

Course Descriptions

COLLEGE OF ARTS AND SCIENCES

(F = Classes offered in the Fall, S = Classes offered in the Spring, SU = Classes offered in the Summer,
D = Classes offered upon Demand, O = Odd years, E = Even years)

DEPARTMENT OF ART, COMMUNICATION AND THEATRE

ART

ART 1113 FUNDAMENTALS OF ART

Examination of the basics in art. Foundation laid for future participation in drawing and painting. This course cannot be used to satisfy General Education requirements. **F, S**

ART 1123 FOUNDATIONS I, DRAWING

Development of basic drawing skills and powers of observation. Topics include: gesture, line, volume, value, perspective, sighting and texture. A variety of materials and techniques will be explored. **F**

ART 1133 FOUNDATIONS II, TWO DIMENSIONAL DESIGN

A study of the organizing principles and visual elements of two-dimensional design (unity, variety, balance, color, value, line, texture). Students will explore the concepts covered through assignments which utilize a variety of materials. Emphasis is placed on the development of independent research skills. **S**

ART 1143 FOUNDATIONS III, THREE DIMENSIONAL DESIGN

A study of three-dimensional form with emphasis on the elements of art and principles of design. Various media, construction techniques, and areas of art history, aesthetics and art criticism, as applied to form, will be explored. **F**

ART 1153 INTRO TO PHOTOGRAPHY

This course offers practical instruction in digital photography by teaching the fundamentals of camera operation, composition, and the digital work flow. These applications will be used to explore several genres of photography in natural light settings, while discussing the theory and objectives to consider when photographing these genres. Assignments and projects will be issued throughout the course to allow students the opportunity to exemplify each class topic, followed by class review and critique. Course provides opportunity for continued development. A digital camera is required.

ART 1213 PERSPECTIVE

An introduction to the essentials of beginning perspective and advanced perspective devices. Both linear and atmospheric perspective are covered. **Prerequisites: ART 1123 and ART 1133. D**

ART 1661 COMPUTER APPLICATIONS

Introductory class for art students into the graphic arts. Teaches basic understanding of Photoshop and Illustrator. **F, S**

ART 1223 ART SURVEY

This General Education course traces the history of art from prehistory to the present. Emphasis is on art of the western world from antiquity through the modern era. Among the topics covered are the art of Renaissance Europe, Impressionism and Post-Impressionism, as well as ways of seeing and the influence of non-Western cultures. **F, S**

ART 2113 ACRYLIC TECHNIQUES

Beginning level easel painting course focusing on development of student's individual expression in form and color. **Prerequisites: ART 1123 and ART 1133. D**

ART 2133 INTRODUCTION TO GRAPHIC DESIGN

Introduces graphic design as a means of visual communication. Formal principles of design, semantics, symbol theory, and theory of communication will be studied. Macintosh graphics and illustrator will also be studied in the execution of the class projects. Previous computer experience is not required. **Prerequisites: ART 1123 and ART 1133. F**

ART 2143 HISTORY AND THEORY OF GRAPHIC DESIGN

This is a five part survey of the history of graphic design, including the influences of Modern Art and the Bauhaus on graphic design. Course work concludes with the effects of the information age and the global village on graphic design. **Prerequisites: ART 1123 and ART 1133. S**

ART 3011-4 SEMINAR IN ART

Group study of specific topics needed for special courses offered on an irregular basis.

ART 3113 WATERCOLOR STUDIO

Study and practice of traditional transparent watercolor technique and experimentation with contemporary methods. Emphasis on composition, color, process and technique. **Prerequisites: ART 1123 and ART 1133. D**

ART 3153 FIGURE DRAWING

Develop skills of draftsmanship and perception while studying the figure. **Prerequisites: ART 1123 and ART 1133. D**

ART 3212 AESTHETICS AND ART CRITICISM

A course designed to introduce the student to what aesthetics is, the nature of aesthetic judgment, perception and aesthetic theory. Criticism is examined as a way to approach the study of art. **S**

ART 3223 TAPESTRY

The basics of tapestry weaving. Students will learn the essential tapestry weaving techniques and how to weave a variety of shapes. **D**

ART 3353 CLAY STUDIO

A study in ceramic design using both hand-built and wheel methods of construction. Firing and glazing procedures will also be covered. **F, S, SU**

ART 3383 MIXED MEDIA

Students draw upon a wide range of materials such as paper, metal, clay, plaster, wax, plastic and found objects while incorporating various techniques in the fabrication of 3-D works. Students incorporate materials and technical skills that they may already possess. **D**

ART 3413 SCULPTURE STUDIO

Three-dimensional work in the area of sculpture. Emphasis is placed on fundamental sculpture techniques and the elements of art and principles of design as applied in a three-dimensional composition. **Prerequisites: ART 1123, ART 1133 and ART 1143. D**

ART 3483 PRINTMAKING STUDIO

Printmaking by hand transfer and with the press. Composition and personal expression are emphasized. Intaglio and relief methods are explored.

Prerequisites: ART 1123 and ART 1133. F, S

ART 3513 INTERMEDIATE GRAPHIC DESIGN I

Introduction to web design using Dreamweaver and Flash programs.

Prerequisites: ART 1123, ART 1133 and ART 2133. F

ART 3593 AMERICAN ART HISTORY

The focus of this course is an overview of the painting, sculpture and architecture of the United States from the golden age to the expression of today, with attention to the 20th century struggle for stylistic independence from European influence. Native American Modernism and the Harlem renaissance will be addressed. **D**

ART 3613 HISTORY OF ART I

A survey of art from prehistory through the Gothic era, this course considers the visual culture of Ancient Egypt, Mesopotamia, Greece and Rome, the influence of non-Western cultures on Christian art in the west, the art and architecture of Early Christian and Byzantine Europe, and the rise of the Romanesque and Gothic styles.

ART 3653 HISTORY OF ART II

Continuing the survey of art begun in ART 3613, this course follows the Renaissance development of modern ways of seeing, the rise of the Baroque and Rococo, the battle between Neoclassicism and romanticism during the early nineteenth century, and the optical experiments of the Impressionists and Post-Impressionists. **D**

ART 3683 ILLUSTRATION STUDIO

Visual communication is stressed, expressing both the artist and the subject matter. Traditional illustration media includes marker, color pencil, airbrush, watercolor, acrylic and oil paint. **Prerequisites:** ART 1123, ART 1133 and ART 2133. **D**

ART 3753 LIFE DRAWING

Observational drawing with an emphasis on composition. Various techniques and subjects will be explored. **Prerequisites:** ART 1123 and ART 1133. **D**

ART 3783 INTERMEDIATE GRAPHIC DESIGN II

Projects explore design processes in two or three dimensions, visual identity and communication, thematic structure and hierarchy, creative problem solving and basic design practice of critiques and discussion. Emphasis is placed on using media techniques, concepts, strategies and professionalism in all aspects of design. Upon completion, students should be able to conceptualize, create and produce designs for reproduction.

Prerequisites: ART 1123, ART 1133, and ART 2133. F

ART 3853 TYPOGRAPHIC DESIGN

Course content includes the anatomy of typographical letter forms, fonts and classifications. Syntax, space, visual hierarchy, typographical grids, function, expression and communication theory are stressed. Course work will be done on Power Macintosh computers, using Quark/Xpress and Adobe Illustrator software. **Prerequisites:** ART 1123, ART 1133, and ART 2133. **D**

ART 3883 ADVERTISING DESIGN

Course work includes logo and corporate identity development. Traditional advertising formats are studied and applied to a fictional company created by the student. **Prerequisites:** ART 2133, ART 2143, and ART 3853. **D**

ART 3923 ADVANCED GRAPHIC DESIGN I

This course is an advanced exploration of various techniques and media for advertising and graphic design. Emphasis is placed on advanced concepts and solutions including but not limited to complex and challenging graphic design problems. Upon completion, students should be able to demonstrate competence and professionalism in visual problem solving. **Prerequisites:**

ART 2133, ART 2143, and ART 3853. S

ART 3953 PROFESSIONAL PRACTICES OF GRAPHIC DESIGN

This course provides the student practical real-world experience in the field of design. It should be approached as an internship, and subsequently the requirements can be achieved effectively through a summer internship with an appropriate agency under supervision of an instructor. Not recommended for Design Studio Employees. **Prerequisites:** ART 2133, ART 2143 and ART 3853. **D**

ART 4001-4 INDIVIDUAL STUDY IN ART (TOPIC)

Individual study of specified topic for undergraduate students. Credit 1 to 4 semester hours.

ART 4011-4 SEMINAR IN ART (TOPIC)

Group study of specified topic for undergraduate students. Credit 1 to 4 semester hours. **D**

ART 4163 PORTFOLIO

The objective of this course is to prepare Graphic Design majors for the job market. Students will research the current job market and prepare a career plan. A portfolio will be created with a resume, a self-promotional mailer and 35 mm slides. **Prerequisite:** Sr. Status. **S**

ART 4253 APPLIED DESIGN

A studio course involving the design, execution and study of contemporary trends in crafts. **Prerequisites:** ART 1123 and ART 1133. **SO**

ART 4313 PAINTING STUDIO

An exploration of opaque painting techniques and processes. The development of pictorial form and content is emphasized. **Prerequisites:** ART 1123 and ART 1133. **D**

ART 4333 STUDIO DRAWING

Studio Drawing will explore creative and expressive approaches to drawing with an emphasis on diversity of techniques. Experiences utilizing a variety of media will be used to develop fundamental and advanced drawing concepts. **Prerequisites:** ART 1123 and ART 1133. **S**

ART 4353 MODERN ART HISTORY

This course, continuing the survey of art begun in ART 3613 and ART 3653, investigates the history of painting, sculpture and architecture from the late nineteenth century through World War II. Symbolism, Post-Impressionism, Cubism and Expressionism are among the trends discussed, as are the art of Picasso, Duchamp, Klimt and Dali. **D**

ART 4383 ART HISTORY SINCE 1945

This survey, completing the series begun with ART 3613, 3653 and 4353, traces the development of art from the rise of the New York School to the present day. Among the topics discussed are Abstract Expressionism, Pop and Op Art, and the art of Jackson Pollock, Mark Rothko, Andy Warhol and Keith Haring. **D**

ART 4393 NON-WESTERN ART HISTORY

Supplementing rather than replacing the traditional art survey, this course examines the history of art and visual culture of non-Western civilizations with emphasis on Asia, Africa, Oceania and native America. Topics include the art of Japan, China and Nigeria, as well as the visual legacy of the Aztec, Mayan and Incan civilization. **D**

ART 4413 ADVANCED GRAPHIC DESIGN II

This course is a continuation of the techniques learned in Advanced Graphic Design I. The course further develops the application of visual elements and design principles in advertising and graphic design. Topics include creation of various designs, such as logos, advertisements, posters, outdoor advertising and publication design. Upon completion, students should be able to effectively apply design principles and visual elements to projects. **Prerequisites: ART 2133, ART 2143 and ART 3853. F**

ART 4452 CONTENT, METHODS AND MATERIALS IN ELEMENTARY SCHOOL ART

Current methods of applying Discipline-Based Art Education will be used to explore ways to integrate the visual arts into the elementary grades. **Prerequisite: Admission to Teacher Education Program. F, S**

ART 4553 TEACHERS' COURSE IN ART

This course explores methods of teaching visual art at the secondary level. In-depth attention will be given to the application of Discipline-Based Art Education assignments at this level. **Prerequisites: Art major or endorsement and admission to the Teacher Education Program. D**

ART 4651 SENIOR EXHIBIT

Students will prepare and present a body of work produced as an undergraduate. Emphasis will be on professionalism in presentation as well as the quality of artwork selected. **F, S**

Communication Arts

COMM 1263 INTRODUCTION TO THEATRE

Background, philosophy and practices of theatre arts, the theory and practice of elementary principles of direction, acting, and stagecraft. All of the above will be applied to the study of American, British, and European plans representing major literary periods from classic to contemporary. **F, S**

COMM 1313 INTRODUCTION TO PUBLIC SPEAKING

This course provides students with an in-depth analysis of public speaking. It includes a thorough examination of the theoretical framework of public speaking and requires students to put those theories into practice. Students will build critical thinking skills by constructing their own messages and evaluating those of others. This course is designed to heighten students' skills as well as increase their confidence as public speakers. **F, S, SU**

COMM 2103 INTRODUCTION TO MASS COMMUNICATION

Basic study of the nature and function of mass communication systems, their audiences, social impact, pressures, and regulations. **F, S**

COMM 2113 WRITING FOR MASS MEDIA

Introduction to writing for both print and broadcast media. Includes news, feature, editorial, and sports writing. **F**

COMM 2123 INTERPERSONAL COMMUNICATION

The study of symbolic and nonverbal communication in dyadic settings. **F, S**

COMM 2213 NEWS GATHERING AND REPORTING

New gathering and writing for publication. Reporting beyond the inverted pyramid style. **Prerequisite: COMM 2113. F, S**

