include basic descriptive statistics, correlation, regression, probability, sampling, experimental design, and distributions with an emphasis on analysis instead of computation. Meets three hours plus an additional two-hour laboratory per week. Prerequisites: MTH 0003 with a grade of C or better, or MTH ACT of 17 or better.

STA 2054. Applied Biostatistics. Topics include descriptive statistics, experimental design, correlation, regression, probability distributions, parametric and nonparametric procedures, tests of normality, ANOVA and ad hoc procedures. Applications in the biological sciences will be emphasized, and professional statistical software will be used. Course Prerequisites: MTH 1243 or MTH 1244 or MTH 1274 or STA 1313 or STA 1314, or consent of program.

STA 2323. Statistical Methods. Topics include descriptive statistics, correlation, regression, introduction to probability, basic probability distributions, confidence intervals, hypothesis testing, 1-way analysis of variance. Prerequisites: MTH 1033 or MTH 1034 or MTH 1083 or MTH 1213 or MTH 1243 or MTH 1244, MTH 1274 or STA 1313 or STA 1314, or consent of program.

Courses in Social Work

SW. 4143.5203 Special Topics. This elective is designed for faculty to teach special courses in their areas of expertise, to offer courses of particular interest to students, and to address contemporary issues in the study of social work, sociology, criminal justice, and human services. The topics will vary each time the course is taught. On demand.

SW 2013 Introduction to Social Work. A beginning level social work course. The course provides opportunities to gain experience about the social work profession. Fall, Spring.

SW 2193. Racial and Cultural Diversity. A study of the interaction of ethnic and cultural groups in America; process leading to group prejudices, conflicts, and accommodations. Consideration will be given to racism, sexism, and ageism. Fall, Spring.

SW 2173) Social Problems. The nature, cause, and treatment of selected current social problems with emphasis on the student's development of critical analysis skills. Fall, Spring, Summer.

SW4033, 5033. Marriage and Family. A functional course which will acquaint the student with research findings of sociology, psychology, and home economics, and which relate to the institution of the family and the practice of courtship and marriage. Behaviors and values will be explored using the technique of cross-cultural comparisons. Fall, Spring.

SW 4293, 5293 Sex and Gender. A study of the changing roles of women and men in American society. Comparisons are made with other societies. Fall, Spring.

SW 4023, 5023. Social Welfare Policy. Study of the origin and development of social welfare institutions, their organizational structure, and their mode of operation. Critical analysis of social policy is emphasized. Prerequisite: HS 2013. Fall and Spring.

SW 3033. Practice I. Introduction to basic objectives, skills, tasks, and activities essential to generic human services and social work. Educationally directed field instruction is introduced via field experience in agencies. Prerequisite: H/S/SW 2013 or consent of the instructor. Fall.

SW 4043, 5043. (WI). Human Behavior and the Social Environment I. Application of the social system model to the behavioral aspects of societies, communities, organizations, groups, the family, and the person. Prerequisite: HS/SW 2013. Fall and Spring.

SW 4523, 5523. (WI) Human Behavior and the Social Environment II. The course presents a current and comprehensive examination of human behavior using a multidimensional framework. The course explores the biological dimensions and the social factors that affect human development and behavior, encouraging students to connect their own personal experiences with social trends to recognize the unity of person and the environment. Prerequisite: HS/SW 4523 (WI) Human Behavior and the Social Environment I.

SW 4052. (WI) Practice II. Continuing study and refinement of basic processes, skills, and professional activities essential to the entry level of human services practice. Content includes casework intervention methods, group work, and community practice. Prerequisites: HS 2013 or consent of the instructor. Spring.

SW 4066. Field Experience. Educationally directed field experience, with block placements in selected agencies, incorporating field instruction by qualified practitioners. . Prerequisite: 12 hours of social work courses. Fall

SW 4076. Field Experience. Educationally directed field experience, with block placements in selected agencies, incorporating field instruction by qualified practitioners. Prerequisite: 12 hours of Human Services courses. Spring

SW 4081. (WI) Practice Seminar. Combines selected readings, reports, research, and group projects with analysis and discussion of situations encountered by the student worker in field experience. Spring.

SW 4243, 5243. (WI) Research Methods. The principal techniques of analysis with emphasis on measurement and design. Fall, Spring.

SW 4183, 5183. Death and Dying. Inquiry into various issues in dying, death, and bereavement, with attention to existing research, pertinent theory, relevant social organization and processes, and philosophical and ethical questions. An experimental study, which examines feelings and attitudes toward the death of others and of oneself. Spring or on demand.

SW 4443. Human Services for the Aged. Consideration of programs at the federal, state, local, and private levels. Preparation in planning, coordination, and administration of multipurpose institutions for the aged. Spring.

SW 4383, 5383. Social Gerontology. An introduction to the aging; analysis of aging in its individual, social, and cultural aspects. Fall.

SW 4503, 5503 Domestic Violence. This course will treat theories of physical and psychological violence and aggression as they apply to the interpersonal relationships within the home. Rape, child abuse, spouse battering, sibling abuse and elder abuse are focal topics. Summer or on demand.

SW 4403 SW 5163 (WI) Social Movement .This is a writing intensive course. An examination of the nature of social movements particularly in light of the nature of protest and potential for violence. This study will examine a variety of local, national, and international movements. Prerequisites: 9 hours of sociology, criminal justice, human services, social work or combination of sociology, human services, social work, and criminal justice. Fall and on demand.

SW 4253, SW 5253. Group Dynamics. An analysis of small group structure and function with emphasis on leadership, membership, attitude and value formation, and role theory. On demand.

SW 4273, 5273 Community Service. Designed to provide concerned students an opportunity to make relevant contributions to the community through service in an organization, agency, or program in the forefront of combating social and environmental problems. Students will spend from eight to 10 hours each week in supervised community service. On demand.

SW 4223, 5223. Childhood Socialization. A study of the processes and outcomes of socialization from birth to adolescence. Special attention is given to subcultural patterns and the different agencies of socialization. Summer or on demand.

SW 3133. Juvenile Delinquency. This course will apply sociological analysis to the social problem of juvenile delinquency. Theory, cause, control and prevention will be the major themes of the course. On demand.

SW 4603, 5603 Women and Law. This course will center on the historical and current operation of gender in the law and society. This course will uncover the social, psychological, political, and

economic effects of gender implications in the law on individuals and groups. Using sociological, social work, human services historical and legal methods and theories, the course will uncover the impact of gender, and the intersections of gender with race and class.

SW 4233 5083 Qualitative Methods. This course will emphasize tools in the qualitative social scientist's research tool kit. Students will gain an understanding of interviewing, fieldwork, focus groups, unobtrusive methods, content analysis, case studies, auto-ethnography, and narrative analysis.

Courses in Theatre

THA 2033. Humanities: Theatre Arts. An introductory course designed to broaden the awareness and appreciation of theater art and its place in contemporary human culture. Incorporates study of theatrical styles, history, theory, and practice using live and recorded performances. Writing component includes reviews of theatrical performances.