COMM 2223 INTRODUCTION TO STRATEGIC COMMUNICATION

This course will be an overview of the field of communication and will be a required course for all communication arts majors with an emphasis in strategic communication. This course will explore the many forms of persuasive communication in corporate, non-profit, and agency settings. The course material covers a wide range of topics including psychological and sociological principles as bases for the appeals, strategies for media selection and message execution, as well as introduction to research and ethics. **F**

COMM 2233 STRATEGIC COMMUNICATION DESIGN

Course is designed to introduce students to the software they will use in other media production related courses. The course focuses on the most current and the most commonly used software in the communication fields such as Adobe Creative Suite which includes InDesign, Photoshop, Audition and Premier as well as new technology as it becomes available. This course will fulfill GE computer requirement. **F, S**

COMM 2363 ACTING I

Introduction to basic principles of acting and development of basic acting techniques, training through lectures, class improvisations and play analysis. **F**

COMM 2763 STAGECRAFT

The construction, painting, rigging, and handling of stage scenery and properties. **FO**

COMM 3013 THEATRICAL MAKE-UP

Study and implementation of the principles, skills, techniques, materials, and methods relevant to the selection, design, and application of stage make-up for varying dramatic genres and purposes. **SO**

COMM 3023 LIGHTING DESIGN

The course covers the principles of designing, mounting and operating stage lighting applied to actual campus productions. Students in this course will light the student-directed plays developed in COMM 3263. Play Directing and Production. **SO**

COMM 3043 DIGITAL STORYTELLING

Course will introduce students to the concepts of collecting information in a variety of forms and using the information to communicate with a mass audience. Students can use course for various media fields including news and public relations. The major function of this course will be to produce on-line content for the university's digital newspaper. **F, S**

COMM 3063 AMERICAN FILM AND CULTURE

This course is designed to understand the role and impact that the film industry has on American pop culture. Employing sociological theory to critically analyze films impact on cultural perceptions of race, gender, sexuality, class, occupations, life course and others. Students are encouraged to think critically about films ability to influence in leading and or reflecting American culture. **F**

COMM 3073 PERSUASION

Exposure to several theories of persuasive communication. Practical assignments used to test theories and develop persuasive skills. **FO**

COMM 3113 NEWS EDITING

Problems of the editorial desk, including editing and proofreading, layout/design, headline writing and desktop publishing. **F, S**

COMM 3121 COMMUNICATION PRODUCTION

The purpose of this course is to give students practical, hands-on, "real world" experience in the Communication Arts emphases areas (Strategic Communication and Theatre). The over-arching goal of the class is to provide students with realistic overview of the types of work to expect when entering a chosen field. The course also may instruct students on how to develop and produce the materials needed for their specific discipline. The course will be repeated at minimum three times to cover a wide array of experiences. **F, S**

COMM 3153 LEADERSHIP

The course is designed to introduce students to the role communication plays in effective leadership and management strategies. The exploration of communication variables involved in the influence of team members to achieve a goal is covered. Topics include power, credibility research on leader traits, styles and situations and current models of leadership.

COMM 3183 SOCIAL MEDIA

Study and application of social media communication and strategy, including social media platforms and user devices, message distribution, and personal and professional online, social environments.

COMM 3333 PHOTOJOURNALISM

This course covers basic and intermediate photography as applied to journalism. Students use digital and 35mm cameras to produce color and black-and-white images. Additionally, they use computer programs to manipulate digital images and insert them into text-based or web-based publications. **SU**

COMM 3583 SPORTS COMMUNICATION

Sports communication is a course designed for students to understand the impact of sports on the media and the impact of media on the sports industry. The course will address topics including distinctions among careers in sports media, including sports journalism and sports communication. There is an increasing need for highly trained and educated professionals in sports journalism and communications and for a better understanding in society of the relationship between sports, journalism, integrated marketing and the various media. **F**

COMM 3413 DESKTOP PUBLISHING

Electronic publishing using personal computers and software for word processing, page building, image manipulation, scanning, and editing. Includes personal web page building and web site management as a form of desktop publishing relevant to Mass Communication. **F**

COMM 3543 SMALL GROUP COMMUNICATION

Study of ways in which group discussion functions and means of becoming effective discussion leaders and participants. **FE**

COMM 3563 ARGUMENTATION AND DEBATE

Study and application of logic and argumentation; practical application through debate and discussion. **FE**

COMM 3573 INTERCULTURAL COMMUNICATION

Students examine the ways that communication varies in different cultures. Kinds of differences studied include nationalities, languages, ethnicities, gender, age and others. **SE**

COMM 3613 SPECIALIZED PUBLICATIONS

Principles, methods, and problems of specialized publications, including magazines, newsletters, anthologies, yearbooks, programs and special public relations publications. **F, S**

COMM 3663 SCRIPT ANALYSIS

Focus is on the foundational approaches to script analysis and form/style/mood distinctions through reading and analysis of representative plays from distinct perspectives of playwright, actor, designer, and director; analysis is conducted through an in-depth study of assigned plays. Particular emphasis is placed upon analyzing a play's meaning through plot and character construction, story, persuasive imagery, and language. Projects on assigned plays are further developed through readings in criticism and history and through live and/or videotaped theatrical productions. **Prerequisites: COMM 1263 and COMM 2763.**

COMM 3761 THEATRE PRODUCTION

Workshop experience in the practical application of theatre skills. Credit can be earned in stagecraft, lighting/sound, costume/makeup, and management/publicity. **F, S**

COMM 3763 STAGE MANAGEMENT

Stage management is a class designed to introduce the student to the process of a theatrical production from inception to completion with an emphasis on the managerial aspects of the production. Specifically, the student will have basic understanding of stage management for the theatre.

COMM 3963 COSTUME HISTORY

A study of the design and development of costume from ancient times up to the present. **D**

COMM 3973 COSTUME DESIGN

Costume Design is a course designed to teach students about the process of costume design as well as to train them in the skills needed to realize a design of their own.

COMM 4001-4 INDIVIDUAL STUDY IN COMMUNICATIONS

Specific topic in Communications. One to four credit hours. **D**

COMM 4011-4 SEMINAR IN COMMUNICATIONS (TOPIC)

Group study of specified topic. One to four credit hours. **D**

COMM 4243 MULTIMEDIA PRODUCTION

Students are provided opportunities to develop their communication skills through audio and video media projects.

COMM 4253 GLOBAL COMMUNICATION

This course critically examines verbal and nonverbal barriers to effective intercultural and international communication. It focuses on developing effective communication in advanced study of communication theories - interpersonal, organizational, mass media and intercultural contexts - and explores the definition and impact of global communication.

COMM 4263 CRISIS COMMUNICATION

This course introduces students to the important implications of effective internal and external communication during crises. The course examines proactive and reactive approaches to crisis communication from an academic and practical perspective. Elements of effective crisis communication plans and tactics are considered. Throughout the course, students are given the opportunity to analyze several crisis situations.

COMM 4293 MEDIA LAW AND ETHICS

Overview of First Amendment rights and responsibilities. Includes issues of obscenity, liable, censorship, rights of privacy, trial by media, rights of access, and political correctness. **S**

COMM 4343 COMMUNICATION THEORY

Introduction to theories and methods used to study human communication phenomena across several contexts. **SO**

COMM 4363 ORGANIZATIONAL COMMUNICATION

A course integrating theory and practice focusing on how people in professions are able to succeed in their jobs and careers through effective communication practices. **FO**

COMM 4403 SCENE DESIGN

Study of the theory of designing stage settings, including both aesthetic and practical considerations. Practice in creating sketches, floor plans, construction drawings, and set models. **Prerequisite: COMM 2763. SE**

COMM 4463 THEATRE HISTORY: GREEK TO 1660

Survey of growth and development of the theatre from its beginnings to 1660 with consideration of dramatic literature, physical theatre, style of presentation, and social significance of theatre. **FO**

COMM 4483 PLAY DIRECTING AND PRODUCTION

This course covers the techniques of directing and producing plays: script analysis, play selection, casting, and approaches to rehearsal. Students will direct one-act plays for public performance. **Prerequisites: COMM 2363, COMM 2763 and COMM 3663. SO**

COMM 4563 TEACHING SPEECH IN THE SECONDARY SCHOOL

Problems and methods of teaching speech and directing speech activities in the secondary school. **Prerequisite: Admission to the Teacher Education Program. D**

COMM 4663 THEATRE HISTORY: 1660 TO PRESENT

Survey of growth and development of the theatre from 1660 to the present with consideration of dramatic literature, physical theatre, style of presentation, and social significance of theatre. **SE**

COMM 4813 PRINCIPLES OF PUBLIC RELATIONS

This course is designed to expose students to the practices of writing and designing public relations documents. To help students develop the skills necessary for a career in public relations. Students will also be provided an understanding of the necessity and benefits of public relations to the business world. **F**

COMM 4823 WRITING FOR PUBLIC RELATIONS

This course is designed to develop writing skills necessary to a career in public relations. Students will be provided with exposure to the stresses of deadline requirements inherent within the public relations profession. Students will develop research skills necessary for public relations writing. **S, E**

COMM 4833 PRINCIPLES OF ADVERTISING

This course is designed to introduce students to different perspectives of advertising and the integration of marketing and sales. Students will be engaged in learning and applying various advertising strategies as well as creating various advertisements. Students will be challenged to create and evaluate marketing and advertising strategies through the use of a variety of advertising media. **S**

COMM 4953 SENIOR CAPSTONE

A course integrating the theory and practice of the job search process. Students will explore their career options through guided activities. Students will create a series of job search related materials for their particular field of study. **S**

COMM 4963 ACTING II

Intensive study of acting techniques with special emphasis on character development, vocal patterns, and physical movement. **SE**

DEPARTMENT OF BIOLOGICAL SCIENCES

BIOL 1004 BIOLOGICAL CONCEPTS

An introduction to the concepts and methods of biology needed to understand biological issues faced by society. Upon completion of the course students will be able to apply the scientific method to problem solving and to explain natural phenomena. Students will also understand such concepts as the role of the cell in maintaining conditions essential for life. In addition, students will be able to describe the interactions between living organisms and the environment at the population, ecosystem, and biosphere levels and to identify potential impacts on society of biotechnology, world population growth, and human influences on global biogeochemical cycles. **Does not apply to Biology major or minor credit. Corequisite: BIOL 1004L F, S, SU**

BIOL 1013 CURRENT ISSUES IN BIOLOGY

Students will be introduced to how basic knowledge of biological sciences can contribute to their growth as informed global citizens. The course focuses on biological principles that have immediate applications in our everyday lives. The course will also require that students use the knowledge they received to debate important issues, solve problems, and communicate complex issues to their peers. **Does not apply to Biology major or minor credit. F, S**

BIOL 1054 PRINCIPLES OF BIOLOGY I

Introduction to major molecular, cellular and genetic principles needed to understand the functioning of all organisms. Investigative laboratories introduce important techniques and methodologies used by modern biologists. Students will be introduced to scientific procedure, reasoning, problem solving, and reporting. Required for all biological sciences majors and minors and recommended for pre-professional and other science majors. **Corequisite: BIOL 1054L. F, S, SU**

BIOL 1254 PRINCIPLES OF BIOLOGY II

Introduction to major principles of evolutionary theory, the unity and diversity of life, and form and function in living organisms. The course and laboratory emphasize practice of scientific procedure while developing skills in reading, writing, researching, and speaking about science. Students are introduced to biological tools and techniques for understanding form and function. Required for all biology majors and minors as well as programs in medical laboratory science and secondary education. **Corequisite: BIOL 1254L. Prerequisite: BIOL 1054. F, S**

BIOL 2205 HUMAN ANATOMY & PHYSIOLOGY

A study of the structure and function of the human body. This course is designed to meet the needs of students in Medical Laboratory Technology and Radiologic Technology and others who need a working knowledge of the human body and its functions. This course fulfills the Anatomy and Physiology requirement for Health Information Management majors. **Prerequisite: BIOL 1004 or BIOL 2204 or permission of Instructor. F**

BIOL 2503 PARASITOLOGY

A study of the identification, isolation, morphology and life cycles of those parasites that affect man; includes both helminthology and protozoology. **Prerequisites: BIOL 1004. F**

BIOL 3012 BIOLOGICAL TERMINOLOGY

The course is designed to familiarize the students with the terminology used in biological disciplines. This familiarization will be accomplished by learning root words, prefixes, and suffixes from Latin and Greek and by studying word analysis techniques. **S**

BIOL 3053 CELL BIOLOGY

This course introduces the study of molecular, morphological, and physiological aspects of cell biology. Lecture only. **Prerequisites:** BIOL 1054 and BIOL 1254. F, S

BIOL 3152 GENETICS AND CELL BIOLOGY LABORATORY

The laboratory study of genetics and cell biology. **Corequisite:** BIOL 3253. **Prerequisites:** BIOL 1054 and BIOL 1254. F, S

BIOL 3253 GENETICS

An introduction to genetics including Mendelian, molecular, and population genetics. Required for all Biological Science majors and Natural Science Education majors. **Prerequisites:** BIOL 1054 and BIOL 1254. **Corequisite:** BIOL 3152. F, S

BIOL 3283 ECOLOGY

Introduction to population, community, and ecosystem ecology. Lecture only. **Prerequisites:** BIOL 1054 and BIOL 1254. F, S

BIOL 3304 AQUATIC ECOLOGY

An introduction to freshwater ecosystems (rivers and lakes) with respect to their physical, chemical, and biological structure. These diverse aspects are united in the concept of trophic status. Adaptations of aquatic organisms to the aquatic environment are emphasized. The laboratory involves extensive field studies in local aquatic environments with emphasis on collection methods, analytical techniques, and data analysis. Fulfills program field course requirement. **Corequisite:** BIOL 3304L. **Prerequisites:** BIOL 1054 and BIOL 1254. FE

BIOL 3604 BIOLOGY OF INSECTS

A study of the fundamental principles of insect life, insect morphology, and physiology, classification and recognition of common families of insects, economic relations and fundamentals of insect control. Methods of collecting and preserving and displaying insects are also covered. Fulfills program field course requirement. **Corequisite:** BIOL 3604L. **Prerequisites:** BIOL 1054 and BIOL 1254. FO

BIOL 3704 HUMAN ANATOMY

A study of the normal functional anatomy of the human body. The laboratory includes extensive use of human models and cat dissection. **Corequisite:** BIOL 3704L. **Prerequisites:** BIOL 1004 or 1054. *Recommended:* 3012. F, S, SU

BIOL 3814 BIOLOGY OF PLANTS

This course includes the study of algae, non-vascular and vascular plants with emphases on plant cell biology, morphology and physiology, classification, and ecology. Fulfills program plant course requirement. **Corequisite:** BIOL 3814L. **Prerequisites:** BIOL 1054 and BIOL 1254 (OR approval of instructor.) FE

BIOL 3904 HUMAN PHYSIOLOGY

A study of the normal function of the human body. Strong emphasis is placed on homeostasis. **Corequisite:** BIOL 3904L. **Prerequisites:** (BIOL 1004 or 1054) and (CHEM 1004 or CHEM 1203). F, S, SU

BIOL 4001-4 INDEPENDENT STUDY IN BIOLOGICAL SCIENCES (TOPIC)

Independent study of a specified topic for undergraduate students. Credit one to four hours. Up to 4 hours of independent study credit may be applied to the biological sciences major. F, S, SU

BIOL 4011-4 SEMINAR IN BIOLOGY (TOPIC)

Group study of specified topic for undergraduate students. Credit one to four semester hours. F, S, SU

BIOL 4021-4 SPECIAL TOPICS IN BIOMEDICAL SCIENCES

Provides special topics in biomedical sciences with variable topics for 1-4 credit hours. May include laboratory. May be repeated for a maximum of 4 credit hours. Enrollment by signature only. **Prerequisites:** BIOL 1054 and BIOL 1254 and junior or senior standing. D

BIOL 4031-4 SPECIAL TOPICS IN MICROBIOLOGY

This course is offered with variable topics in microbiology for 1 to 4 credit hours. A maximum of 4 credit hours may be applied toward the B.S. Biological Sciences degree. **Prerequisites:** BIOL 1054 and BIOL 1254 and junior or senior standing. D

BIOL 4041-4 SPECIAL TOPICS IN ENVIRONMENTAL AND ORGANISMAL BIOLOGY

Provides special topics in environmental biology and the biology of organisms with variable topics for 1-4 credit hours. May include laboratory. May be repeated for a maximum of 4 credit hours. Enrollment by signature only. **Prerequisites:** BIOL 1054 and BIOL 1254 and junior or senior standing. D

BIOL 4154 DEVELOPMENTAL BIOLOGY

The exploration of synthesis of vertebrate and invertebrate organisms. Cellular and molecular aspects of animal development will be covered as well as medical implications of developmental biology. Enrollment by signature only. **Corequisite:** BIOL 4154L. **Prerequisites:** BIOL 1054 and BIOL 1254. D

BIOL 4204 VERTEBRATE BIOLOGY

A comparative study of vertebrate adaptations including anatomy and physiology, behavior, and natural history. Includes laboratory and field activities. Fulfills program field course requirement. **Corequisite:** BIOL 4204L. **Prerequisites:** BIOL 1054 and BIOL 1254. SE

BIOL 4213 IMMUNOLOGY

The study of the body's immune system and its relationship to health and disease. **Prerequisite:** BIOL 4355. F, S

BIOL 4254 INVERTEBRATE BIOLOGY

A comparative study of adaptations of invertebrate organisms including anatomy and physiology, behavior, classification and identification, and natural history. The course includes laboratory and field activities. Fulfills program field course requirement. **Corequisite:** BIOL 4254L. **Prerequisites:** BIOL 1054 and BIOL 1254. SO

BIOL 4284 PARASITOLOGY

Overview of eukaryotic parasites affecting plants and animals including humans. Lab includes collection, isolation, cultivation, and parasite identification using both morphological and molecular techniques. **Corequisite:** BIOL 4284L. **Prerequisites:** BIOL 1054 and BIOL 1254. D

BIOL 4314 ENVIRONMENTAL BIOLOGY

The study of anthropogenic (man-made) effects of pollution on the environment, including the effects on plant and animal life as well as humans. **Corequisite:** BIOL 4314L. **Prerequisites:** BIOL 1054 and BIOL 1254. D

BIOL 4343 APPLIED MICROBIOLOGY

This covers topics including gene therapy and therapeutic agents, industrial microbiology and fermentation, agricultural applications, recombinant DNA technology, analysis of microbial communities, microbial ecology, and food microbiology. Includes laboratory demonstrations in lecture. **Prerequisite:** BIOL 4355. D

BIOL 4355 MICROBIOLOGY

A basic study of microorganisms involving classification and cultivation of bacteria, fungi, and viruses. Special emphasis is directed toward microbial morphology and physiology of disease causing microorganisms, antibiotics, and their action, and immune mechanisms. **Corequisite: BIOL 4355L. Prerequisites: CHEM 1004 or CHEM 1203 and BIOL 1004 or BIOL 1054. F, S, SU**

BIOL 4404 PATHOGENIC MICROBIOLOGY

Provides an overview of microbial physiology, molecular genetic mechanisms of pathogenicity, disease pathology, and clinical diagnosis procedures. Emphasis is placed on specific bacterial and viral pathogens. **Corequisite: BIOL 4404L. Prerequisite: BIOL 4355. D**

BIOL 4454 PLANT TAXONOMY

A study of the history, literature, and principles of plant taxonomy, with emphasis on the flowering plant flora of Oklahoma. Fulfills program plant course requirement. **Corequisite: BIOL 4454L. Prerequisites: BIOL 1054 and 1254. Recommended: BIOL 3253. SE**

BIOL 4463 VIROLOGY

A study of bacterial and animal viruses, including virion structure, cultivation, molecular genetics, and mechanisms of infection. Attention is given to viral diseases, their pathology, control, and prevention. **Prerequisite: BIOL 4355. D**

BIOL 4503 MICROBIAL PHYSIOLOGY

This course involves the physiological and biochemical activities of bacteria with emphasis on structure, function, and molecular control mechanisms. Pathogenic and non-pathogenic bacteria are considered. **Prerequisite: BIOL 4355. D**

BIOL 4524 ENVIRONMENTAL MICROBIOLOGY

Lecture and laboratory instruction on microbe-microbe and microbe-environment interactions. Areas of study will be air, water, wastes, soil and special environments such as industrial and domestic wastes. Three hours of lecture and two hours of laboratory per week. **Corequisite: BIOL 4524L. Prerequisite: BIOL 4355. D**

BIOL 4604 TERRESTRIAL ECOLOGY

A study of terrestrial biomes with emphases on interactions among organisms and the interactions between organisms and their environment that affect distribution and abundance. This course fulfills the plant and field course requirement. **Corequisite: BIOL 4604L. Prerequisites: BIOL 1054 and BIOL 1254 and junior or senior standing. SO**

BIOL 4622 ECONOMICALLY IMPORTANT PLANTS

A survey of plants of economic importance throughout the world. Essential food, drug, textile-fiber, and industrially valuable plants will be discussed in relationship to world economy and human population needs. Lecture only. Fulfills program plant course requirement. **Prerequisites: BIOL 1054 and 1254 (OR approval of instructor). FO**

BIOL 4703 INFECTIOUS DISEASE EPIDEMIOLOGY

A study of the distribution patterns of infectious diseases within and across populations. Includes topics in population studies, disease and injury determinants, behavioral factors, and environmental factors. Lecture only. **Prerequisite: BIOL 4355. D**

BIOL 4853 EVOLUTION

An overview of evolution including historical development, underpinning evidence, and current science and applications. **Prerequisites: BIOL 1054 and BIOL 1254. BIOL 3253 recommended. FE**

BIOL 4864 HUMAN GENETICS

A study of human genetics that focuses on human molecular genetics including genetic factors causing diseases; changes in gene expression during development, differentiation, and pathogenesis; recombinant DNA; gene therapy; clinical genetics; genetic epidemiology; immunogenetics; cytogenetics; and genetics of specific disorders and diseases. Enrollment is by signature only. **Corequisite: BIOL 4864L. Prerequisites: BIOL 3152 and BIOL 3253 and junior or senior standing. D**

BIOL 4901 BIOLOGICAL SCIENCES CAPSTONE

Students will demonstrate their knowledge and skills in biological sciences by completing and presenting guided original research or by searching the biological literature and presenting a review paper on a topic chosen from a designated course completed the previous semester. Students must submit a plan for completion when enrolling in the course. Enrollment requires permission of the instructor. **Prerequisites: Biological sciences major and senior standing. F, S**

BIOL 4914 GENERAL AND COMPARATIVE PHYSIOLOGY

A study of the principles of comparative animal physiology with emphases on morphological, physiological, and behavioral adaptations. Examples taken from humans, familiar animals, and uncommon animals that represent elegant solutions to survival problems and illustrate physiological concepts. The course covers the major organ systems of the body and their interactions with each other and the environment presented in an evolutionary and ecological context. Enrollment by permission of the instructor. **Corequisite: BIOL 4914L. Prerequisites: BIOL 1054 and BIOL 1254 and CHEM 1303 and CHEM 1352 and junior or senior standing. S**

BIOL 4935 CELL AND MOLECULAR BIOLOGY

A study of the cellular and molecular basis for the structure and organization of the cell with emphases on control of the cell cycle, transport of information and materials, and signaling. The laboratory emphasizes cellular and molecular tools and techniques and includes research and presentation of a cell/molecular biology question. Permission of the instructor is required. **Corequisite: BIOL 4935L. Prerequisites: BIOL 1054 and BIOL 1254 and junior or senior standing. FE**

BIOL 4944 NEUROSCIENCE

A study of the molecular, structural, physiologic, cognitive, and behavioral aspects of the brain and nervous system. Includes molecular and cellular neuroscience, brain science, anatomy and physiology of the central nervous system, molecular and biochemical basis for information processing, and applications to clinical sciences and biomedical engineering. **Corequisite: BIOL 4944L. Prerequisite: Junior or senior standing. FO**

BIOL 4974 HISTOLOGY

A study of the microanatomy and functional aspects of normal animal tissues. **Corequisite: BIOL 4974L. Prerequisites: BIOL 1054 and 1254. Recommended: BIOL 3053 and/or 3704. D**

Biology Credit for Summer Activities

Students who attend summer courses at the Gulf Coast Marine Research Laboratory (with which SWOSU is affiliated), the University of Oklahoma Biological Station, or other institutions of higher education, may be able to use those courses toward their biology degree. Likewise, students may earn college credit for some summer research positions and internships. Students who are considering such courses should meet with the Department Chair, prior to enrolling, to determine if these courses may be used toward their degree.

Medical Laboratory Science Clinical Courses (Taught only at MLS accredited hospitals)

MLS 4117 CLINICAL MICROBIOLOGY

Lecture and supervised laboratory instruction in pathogenic bacteria, fungi, parasites, viruses, and antimicrobial susceptibility testing with emphasis on clinical decisions and medical significance. Includes quality control, computer application, instrumentation, quality assurance/improvement, and safety regulations.

MLS 4125 CLINICAL CHEMISTRY I

Lecture and supervised laboratory instruction in biochemistry methodology and clinical microscopy with emphasis on clinical decisions and medical significance. Includes quality control, computer application, instrumentation, quality assurance/improvement and safety regulations.

MLS 4236 CLINICAL HEMATOLOGY

Lecture and supervised laboratory instruction in routine and special hematology studies correlating hematological findings with medical significance including quality control, computer applications, instrumentation, quality assurance/improvement, and safety regulations.

MLS 4246 CLINICAL IMMUNOLOGY/IMMUNOHEMATOLOGY

Lecture on immunologic (antigen-antibodies) responses, serological methodology and theory of immunohematology as applied to blood groups, types, compatibility testing, and blood components. Supervised instruction in immunology and immunohematology methodology with emphasis on clinical decisions and medical significance; including quality control, computer application, instrumentation, quality assurance/improvement, safety and governmental regulations.

MLS 4325 CLINICAL CHEMISTRY II

Lecture and supervised laboratory instruction in biochemistry methodology with emphasis on clinical decisions and medical significance. Includes quality control, computer application, instrumentation, lab mathematics, quality assurance/improvement, and safety regulations.

MLS 4351 TOPICS IN MEDICAL LABORATORY SCIENCE

Lectures on principles and practices of the Medical Laboratory Scientist including management education (health care delivery system, ethics, professionalism, communication skills, human resources, and financial management), performance improvement, education methodology, laboratory information systems, safety and governmental regulations, and research design/special projects.

DEPARTMENT OF CHEMISTRY AND PHYSICS

Astronomy

ASTRO 1904 ASTRONOMY

An introductory course stressing basic science and how we arrived at our present knowledge. Topics include: history of astronomy; planets; meteorites; comets; asteroids; birth, life, and death of stars; galaxies; quasars; black holes; and cosmology. Several night viewing sessions will be arranged. **F, S, SU**

ASTRO 4012 SEMINAR IN ASTRONOMY

Study of topics of current interest such as extraterrestrial life, colonizing space, astrology, Bermuda Triangle, black holes, UFO's, etc. Special attention is given to the questions asked of science teachers. **D**

Chemistry

CHEM 1004 GENERAL CHEMISTRY

A survey course in general chemistry designed for students requiring a single chemistry course (of 4 hours or fewer) in their major or for students requiring a preparatory course for CHEM 1203 and CHEM 1252, General Chemistry I. Topics include measurements, atomic theory, bonding, naming/writing formulas of inorganic compounds, properties of solids/liquids/gases, energy (primarily light/heat), reactions (including balancing equations, stoichiometry, equilibrium), solutions/concentrations, and acids/bases. The laboratory is designed to fortify the understanding of the major topics of the course. No prerequisites although a minimal algebra background is helpful. **F, S**

CHEM 1203 GENERAL CHEMISTRY I (LECTURE)

An introduction to chemical principles for students intending to major in science areas. Topics include concentration, stoichiometry, thermodynamics, atomic and molecular theory, properties of gases, liquids, and solids. **Prerequisite: Completion of or concurrent enrollment in MATH 1513. F, S, SU**

CHEM 1252 GENERAL CHEMISTRY I (LAB)

Laboratory for General Chemistry I. Experimental investigation of those topics introduced in 1203 and introduction to visible spectroscopy. **Corequisite: CHEM 1203. F, S, SU**

CHEM 1303 GENERAL CHEMISTRY II (LECTURE)

A continuation of chemical principles for students intending to major in science areas. Topics include kinetics, equilibria, acids and bases, second law, electrochemistry, and nuclear chemistry. **Prerequisites: CHEM 1203 and completion of or concurrent enrollment in CHEM 1252. F, S, SU**

CHEM 1352 GENERAL CHEMISTRY II (LAB)

Laboratory for General Chemistry II. Experimental investigation of those topics introduced in CHEM 1303. **Prerequisites: CHEM 1203 and CHEM 1252. Corequisite: CHEM 1303. F, S, SU**

CHEM 2001-4 INDIVIDUAL STUDY IN CHEMISTRY (TOPIC)

Specified topic in Chemistry. 1-4 hours credit.

CHEM 2011-4 SEMINAR IN CHEMISTRY (TOPIC)

Study of specified topic in chemistry for undergraduate students. Credit one to four semester hours. **D**

CHEM 2044 CLINICAL CHEMISTRY

The study of various chemical analyses of body fluids. Emphasis is on reactions, reagents and reference ranges of analytes measured in the clinical chemistry lab. **S**

CHEM 2112 STRUCTURE AND BONDING

A study of molecular structure and bonding beyond what is offered in General Chemistry courses. Topics covered include an overview of modern atomic theory, symmetry and group theory applications to chemistry, molecular orbital theory, advanced acid-base theories, descriptive inorganic chemistry, and nuclear chemistry. **Prerequisite: CHEM 1303. S**

CHEM 2114 ORGANIC/BIOCHEMISTRY

A survey course covering sufficient organic chemistry to support eight weeks of biochemistry material. The course is designed for Medical Technology majors, Environmental Technology majors, and Chemistry minors. The laboratory component of the course is designed to fortify the understanding of the major topics of the course. **Prerequisites: CHEM 1303 and CHEM 1352. D**

CHEM 2122 PROBLEM SOLVING IN ORGANIC CHEMISTRY II

A recitation-style approach to solving problems relating to topics encountered in Organic Chemistry II. **Corequisite:** CHEM 4113 or CHEM 4115. **Prerequisite:** CHEM 3013 or CHEM 3015. D

CHEM 2612 PRINCIPLES OF LABORATORY SAFETY

Introduction to the principles of laboratory safety focused on recognizing, assessing and minimizing the risks of hazards, and preparing for emergencies. Topics include the planning of experiments and evaluations of their physical and chemical hazards, managing chemicals and waste, safe use of laboratory and personal protective equipment, emergency response to chemical spills and fires, hazard communication, safety ethics and government regulation. In addition to Chemistry, this course may be useful to Physics, Biology, Engineering Technology, Secondary Education, Health Sciences and other majors who may be working in a laboratory setting. **Prerequisite:** CHEM 1303 or permission of instructor. S

CHEM 3013 ORGANIC CHEMISTRY I

An introduction to organic chemistry. Emphasis is placed on structure and reaction mechanisms. The chemistry of hydrocarbons is developed in detail. **Prerequisites:** CHEM 1303 and CHEM 1352. F, S, SU

CHEM 3015 ORGANIC CHEMISTRY I

Same as 3013 except that theoretical principles are presented in more detail. The accompanying laboratory meets six hours each week and the instruction in modern instrumental techniques is more rigorous than in CHEM 3111. The course is designed for students majoring in chemistry and other science areas. **Prerequisites:** CHEM 1303 and CHEM 1352. F

CHEM 3111 ORGANIC CHEMISTRY I LABORATORY

Methods of separation of mixtures and determination of the physical and structural properties of compounds are emphasized. Spectroscopy and chromatography are introduced with some applications. **Prerequisites:** CHEM 1303 and CHEM 1352. **Corequisite:** CHEM 3013. F, S, SU

CHEM 3124 QUANTITATIVE ANALYSIS

An introductory course in analytical chemistry which includes sampling, separations (precipitation, solvent extraction, ion exchange, chromatography); and determinations (by titrimetry, gravimetry, colorimetry, and potentiometry techniques). **Prerequisites:** CHEM 1303 and CHEM 1352. F

CHEM 3211 INORGANIC CHEMISTRY LAB

The lab meets three hours each week and focuses on the synthesis (including inert atmosphere and vacuum line techniques), purification (including chromatography and crystallization techniques), and characterization (including magnetic susceptibility, conductivity, UV-Vis, IR, NMR, X-ray diffraction, and mass spectra) of inorganic ligands and complexes. **Corequisite:** CHEM 3233. **Prerequisites:** CHEM 3111 or CHEM 3015. FO

CHEM 3233 INORGANIC CHEMISTRY

A study of advanced principles of inorganic chemistry. Major topics include: 1) Structure and bonding theories; 2) Transition metal coordination chemistry, and 3) Organometallic chemistry. **Prerequisite:** CHEM 3013 & CHEM 3111 or CHEM 3015. FO

CHEM 3244 ENVIRONMENTAL CHEMISTRY

Lecture, lab, and field course designed to provide broad based general knowledge of environmental chemistry, biology, and geology, especially including chemistry dealing with origins, transport, reactions, effects, and fates of chemical species in the water, air, soil and living environments. Laboratory will include a field component incorporating sampling

techniques and methods of analysis. **Prerequisites:** CHEM 4113 or CHEM 4115 or CHEM 2114 or by consent of instructor. SO

CHEM 3343 PHYSICAL CHEMISTRY I

A fundamental course in physical chemistry for students majoring in chemistry and related fields. Topics include gas laws, kinetic molecular theory, classical thermodynamics, solutions, kinetics, equilibrium, and electrochemistry and an introduction to statistical thermodynamics. **Prerequisites:** CHEM 1303, PHY 1044 or PHY 2145 (preferred), and MATH 2823 or concurrent or prior enrollment in MATH 2834, or permission of instructor. FE

CHEM 3901 SEMINAR IN CHEMISTRY I (CAPSTONE)

Course focus is on skills required for a successful professional career post graduation. Non-academic topics will include: selection and application to graduate programs, job search strategies, professional resume preparation and interview skills. Development of pertinent professional attitudes and professional and scientific ethics will be discussed. The second half of the course will cover methods of chemical literature searching and how to summarize the primary research publications in preparation for Seminar in Chemistry II. **Prerequisites:** Junior/Senior standing or permission of chair. F

CHEM 4001-4 CHEMISTRY RESEARCH

Individual students may arrange for a variety of laboratory research studies. Credit one to four hours. D

CHEM 4011-4 SEMINAR IN CHEMISTRY (TOPIC)

Credit is assigned for the completion of directed reading programs, seminars and similar activities. Credit one to four semester hours. **Prerequisite:** Departmental approval. D

CHEM 4021 ORGANIC CHEMISTRY II LABORATORY

Preparation and identification of organic compounds are emphasized. Spectroscopic and chromatographic techniques are utilized. **Prerequisites:** CHEM 3013 and CHEM 3111 or CHEM 3015. **Corequisite:** CHEM 4113. F, S, SU

CHEM 4113 ORGANIC CHEMISTRY II

A continuation of CHEM 3013. Preparations, properties, and reactions of organic functional groups with emphasis on biomolecules. **Prerequisites:** CHEM 3013 and CHEM 3111. F, S, SU

CHEM 4115 ORGANIC CHEMISTRY II

A continuation of CHEM 3015. Preparation, properties, and reactions of organic functional groups. The laboratory meets six hours each week and emphasizes the preparation and identification of organic compounds. **Prerequisite:** CHEM 3015 or departmental approval. S

CHEM 4124 BIOCHEMISTRY

An introductory course involving the study of the physical and chemical properties of compounds associated with the chemistry of life processes and an introduction to metabolism, especially carbohydrate degradation and nucleic acid and protein biosyntheses. **Prerequisites:** (CHEM-4113 and CHEM-4021) or 4115 or permission of instructor. F, S

CHEM 4223 POLYMER CHEMISTRY

The synthesis, testing and industrial application of intermediate and high molecular weight polymers. Includes three hours of laboratory per week. **Prerequisites:** (CHEM 4113 and CHEM 4021) or CHEM 4115 and concurrent or prior enrollment in CHEM 3343. D

CHEM 4234 INSTRUMENTAL ANALYSIS

Theory and practice in the use of instrumental methods utilized in chemical analysis. **Prerequisites:** CHEM 3124, CHEM 4454, or departmental approval. **SO**

CHEM 4313 ADVANCED ORGANIC SYNTHESIS

This course is a study of advanced synthetic methodologies. Specifically, the application of modern organic reactions, associated mechanistic principles, and their application toward the design, execution, and evaluation towards the synthesis of complex molecules. **Prerequisites:** CHEM 4113 or CHEM 4115, or permission of instructor. **D**

CHEM 4353 MATERIALS CHEMISTRY

An introduction to the fundamental chemistry of materials. Includes study of the classification, structure, bonding, synthesis, analysis, processing, development, and utilization of metals, glass-ceramics, polymers, composites, and nanomaterials. **Prerequisites:** CHEM 4113 or CHEM 4115, or permission of instructor. **D**

CHEM 4254 INDUSTRIAL CHEMISTRY AND ENVIRONMENTAL REGULATIONS

Critical examination of chemical innovation and emerging technologies in chemical production, use, and disposal for the protection of worker safety, public health, and the environment, including pollution prevention and remediation strategies, emissions monitoring and regulatory compliance, waste treatment, and resource conservation and recovery. **Prerequisites:** CHEM 4113 or CHEM 4115 or CHEM 2114. **SE**

CHEM 4455 PHYSICAL CHEMISTRY II

A continuation of CHEM 3343. Topics include quantum mechanics and its role in chemistry and the theoretical and experimental aspects of atomic and molecular structure, chemical bonding, spectroscopy, and photochemistry. Includes 3 hours of lecture and 6 hours of laboratory instruction. **Corequisite:** CHEM 4455L. **Prerequisite:** CHEM 3124 and CHEM 3343 with a "C" or better and concurrent or prior enrollment in MATH 3834. **SO**

CHEM 4554 ADVANCED ORGANIC SPECTROSCOPY

In-depth study of instrumental techniques including nuclear magnetic resonance, infrared, ultraviolet/visible, and mass spectroscopy to identify or verify organic molecules of moderately complex structure. Efficient interpretation of structure is emphasized by establishing features such as overall carbon framework, presence and location of functional groups, regiochemistry of substituents, and stereochemistry of chiral centers. **Prerequisites:** CHEM 4115 and CHEM 4234 or departmental permission. **D**

CHEM 4673 ADVANCED METABOLISM

Study of metabolic reactions and biochemical processes of living organisms. An understanding of enzymes, utilization of energy, synthesis of compounds, interrelationships among various metabolic pathways, hormone function, and metabolic regulation is developed. **Prerequisite:** CHEM 4124. **S**

CHEM 4900 SEMINAR ATTENDANCE

A non-credit course required each semester for all chemistry majors. The course provides seminars, workshops and presentations by visiting and in-house faculty and staff, graduate school and industry contacts, and student presenters. **F, S**

CHEM 4901 SENIOR SEMINAR IN CHEMISTRY II (CAPSTONE)

Each student will be required to select, conduct a literature search, write a review paper, and present a seminar on a current chemistry topic of interest. **Prerequisite:** CHEM 3901. **S**

Geology

GEOL 1934 PHYSICAL GEOLOGY

Introduction to earth science; earth in the universe, seafloor spreading and continental drift, the geomagnetic field, earthquakes and landform development; laboratory study of minerals and rocks, topographic maps, stereo-photographs and landforms. **F, S**

Physics

PHY 1044 BASIC PHYSICS I

Lecture and laboratory study of mechanics, wave motion, and heat; non-calculus survey course for students in natural science and health sciences; the laboratory component will provide a forum for the student to perform experiments related to the lecture material. **Prerequisite:** MATH 1513. **F**

PHY 1054 BASIC PHYSICS II

Lecture and laboratory study of electricity and magnetism, optics, and modern physics; the laboratory component will provide a forum for the student to perform experiments relating to the lecture material. **Prerequisites:** PHY 1044 or consent of instructor and MATH 1513. **S**

PHY 1063 GENERAL PHYSICS

Lecture study of motion, thermodynamics, sound and hearing, optics and vision, electricity and magnetism, and radiation; one semester survey with emphasis on biological applications of physics. **Prerequisite:** MATH 1513 or MATH 1613 or MATH 2823. **F, S, SU**

PHY 1072 INTRODUCTORY ELECTRONICS

Lecture and laboratory study of simple DC, AC, and nonlinear circuits; emphasis on basic electronic components and instrumentation including meters, oscilloscopes, and function generators. **D**

PHY 2011 SEMINAR IN PHYSICS

Group study on specified topic in Physics for undergraduate students. Credit one to four semester hours.

PHY 2021 INTRODUCTION TO ENGINEERING PHYSICS

A survey of the fields of engineering, engineering ethics, essential skills including communication and spreadsheets, and the basic physics that forms the core of engineering including kinetics, dynamics, statics, heat, materials, and energy. **F**

PHY 2145 GENERAL PHYSICS I

Study of mechanics, thermodynamics and wave motion including: Statics, dynamics, fluids, elasticity, heat, first and second laws of thermodynamics. Harmonic motion and sound; includes one laboratory per week. The laboratory component will provide "hands-on" experience of physical principles addressed during the lecture part of this course. Students will become familiar with laboratory equipment, procedures, and the scientific method. For engineering, physics, chemistry and mathematics students. **Corequisite:** MATH 1834. **S**

PHY 2155 GENERAL PHYSICS II

Study of electrostatics, electric circuits, magnetism, electromagnetic fields and optics; includes one laboratory per week. The laboratory component of the course consists of measurements, observation and comparison of measured values to the accepted theoretical or measured values. **Prerequisites:** PHY 2145 and concurrent enrollment in MATH 2834. **F**

PHY 2203 RIGID BODY MECHANICS

Study of statics, force systems, equilibrium, structures, distributed forces, friction, kinematics. **Prerequisites:** PHY 2145 and concurrent enrollment in MATH 2834. **F**

PHY 2213 STRENGTH OF MATERIALS

Study of mechanical properties of stressed materials; elastic and plastic deformations of beams, columns, and shafts; axial, transverse and torsion loadings; and temperature effects on materials. **Prerequisites:** PHY 2145 or PHY 2203 or consent of instructor. S

PHY 2223 INTRODUCTION TO RADIOLOGIC PHYSICS

This course will provide the student with a knowledge of basic physics. To include fundamentals of x-ray generating equipment, information on x-ray production, beam characteristics, and units of measurement. S

PHY 3013 MATERIALS SCIENCE

An introductory, interdisciplinary course about the fundamental properties of solid materials. Topics include: atomic and crystalline structure, diffusivity, imperfections, mechanical testing, deformation, hardening techniques; electrical magnetic, optical, thermal, corrosive and wear properties. Materials discussed include ferrous and nonferrous alloys, ceramics, polymers, and composites. **Prerequisites:** PHY 1054, PHY 1064, PHY 2155, and CHEM 1203, or consent of the instructor. D

PHY 3112 EXPERIMENTAL TECHNIQUES

Study of the techniques and devices used in experimental physics including lasers, vacuum systems, temperature measurements, photographic emulsions, spectrometers and particle detectors; procedures of data analysis. **Prerequisites:** PHY 2155 and MATH 2834. FO

PHY 3311 MODERN PHYSICS LABORATORY

The topics of spatial relativity, atomic and molecular physics, solid state physics, statistical physics, and nuclear physics are introduced along with engineering applications. **Prerequisite:** PHY 2155. **Corequisite:** MATH 3834. S

PHY 3403 MODERN PHYSICS FOR ENGINEERS

The topics of spatial relativity, atomic and molecular physics, solid state physics, statistical physics, and nuclear physics are introduced along with engineering applications. **Prerequisite:** PHY 2155. **Corequisite:** MATH 3834. S

PHY 3413 ANALOG ELECTRONICS

Lecture and laboratory study of basic network and semiconductor theory; Kirchhoff, Thevenin, and Norton Theorems, characteristics of solid-state components and their application in power supplies, amplifiers, oscillators, and operational amplifier. **Prerequisites:** PHY 1072, PHY 2155, and MATH 3834 or instructor approval. D

PHY 3424 OPTICS

Lecture and laboratory study of geometrical and physical optics, including lenses, mirrors, interference, polarization, diffraction, dispersion and quantum optics. **Prerequisites:** PHY 2155 and MATH 3834. **Corequisite:** 3424L. SO

PHY 3501 PHYSICS SEMINAR (TOPIC)

Course for students to gain experience in reporting a scientific and technical topic to peers; an oral and a written report on a subject of current interest in physics is required. **Prerequisite:** 18 hours of physics or consent of instructor. SO

PHY 3544 DIGITAL ELECTRONICS

Lecture and laboratory study of logic gates and circuits; microprocessor programming and interfacing. **Prerequisite:** PHY 1054 or PHY 2155. D

PHY 3563 THERMODYNAMICS

Study of thermal physics including the zeroth, first and second laws of thermodynamics; enthalpy, entropy, kinetic theory, Maxwell-Boltzmann

distribution, specific heats, simple transport phenomena, and power cycle applications. **Prerequisites:** PHY 2155 and MATH 3834. SO

PHY 3573 HEAT TRANSFER

Study of conduction, convection and radiation heat transfer; properties of materials related to heat transfer; control volume analysis; laminar and turbulent fluid flow; Newton's law of cooling; boiling and cooling; and blackbody radiation. **Prerequisites:** PHY 2155 and MATH 3834. D

PHY 3603 MECHANICS I

Study of dynamics; conservative motion, central force problems, gravitation, harmonic oscillators, systems of particles, small vibrations, rigid-body dynamics, accelerated reference frames and Lagrange equations. **Prerequisites:** PHY 2155 and concurrent enrollment in MATH 4213. SE

PHY 3633 FLUID MECHANICS

Study of fluid properties, compressible and incompressible fluids and aerodynamics, fluid statics and dynamics including viscous effects, dimensional analysis, and fluid measurements. **Prerequisites:** PHY 2155 and concurrent enrollment in MATH 4213. D

PHY 4001-4 PHYSICS RESEARCH (TOPIC)

Individual research under direction of an individual faculty member on a topic of mutual interest; one to four semester hours credit; topic, credit, and arrangements to be decided prior to enrollment. **Prerequisites:** Consent of instructor and chair of department. D

PHY 4011-4 PHYSICS SEMINAR (TOPIC)

Formal study of a topic of current importance in physics or engineering which is not normally included in other courses; one to four semester hours credit. **Prerequisites:** Consent of instructor and chair of department. D

PHY 4644 ELECTRICITY & MAGNETISM I

Lecture and laboratory study of electrostatics including Coulomb and Gauss laws, dielectric materials, electrostatic energy, steady currents and magnetic fields, and electromagnetic induction. **Prerequisites:** PHY 2155 and MATH 4213. FE

PHY 4723 QUANTUM MECHANICS

An advanced course in modern physics including applications of the Schrodinger equation, spin and magnetic interactions, complex atoms, molecules, and quantum statistical physics and its applications. **Prerequisite:** PHY 3403. **Corequisite:** MATH 4213 or consent of the instructor. FE

Science

SCI 1501 CONCEPTS OF PHYSICAL SCIENCE LABORATORY

The lab meets two hours each week and focuses on the importance of the laboratory experiment to the scientific method. Inquiry-oriented laboratory investigations of selected topics in the disciplines of astronomy, chemistry, geology and physics introduced in SCI 1513 will be undertaken. **Prerequisites:** Completion of or concurrent enrollment in SCI 1513. S

SCI 1513 CONCEPTS OF PHYSICAL SCIENCE

A course designed to develop an awareness of the interrelationships between science and society. Readings and discussions on the "tactics and strategy" of science, with emphasis on the physical sciences. F, S

Science for Elementary Teachers

The following three courses (SCI 3114, SCI 3214, and SCI 3314) are designed to prepare elementary school teachers and CANNOT satisfy any

program requirements other than Bachelors in Elementary Education, Bachelors in Special Education, or Masters in Elementary Education.

SCI 3114 BIOLOGICAL SCIENCE FOR ELEMENTARY TEACHERS

An inquiry-oriented course which presents selected biological concepts, including ecological relationships, that are relevant to the elementary school science curriculum. This course includes a laboratory. **Prerequisite:** SCI 3214. F, S

SCI 3214 PHYSICAL SCIENCE FOR ELEMENTARY TEACHERS

A general physical science course designed for the prospective elementary teacher. The content covers major concepts from the traditional disciplines of physics, chemistry, geology, and astronomy. A study of energy and environmental issues is also included. This course includes a laboratory. **F, S**

SCI 3314 GEOLOGICAL SCIENCE FOR ELEMENTARY TEACHERS

A general Earth science course covering major concepts of geology, environmental issues, and the relationship between science and society. This course is intended for elementary teachers. Inquiry-oriented laboratory investigations are included. This course includes a laboratory. **Prerequisites:** SCI 3114 and SCI 3214. F, S

SCI 4001-4 INDIVIDUAL STUDY IN SCIENCE

Specified topic in science. One to four credit hours. **D**

SCI 4011-4 SCIENCE SEMINAR (TOPIC)

Seminars of individual or group study are based on selected topics in science education. Credit one to four semester hours. **Prerequisite:** Senior college standing. **D**

SCI 4843 TEACHER'S COURSE IN SCIENCE

Methods, problems, and resources in teaching science in the secondary schools. Problems and topics in the middle school and high school are presented. Required for teacher certification in science areas. **Prerequisite:** Admission to Teacher Education Program. **FO**

DEPARTMENT OF LANGUAGE AND LITERATURE

English

ENGL 0123 FUNDAMENTALS OF ENGLISH

A course designed to provide remedial students an opportunity to increase their writing skills. Emphasis is placed on sentence construction, paragraph organization, sound thesis statements, and adequate support for them. Zero credit, this course is not counted as a part of a major or minor and it does not count towards graduation. **F, S, SU**

ENGL 0132 COMPOSITION I SUPPORT

A developmental course in English designed to provide remedial students an opportunity to increase their writing skills. Emphasis is placed on sentence construction, paragraph organization, sound thesis statements, and adequate support for them. The course is designed to supplement the ENGL-1113 curriculum in a manner that promotes student success there. **Corequisite:** ENGL-1113. **F, S**

ENGL 1113 ENGLISH COMPOSITION I

Training for effective communicative skills with emphasis on writing as required for successful college study. **F, S, SU**

ENGL 1213 ENGLISH COMPOSITION II

Training for skills in communication, as in ENGL 1113, but a higher level. Research and argument emphasized. **Prerequisite:** ENGL 1113. **F, S, SU**

ENGL 2000 ENGLISH PROFICIENCY PROGRAM

A writing examination required of all students who earn a "D" in ENGL 1213 to verify their writing proficiency. **Prerequisites:** ENGL 1113 and ENGL 1213. **F, S, SU**

ENGL 3013 WRITING: EXPLORATION AND PRACTICE

This course is an entry point for the major in English Education. It must be completed before continuing with further study in the major. A course designed to introduce the history and background of composition as an aspect of English studies. The course provides a basic background for using composition theory in the teaching of writing, but is not limited to pedagogical concerns. The course is focused on developing an understanding of the writing process and practicing writing skills using techniques derived from current composition theory. **Prerequisite:** ENGL 1213. **S**

ENGL 3113 CONTEMPORARY FICTION

This course is a study of short American fiction, beginning with the 1950's and progressing to the present. Students will read selected short stories, with particular focus on characterization, structure, theme, and language. **Prerequisite:** ENGL 1213. **FE**

ENGL 3123 CONTEMPORARY POETRY

This course is designed to lead students to a comfortable acquaintance with American poetry from the 1950's to poetry currently appearing in magazines. Formal poetry, free verse, and prose poetry will be studied. **Prerequisite:** ENGL 1213. **SO**

ENGL 3133 PEER TUTORING AND WRITING CENTER PRACTICES

Students receive training in writing center consultant practices; discuss current theories related to writing center work and writing pedagogy; reflect on their writing processes; and develop the interpersonal communication skills necessary for successful tutoring. The content of this course, via theoretical readings/discussions and experiential education opportunities, will enhance students' ability to work with people in whatever field they might choose. Students interested in tutoring at the campus writing center are required to complete this course, though employment is not guaranteed. **S**

ENGL 3473 SHORT FORM FICTION

This workshop is a training ground for short story writers. The student's work will be discussed critically. Exercises will be assigned. Full participation, both as writer and critic, is expected. **S**

ENGL 3483 BEGINNING CREATIVE WRITING OF POETRY I

This workshop is a training ground for poets. The student's work will be discussed critically. Exercises will be assigned. Full participation, both as writer and critic, is expected. **Prerequisite:** ENGL 1213. **F**

ENGL 3603 ENGLISH GRAMMAR

A study of traditional, descriptive English grammar, including structure, terms and some basics of usage. Designed for students interested in developing a better command of the English language. **Prerequisite:** ENGL 1213. **F**

ENGL 3653 WRITING IN THE DISCIPLINES

"Good" writing is a slippery concept, as many students realize when they try to transfer what they learned in one class to writing assignments in another. Different disciplines value certain forms of writing over others

because those forms help the members of the discipline communicate ideas more effectively. In this class, students learn to analyze the discourse of various disciplines and discern how the needs of the discourse communities shape their writing. **Prerequisites: ENGL 1113 and ENGL 1213. SE**

ENGL 3663 CREATIVE NONFICTION I

In this writing intensive workshop course, students will produce their own works of nonfiction as well as read and analyze the nonfiction of professional writers. Creative nonfiction includes the genres of personal essay, memoir and autobiography, travel writing, nature and science writing, and literary journalism. The course will address one or more of these genres. Students will utilize reportage, reflection, research, and techniques commonly used in fiction to turn their experiences and observations into stories and essays that are both truthful and artful.

Prerequisite: ENGL 1113 and ENGL 1213. FO

ENGL 4001-4 INDIVIDUAL STUDY IN ENGLISH (TOPIC)

Individual study of specified topic for undergraduate students. Credit one to four semester hours. **D**

ENGL 4011-4 SEMINAR IN ENGLISH (TOPIC)

Group study of specified topic for undergraduate students. Credit one to four semester hours. **D**

ENGL 4423 INTRODUCTION TO LINGUISTICS

An introductory overview of linguistics with particular attention to phonology, morphology, syntax, semantics, language acquisition, and the history of the English language. Required for majors in the English Education degree. **Prerequisite: ENGL 1213. S**

ENGL 4453 ADVANCED COMPOSITION

This advanced writing course presents a variety of expository and persuasive techniques beyond the basic level of the 1113 and 1213 English Composition courses. Focusing on the expository essay, with an emphasis on rhetorical aspects of writing, critical thinking, the writing process, research, and argumentation, the course encourages students to concentrate on development of their own styles and increase the precision of their written communication skills. Further study and appreciation of the argumentative/persuasive essay's structure is implemented by reading and writing. Topics may vary. **Prerequisite: ENGL 1213. FE**

ENGL 4473 CREATIVE WRITING OF POETRY II

This workshop is for poets seeking to create work of publishable quality. Publishing format is studied. Conferences with the instructor will be utilized. Group criticism will continue with participation by all members of the workshop. **Prerequisite: ENGL 1213. SE**

ENGL 4483 CREATIVE WRITING OF FICTION II

This course is an introduction to the process of writing short fiction with emphasis on the techniques of discovery, invention, organization, and style. The student will gain a better understanding of implementation of plot, character, setting, theme, and tone through examination of both model fiction from contemporary writers and the student's own writing. **Prerequisite: ENGL 1213. SE**

ENGL 4653 WRITING FOR MULTIMEDIA

Writing for Multimedia is an interactive course designed to give students practice producing texts for a wide range of media for a variety of purposes – entertainment, gaming, marketing, and education. Students will learn to write, think and edit using multiple modes of composition, as well as how to engage effectively, respectfully and safely in/with digital spaces. **Prerequisite: ENGL 1213. S**

ENGL 4663 CREATIVE NONFICTION II

In this writing intensive workshop course, students will produce their own works of nonfiction as well as read and analyze the nonfiction of professional writers. Creative nonfiction includes the genres of personal essay, memoir and autobiography, travel writing, nature and science writing and literary journalism. The course will address one or more of these genres. Students will utilize reportage, reflection, research, and techniques commonly used in fiction to turn their experiences and observations into stories and essays that are both truthful and artful.

Prerequisite: ENGL 1213. SE

ENGL 4673 TEACHING OF HIGH SCHOOL ENGLISH

This course emphasizes teaching of language, literature, and composition with emphasis on current trends recounted in recent textbooks, journal articles, experimental studies, and curriculum guides. It explores multiple modes—including technology—for involving students in purposeful reading, writing, speaking, and listening and considers innovative approaches for organizing the classroom to address a range of abilities and diverse cultural perspectives. This course is the capstone of the English Education degree and should be taken the fall before student teaching.

ENGL 4773 EDITING

This course will introduce the principles of this media skill by covering the major elements of editing, among which are structural and line editing, proofreading, using reference books, understanding contracts and copyright, understanding production and design, and understanding the writer/editor relationship. **Prerequisite: ENGL 1113 and ENGL 1213. SO**

ENGL 4882 ENGLISH SENIOR CAPSTONE

This course is intended as a culminating experience for senior English majors. It will require seniors to integrate principles, theories, and methods learned in courses required throughout the major. Students creatively analyze, synthesize, and evaluate learned knowledge in projects and communicate the results of the projects effectively at a professional entry level by a method appropriate to the discipline. **F, S**

Foreign Language

Courses in foreign languages provide students the ability to actively and productively participate in today's interdependent world. Better understanding and appreciation of other languages and cultures allow the student to understand better his/her native language and culture. Knowledge and ability in a foreign language enhance any area of the College of Arts and Sciences and provide essential cultural and linguistic background for students in teacher education.

More than sufficient course work is offered for students who choose Spanish as a second teaching field or as a minor to enhance any major.

American Sign Language

ASL 2163 AMERICAN SIGN LANGUAGE I

This course is an introduction to American Sign Language, the language used by deaf people in the United States and most of Canada. This course will also provide introductory information on deaf culture, since a language cannot be separated from its culture. **F, S**

Italian

ITAL 1004 ELEMENTARY ITALIAN I

A first semester elementary language course for students who have never studied Italian or who have had very little exposure to the language. Students will acquire elementary communication skills through a systematic introduction to the basic grammatical patterns and vocabulary of the Italian language. A cultural component ties into the grammatical content. Class work will emphasize development of the oral/aural skills,

speaking and listening. Tape recordings will also be available for students to practice listening and speaking.

ITAL 1104 ELEMENTARY ITALIAN II

This is a continuation of ITAL 1004. The goal of this course is to improve proficiency in Italian in the four areas of communication: reading, writing listening, and speaking. Grammar structures are learned not as an end, but as a means of acquiring proficiency. Real life learning experiences are fostered through the use of grounding of language acquisition through classes based on Italian culture and basic daily topics. **Prerequisite: ITAL 1004.**

Latin

LATIN 1054 ELEMENTARY LATIN I

Elementary course in Latin. Fundamentals of Latin with emphasis on vocabulary and structure of the language. **F**

LATIN 1154 ELEMENTARY LATIN II

Continuation of Latin I. Subjunctive mood, active and passive of all verbs, conditional clauses, fourth and fifth declensions are covered. **Prerequisite: LATIN 1054.**

Spanish

SPAN 1054 ELEMENTARY SPANISH I

Fundamentals of grammar taught in order to acquire facility in all four language skills; reading, writing, speaking, and understanding spoken Spanish; limited introduction to Hispanic culture. **F, S, SU**

SPAN 1154 ELEMENTARY SPANISH II

This course is a continuation of SPAN 1054 and completes the basic grammar of Spanish; consideration of Hispanic cultural background. **Prerequisite: SPAN 1054 or equivalent high school Spanish. F, S, SU**

SPAN 2053 INTERMEDIATE SPANISH I

Review of Spanish grammar to allow a more thorough understanding of fundamentals of Spanish with reading, cultural background, conversation, and composition. **Prerequisite: SPAN 1054, SPAN 1154, or permission. F**

SPAN 2153 INTERMEDIATE SPANISH II

Discussions in Spanish based on poetry, short prose selections, literary and current events. Informal grammar presentations as required. **Prerequisite: SPAN 2053 or equivalent. S**

SPAN 3023 SPANISH FOR HEALTHCARE PROFESSIONALS

Course designed to develop language skills with a focus on listening and speaking to provide vocabulary and conversational practice in realistic healthcare, pharmacy and/or emergency situations with emphasis on real-life vocabulary. Spanish-language media and public-service opportunities; planned and spontaneous activities augment course text. **S**

SPAN 3553 HISPANIC LIFE AND CULTURE

Readings in Spanish that demonstrate origins, development, and characteristics of Hispanic life and culture; reading speed and comprehension increased; conducted when possible in Spanish. **Prerequisite: SPAN 1154. F**

SPAN 3653 INTERMEDIATE SPANISH CONVERSATION

Course designed to increase vocabulary and conversational ability in realistic situations; planned and spontaneous activities using newspapers and magazines to augment course text; no English spoken; may take concurrently with SPAN 2153. **Prerequisite: SPAN 2053. FE**

SPAN 3753 READINGS IN SPANISH

Course designed to increase reading and overall proficiency in Spanish through study of selected literary genres from Spanish America and Spain. Various interactive methods used. **Prerequisites: SPAN 2053 or equivalent. S**

SPAN 3853 INTERMEDIATE SPANISH COMPOSITION AND GRAMMAR

Intensive writing course to increase Spanish writing proficiency. Review of grammatical forms that typically cause problems for intermediate learners. Interactive approach through a variety of methods. **Prerequisite: SPAN 2053 or equivalent. S**

SPAN 4923 TEACHERS COURSE IN WORLD LANGUAGES

Course designed to give the basic principles and techniques for effective instruction in world languages. **Prerequisite: SPAN 1054 or equivalent. SO**

Humanities

HUM 1103 INTRODUCTION TO HUMANITIES

An interdisciplinary, multi-perspective assessment of cultural, political, philosophical, and aesthetic factors critical to the formulation of values and the historical development of the individual and of society. Examines human creativity broadly, including music, painting, literature, theater, architecture, sculpture, and modern innovations such as photography and film. **F, S, SU**

Literature

LIT 2001-4 INDIVIDUAL STUDY IN LITERATURE (TOPIC)

Individual study of specified topic for undergraduate students. Credit one to four semester hours. **D**

LIT 2011-4 SEMINAR IN LITERATURE (TOPIC)

Group study of specified topic for undergraduate students. Credit one to four semester hours. **D**

LIT 2053 INTRODUCTION TO WOMEN'S STUDIES

In this interdisciplinary course, students investigate the history and the practice of women's studies from numerous angles, exploring the intersections of gender, class, race, sexuality, age, appearance, and ethnicity in women's lives and the power dynamics and inequalities found along those axes. The course focuses on feminism and social justice. Students examine the varieties of women's experience in current American society, noting how gender relations are changing and examining larger cultural, political, and social forces responsible for those changes.

LIT 2333 INTRODUCTION TO FILM

A study of films as entertainment, cultural force, and art form. This course consists of viewing, analyzing, and discussing numerous full-length commercial films. **F, S**

LIT 2413 INTRODUCTION TO LITERATURE

The study of short stories, poetry, and drama. **F, S, SU**

LIT 2833 SCIENCE FICTION

Reading and discussion of short stories and novels by such writers as Thomas More, H.G. Wells, Tolkien, Bradbury, Asimov, and Vonnegut. **D**

LIT 3023 THE ART OF READING

This course is an entry point for the major in English Education: it must be completed before continuing with further study in the major. The course

examines the purposes, origin, and methods of the discipline. Students will study literary examples from the five genres (fiction, poetry, drama, essay, and film) using a variety of critical and theoretical approaches. Additionally, students will learn to write both interpretive essays and research papers and will begin a writing portfolio. Lecture, discussion, peer review, practice in oral delivery of literature. **Prerequisite:** ENGL 1213 and LIT 2413. **F**

LIT 3033 WORLD MYTHOLOGY

In this course students will study the myths that human beings have used throughout history to explain their world, including the myths of Greece and Rome, the American Indians, The Norse, the Egyptians, the Mesopotamian, and the Eastern world. Students study the common features of these stories and come to understand how these classic stories reflect and affect our own history, psychology, literature, and religion. **Prerequisite:** ENGL 1213. **FO**

LIT 3113 EARLY WORLD LITERATURE

A survey of world literature from ancient literature through the Renaissance. **Prerequisite:** ENGL 1213 and LIT 2413. **FE**

LIT 3223 ROMANTIC MOVEMENT

History of the Romantic Movement; prose and poetry of the period with particular attention to the works of Wordsworth, Coleridge, Byron, Shelley, and Keats. **D**

LIT 3323 MODERN VOICES IN AMERICAN LITERATURE

A survey of American literature from the Civil War to the present. **Prerequisite:** ENGL 1213. **S**

LIT 3333 SHAKESPEARE IN CONTEXT

Students will study Shakespeare's plays in the context of his times and read representative works by Shakespeare and by his contemporaries. Two theoretical approaches underpin the course design: new historicism and formalism. Drama and cultural history share importance in understanding the world that produced an unparalleled theatrical achievement. Lecture; discussion; interpretive papers; informal writing; research. **Prerequisite:** ENGL 1213 and LIT 2413. **SO**

LIT 3343 WORLD FOLK LITERATURE

Students in this class will gain a greater appreciation and understanding of society's self-definition through folklore phenomena such as orally or imitatively transmitted literature (proverbs, tall tales, urban legends, American Indian myths, cowboy poetry, fairy tales, jokes, folk songs), material culture (prison art, whimsies, quilts) and customs (superstitions). They will explore the characteristics and relationships between literary and folk genres, themes and motifs and study the interplay of folkloric thinking and formal literary expression in texts of all kinds. **Prerequisite:** ENGL 1213 and LIT 2413. **SO**

LIT 3443 MIDDLE ENGLISH/CHAU CER

A study of the language and the literature of thirteenth and fourteenth century England with emphasis on Chaucer. **D**

LIT 3453 AGE OF REASON

A study of British works and authors of approximately the first half of the eighteenth century. Attention is also given to the social, political, and philosophical influences of the period. **D**

LIT 3463 19TH CENTURY AMERICAN REALISM

A course dealing with the broad outlines of the Age of Realism in American literature with special emphasis on the contributions of the three great realists: Mark Twain, William Dean Howells, and Henry James. **D**

LIT 3493 MODERN DRAMA

Reading and study of American, British, and European plays since Ibsen, with emphasis on the social and political backgrounds, dramatic structure, and literary trends from nationalism to absurdism. **D**

LIT 3513 LITERATURE OF THE AMERICAN WEST

Selected readings in novels, short stories, poetry, criticism and other works by writers of the Trans-Mississippi frontier and far West; emphasis on historical and cultural interpretations since 1890. **D**

LIT 3523 VICTORIAN POETRY

A study of the major poets of the Victorian era and of the conditions which shaped their work. Emphasis upon Tennyson, Browning, Arnold, Hardy, and Hopkins. **D**

LIT 3533 BRITISH RENAISSANCE DRAMA

A study of British theatre in the late 16th and early 17th centuries. Emphasis is on Kyd, Marlow, Jonson, Shakespeare, and the Jacobean. **D**

LIT 3543 LITERATURE OF THE SOUTH

Study of selected modern-day Southern writers, with emphasis on the economic, sociological, and political backgrounds reflected in their works. **D**

LIT 3613 AMERICAN ROMANTIC PERIOD

Readings in the American Romantic period, emphasizing selected works by Whitman, Thoreau, Hawthorne, and Melville. **D**

LIT 4001-4 INDIVIDUAL STUDY IN LITERATURE (TOPIC)

Individual study of specified topic for undergraduate students. Credit one to four semester hours.

LIT 4011-4 SEMINAR IN LITERATURE (TOPIC)

Group study of specified topic for undergraduate students. Credit one to four semester hours. **D**

LIT 4113 MODERN WORLD LITERATURE

A survey of world literature from neoclassicism to the present. **Prerequisite:** ENGL 1213 and LIT 2413. **FO**

LIT 4123 BRITISH LITERATURE 1795-1950

A survey of English literature from the Victorian period to the present. **Prerequisite:** ENGL 1213. **S**

LIT 4233 YOUNG ADULT LITERATURE

This course centers on traditional and innovative young adult literature in all genres, including film, graphic novels, and online literature. It prepares English Education students to design curriculum, deal with censorship issues and age appropriateness in making literature selections, and investigate the way the genre both shapes and reflects adolescent cultural experiences and challenges. **Prerequisites:** ENGL 1213 and LIT 2413. **SE**

LIT 4473 MODERN BRITISH AND AMERICAN POETRY

Poetry of the twentieth century. **D**

LIT 4553 ISSUES IN AMERICAN LITERATURE

In this course the student will apply close reading and critical analysis skills to American literature from the literature pre-dating European contact through the time of the Civil War, becoming familiar with key trends, movements, and figures, for example, Puritan life writing, Transcendentalism, and Ralph Waldo Emerson. Historical/cultural contexts for the works are stressed. **Prerequisite:** ENGL 1213. **F**

LIT 4593 DIVERSITY IN AMERICAN LITERATURE

This course in contemporary American diversity literature enables the student to analyze conflicts and tensions when cultures and ethnicities collide, while also discovering the richness of difference. It will consider works by representative American authors of Hispanic/Chicano, Black, Native American, Asian, Jewish, and other backgrounds. **Prerequisite:** ENGL 1213. **FE**

LIT 4623 17TH CENTURY ENGLISH POETRY

Selected readings from the works of Jonson, Donne, and their followers, providing a background for the study of the poetry of Milton. **D**

LIT 4763 BRITISH LITERARY HERITAGE TO 1800

In this course the student will become familiar with the major genres, authors and works and with the historical context of British literature from its beginning to 1800. The course explores the developments in language, literature, and society. Writers studied include the Beowulf poet, Chaucer, Spenser, Marie de France, Shakespeare, Milton, Pope, and Johnson. **Prerequisite:** ENGL 1213. **F**

LIT 4883 WOMEN AND LITERATURE

This course will acquaint student with literature by women from the medieval to the present time and from all over the world, exploring issues these writers raise concerning the lives and art of women. The course will also study images of women in literary works by both men and women. **Prerequisite:** ENGL 1213. **SE**

LIT 4993 THE NOVEL

In this course students will read and study novels of a particular period or type. Focus will vary from semester to semester and range in period and nationality (for example, 18th Century British Novel, History of the Novel, Victorian Novel, or focus on a particular set of writers). **Prerequisite:** ENGL 1213. **SE**

Philosophy

PHILO 1453 INTRODUCTION TO PHILOSOPHY

A survey of major philosophers and their ideas, from ancient Greece to Rome, to Medieval Christian philosophers. Descartes and the debate over Rationalism and Empiricism, Kant and his followers, Marx, Utilitarianism, and the Existentialism of both Kierkegaard and Sartre. Attention to metaphysics, ontology, ethics, epistemology, axiology, and some logic. Primary emphasis on the Western tradition. **F, S, SU**

DEPARTMENT OF MATHEMATICS

MATH 0124 BASIC ALGEBRA

A developmental course for students that need extra preparation before College Algebra. Topics include working with variables, solving equations, graphing linear functions, and factoring. **Prerequisite:** MATH 0174. **F, S, SU**

MATH 0162 COLLEGE ALGEBRA SUPPORT

A course designed to help students with a more modest mathematics background (ACT-16-18) to progress through College Algebra. Students will spend an additional two hours with their instructor each week. During that time, they can review underlying concepts, work through extra examples, and engage in question and answer sessions. Enrollment in College Algebra is required. **COREQUISITE:** MATH 1513.

MATH 0174 PREP FOR COLLEGE MATH

An entry level developmental course designed to strengthen students' math skills. This course will include a review of the operations of arithmetic, working with signed numbers, calculations with fractions, and using percentages. Students completing MATH 0174 can proceed directly to

MATH CONCEPTS 1143 with concurrent support course. Those who need College Algebra must complete MATH 0124 Basic Algebra. **F, S, SU**

MATH 0182 MATH CONCEPTS SUPPORT

A course designed to help students with a more modest mathematics background (ACT 16-18) to progress through Math Concepts. Students will spend an additional two hours with their instructor each week. During that time, they can review underlying concepts, work through extra examples, and engage in question and answer sessions. Enrollment in Math Concepts is required. **COREQUISITE:** MATH 1143.

MATH 0192 MATH APPLICATIONS SUPPORT

A course designed to help students with a more modest mathematics background (ACT-16-18) to progress through Math Applications. Students will spend an additional two hours with their instructor each week. During that time, they can review underlying concepts, work through extra examples, and engage in question and answer sessions. Enrollment in Math Applications is required. **COREQUISITE:** MATH 1153.

MATH 1143 MATH CONCEPTS

An introduction to mathematical ideas and their applications. Topics are chosen from set theory, logic, probability and statistics, number theory, financial mathematics and graph theory. **F, S, SU**

MATH 1153 MATH APPLICATIONS

A course in mathematics designed for nursing and health science students. Topics covered will include solving ratios and proportions, dimensional analysis, dosage calculations, and working with logarithms. **F, S**

MATH 1513 COLLEGE ALGEBRA

A fundamental course including solutions of equations and inequalities, systems of equations, algebra of functions, polynomial functions, rational functions, exponential and logarithmic functions, matrices, and conic sections. **Prerequisite:** ACT Math subscore of 19 or higher, or MATH 0133, or departmental approval, or placement by examination. **F, S, SU**

MATH 1613 COLLEGE TRIGONOMETRY

The basic course stressing trigonometric functions, periodicity, identities, and solution of triangles. **Prerequisite:** MATH 1513, or departmental approval, or placement by examination. **F, S**

MATH 1834 CALCULUS I

The first of a three-course sequence in analytical geometry and calculus. Limits, Continuity, differentiation, integration, applications. **Prerequisites:** MATH 1513 and MATH 1613 or equivalent, or placement by examination. **F, S**

MATH 2001-3 INDIVIDUAL STUDY IN MATHEMATICS (TOPIC)

Independent study of a specific topic in mathematics for undergraduate students. Credit one to three semester hours. **D**

MATH 2823 APPLIED CALCULUS

A survey of calculus and its applications to business, life, and social sciences. Limits, beginning techniques of differentiation and integration, exponential and logarithmic functions, maxima, minima and partial differentiation. **Prerequisite:** MATH 1513. **F, S**

MATH 2834 CALCULUS II

A continuation of Calculus I, Analytical Geometry and Calculus. Applications and techniques of integration, sequences, and series, conics, parametric equations, polar coordinates, and vectors. **Prerequisite:** MATH 1834. **F, S**

MATH 3113 FOUNDATIONS IN MATHEMATICS

An introduction to basic concepts upon which mathematics is founded. Logic, set theory, proof-writing techniques, equivalence relations, mappings. **Prerequisite:** MATH 2834 or departmental approval. **F**

MATH 3413 STATISTICAL METHODS

Beginning techniques for students with modest mathematical background. Emphasis on applications to the biological and physical sciences, business, and education. **Prerequisite:** MATH 1513. **F**

MATH 3433 STATISTICS I

An introductory probability and statistics course. The binomial, hypergeometric, Poisson, normal, t -, and Chi-square distributions are studied. Other topics include hypothesis testing, linear regression, and analysis of variance. Some work with the statistical software packages. Applications are emphasized. **Prerequisite:** MATH 1513. **S**

MATH 3453 MATHEMATICAL STATISTICS

Classical probability theory, discrete and continuous random variables and their probability distributions, properties of expectation, moment generating functions, sampling distributions and the central limit theorem are some of the topics. **Prerequisite:** MATH 2834. **FO**

MATH 3473 INTRODUCTION TO PROBABILITY

Basic concepts of discrete probability are discussed, such as counting techniques, independence, conditional probability, Bayes' Rule, random variables, random walks, and Markov chains. **Prerequisite:** MATH 2834. **SO**

MATH 3533 TECHNOLOGY AND PROGRAMMING IN MATHEMATICS

This course will be an introduction to computers and calculators for students of mathematics. Topics will be selected from: uses of the internet for the study of mathematics, graphing calculators, computer software, and programming for solving mathematical problems. **Prerequisite:** MATH 1834. **F**

MATH 3553 NUMERICAL ANALYSIS

Derivation, evaluation, and application of numerical methods of applied mathematics. Computer programming solutions to roots of equations, difference and differential equations, numerical integration, and linear algebra problems. **Prerequisite:** MATH 2834 and any scientific programming language. **D**

MATH 3653 LINEAR ALGEBRA

An introductory course in vector spaces, matrices, determinants, characteristic roots, and applications. **Prerequisite:** MATH 2834 or departmental approval. **S**

MATH 3673 ELEMENTARY NUMBER THEORY

A study including primes and composites, number theoretic functions, Diophantine equations, congruence classes, and mathematical induction. **Prerequisite:** MATH 2834 or departmental approval. **SE**

MATH 3713 COLLEGE GEOMETRY

An axiomatic development of the essentials of Euclidean geometry and an introduction to non-Euclidean geometry. Content includes the foundations of Euclidean geometry (points, lines, angles, triangles, quadrilaterals, circles), parallelism in Euclidean geometry, transformations and isometries, and parallelism in non-Euclidean geometry (with the focus on hyperbolic geometry). **Prerequisite:** MATH 2834 or departmental approval. **S**

MATH 3834 CALCULUS III

Continuation of Calculus II. Vector-valued functions, partial differentiation, multiple integration, line integrals, surface integrals. Green's Theorem, the Divergence Theorem, and Stokes' Theorem. **Prerequisite:** MATH 2834 or equivalent. **F, S**

MATH 4001-4 INDIVIDUAL STUDY IN MATHEMATICS (TOPIC)

Independent study of specific topic in mathematics for undergraduate students. Credit one to four semester hours. **D**

MATH 4011-4 SEMINAR IN MATHEMATICS (TOPIC)

Group study of specified topic in mathematics for undergraduate students. Credit one to four semester hours. **D**

MATH 4013 SEMINAR IN MATHEMATICS

The following courses are generally offered under this course number:

Analytic Geometry

Emphasizes the essential elements of analytic geometry with special attention to those topics that are needed in a college level calculus sequence. Content includes polynomial, rational, and transcendental functions. Polar and parametric equations, space coordinates and surfaces, lines and planes in space, applications to business, social and physical sciences, and curve fitting. **Prerequisite:** MATH 2834. **D**

Linear Algebra for Secondary Teachers

An introductory course on matrix algebra with applications to solutions of systems of linear equations, linear programming, vector spaces, determinants, linear transformations and applications. **Prerequisite:** MATH 2834. **D**

Modern Algebra for Secondary Teachers

Fundamental concepts of sets, mappings, binary operations, mathematical induction, divisibility and congruence mod n . Basic algebraic structures: groups, subgroups, cyclic groups, normal subgroups, homomorphism, and isomorphism. Introduction to rings, integral domains, and fields. Supportive problem sets and applications of special interest to teachers. **Prerequisite:** MATH 3834. **D**

Survey of Geometry

Euclid's Postulates with emphasis on Euclid's parallel postulate. Historical development of non-Euclidean geometry, with emphasis on the work of Saccheri, Gauss, and Lobachevsky. Circular inversion and orthogonal circles. The Beltrami-Poincare' half-plane and Poincare' disk models of hyperbolic geometry. The spherical model of elliptic geometry. **Prerequisite:** MATH 1834. **D**

MATH 4101 MATHEMATICS CAPSTONE COURSE

The capstone course is a one credit hour course for Mathematics Education and Mathematics seniors. It is modular in structure, with each module bringing together several different mathematics subject areas in a more advanced and interconnected context. To some extent, it will be preparatory for pre-professional exams. **Prerequisite:** Senior Standing or departmental approval. **F**

MATH 4133 INTRO TO MATHEMATICAL LOGIC

A basic course in mathematical thought, simple and compound sentences, truth tables, deductive logic, mathematical systems, quantification, application of logic to puzzles and games. **Prerequisite:** MATH 3834. **D**

MATH 4153 HISTORY OF MATHEMATICS

A survey course on the historical development of mathematics, including a look at famous problems and their development over time. **SE**

MATH 4213 DIFFERENTIAL EQUATIONS I

Solutions of ordinary differential equations with applications.

Prerequisite: MATH 3834 or departmental approval. S

MATH 4223 DIFFERENTIAL EQUATIONS II

A continuation of MATH 4213. Advanced ordinary differential equations methods and an introduction to partial differential equations including Fourier series, Laplace's equation, heat and wave equations. **Prerequisite:**

MATH 4213. D

MATH 4233 VECTOR ANALYSIS

A comprehensive course in theory and applications of vector analysis with an introduction to vector spaces. **Prerequisite:** MATH 3834. D

MATH 4653 MODERN ALGEBRA

An introduction to group, ring, and field theory, with an emphasis on group theory; permutation groups, factor groups and homomorphism theorems. Supportive problem sets and applications. **Prerequisite:** MATH 3834. F

MATH 4753 INTRODUCTION TO POINT SET TOPOLOGY

Elements of set theory, the real number system, mappings, metric spaces, and general topological spaces. **Prerequisites:** MATH 3834 and consent of instructor. D

MATH 4853 ADVANCED CALCULUS

A course in real analysis designed to strengthen and extend the theory behind the calculus sequence. **Prerequisite:** MATH 3834. S

MATH 4873 COMPLEX VARIABLES

Complex numbers and their algebra. Analytic functions. Cauchy-Riemann conditions, differential calculus of analytic functions. **Prerequisite:** MATH 3834. FE

MATH 4933 TEACHING SECONDARY MATHEMATICS

An analysis of subject matter and instructional processes in current secondary school mathematics. Teaching methods and techniques for the preparation of the professional teacher of mathematics. **Prerequisites:** Admission to Teacher Education Program and MATH 2834. FO

Math for Elementary Teachers

The following courses are designed to prepare elementary and middle school teachers and CANNOT satisfy any mathematics requirement for programs other than Middle School Mathematics, bachelors in Elementary Education, or Masters in Elementary Education.

MATH 1433 STRUCTURAL CONCEPTS IN ARITHMETIC

A fundamental course in arithmetic concepts and basic skills. For elementary teachers. F, S

MATH 1443 STRUCTURAL CONCEPTS IN MATHEMATICS

A study of the structures of number systems, informal geometry, probability and statistics. For elementary teachers. F, S

MATH 1503 ALGEBRA FOR ELEMENTARY TEACHERS

An introductory algebra course appropriate to the needs of the elementary teacher. Structure pattern, contemporary terminology, techniques and methods of solving algebraic equations, systems of equations, and inequalities. Graphing calculators. F, S

MATH 2133 GEOMETRY FOR ELEMENTARY TEACHERS

A beginning course in geometry for the elementary teacher. The development is an inductive and investigative approach with emphasis on language, models, constructions, and application. Hands-on-activities as well as computer activities. F, S

DEPARTMENT OF MUSIC

MUSIC 1013 INTRODUCTION TO MUSIC I

Introduction to the history of music and musical styles. F, S, SU

MUSIC 1103 MUSIC AND CULTURE

Introduction to history of music and musical styles from cultures around the world. Designed as a course for music majors. F

MUSIC 1112 FUNDAMENTALS OF MUSIC

Basic course in music notation for students who cannot read music symbols. Open to all students and majors. S

MUSIC 1123 HISTORY OF ROCK-N-ROLL

A course on listening, with emphasis on the relationship between musical style and historical context, and the history and development of rock-n-roll. F, S

MUSIC 1172 INTRODUCTION TO MUSIC THERAPY

Surveying fundamental issues of music therapy, including its definitions, histories, theories, trainings, served populations, and professional trends. F

MUSIC 1213 MUSIC THEORY I

Beginning study of diatonic theory, including intervals, chords, written harmony, ear training, sight singing, keyboard harmony, and form. F

MUSIC 1221 AURAL SKILLS I

Beginning study of aural skills including intervals, ear training, sight singing, and harmonic and melodic dictation. F

MUSIC 1223 MUSIC THERAPY I: MUSIC THERAPY IN REHABILITATION AND MEDICAL SETTINGS

An orientation to the biomedical theories of music therapy and principles of therapeutic designs in various medical and rehabilitation settings. D

MUSIC 1313 MUSIC THEORY II

Continuation of MUSIC 1214 Elementary Theory. Emphasis on chords, inversions, secondary sevenths, and modulations. S

MUSIC 1321 AURAL SKILLS II

Continuation of MUSIC 1221 consisting of aural skills including intervals, ear training, sight singing, and harmonic and melodic dictation. Emphasis on singing chord members, secondary functions, and modulation. S

MUSIC 1411 BRASS CLASS

Class instruction in one brass instrument and survey of the brass family. May be repeated for a total of three hours' credit. F, S

MUSIC 1511 WOODWIND CLASS

Class instruction in two woodwind instruments and survey of the woodwind family. May be repeated for a total of three hours' credit. F, S

MUSIC 1611 PERCUSSION CLASS

Class instruction in one percussion instrument and survey of the percussion family. May be repeated for a total of three hours' credit. F, S

MUSIC 1711 STRING CLASS

Class instruction in one orchestral stringed instrument and survey of the orchestral string family. May be repeated for a total of three hours credit. **F, S**

MUSIC 1911 BEGINNING GUITAR CLASS

Beginning class instruction on the classical guitar. **F, S**

MUSIC 2081 FIELD STUDIES I

Experiential learning of the skills in observation, assessment, treatment design, documentation, and presentation with the focus on music therapy in medical and physical rehabilitation settings. One to two hours of clinical experience and a one-hour seminar are required each week. **D**

MUSIC 2101 VOICE CLASS

Class instruction in voice. May not be repeated for additional credit. **F, S**

MUSIC 2181 FIELD STUDIES II

Experiential learning of skills in observation, assessment, treatment design, documentation, and presentation with the focus on music therapy in mental health. One to two hours of clinical experience and a one-hour seminar are required each week. **D**

MUSIC 2222 RECREATIONAL MUSIC

The use of various music experiences in the therapeutic and educational process, including experiences in piano, guitar, body movement, educational rhythmic, and directing group activities. **D**

MUSIC 2681 VOCAL ENSEMBLE

Experience in performing in small vocal ensembles. **D**

MUSIC 2811 CLASS PIANO I

Class instruction in piano for students with no previous keyboard experience. Emphasis on practical keyboard facility, sight reading, and harmonizing folk melodies and songs. **F, S**

MUSIC 2821 CLASS PIANO II

Class instruction in piano for students with beginning private piano instruction or those who have completed MUSIC 2811. **F, S**

MUSIC 2831 CLASS PIANO III

Class instruction in piano for moderately advanced beginners or those who have completed MUSIC 2821. **F, S**

MUSIC 2841 CLASS PIANO IV

Class instruction in piano for moderately advanced students placed in this class by audition. **D**

MUSIC 2861 ACCOMPANYING

Training and experience in keyboard accompaniments for solos and ensembles. **F, S**

MUSIC 2901 PIANO ENSEMBLE AND ACCOMPANYING

Performance and review of piano literature written for more than one player. Continues experiences begun in MUSIC 2861. **D**

MUSIC 2911 INTERMEDIATE GUITAR

Class instruction in classical guitar for students who have completed MUSIC 1911. **D**

MUSIC 2951 MODERN LANGUAGE DICTION

The study of Italian, German and French diction for singers. **F**

MUSIC 2981 PRINCIPLES OF CONDUCTING

Rudiments of conducting and elements of interpretation and score reading. (One-hour lab) **F**

MUSIC 3081 FIELD STUDIES III

Experiential learning of skills in observation, assessment, treatment design, documentation, and presentation with the focus on music therapy in special education. One to two hours of clinical experience and a one-hour seminar are required each week. **D**

MUSIC 3101 INSTRUMENTAL CONDUCTING

Continuation of MUSIC 2981 emphasizing conducting skills for instrumental ensembles. (One-hour lab) **S**

MUSIC 3113 MUSIC THERAPY II: MUSIC THERAPY IN MENTAL HEALTH AND ILLNESS

Music therapy theory, research, and clinical practice in psychiatry. **D**

MUSIC 3123 MUSIC THERAPY IV: THE PSYCHOLOGY OF MUSIC

Study of physiological, cognitive, and affective response to music, music preference and ability, acoustics, and research. **D**

MUSIC 3151 CHORAL CONDUCTING

Continuation of MUSIC 2981 emphasizing conducting skills for choral ensembles. (One-hour lab) **S**

MUSIC 3171 INTRODUCTION TO MOVEMENT

Develop knowledge and skills of movement via leading structural and creative/improvisatory experiences, communicating via movement, and both music and non-music goals for movement activities.

MUSIC 3181 MUSIC THERAPY COMPETENCIES AND PROFESSIONAL ETHICS

Discussion of music therapy professional competencies, standards of clinical practices (including topics of insurance reimbursement and job/internship searching), and ethics dilemmas that should be resolved in compliance with Code of Ethics by AMTA and CBMT.

MUSIC 3202 MUSIC METHODS FOR ELEMENTARY TEACHERS

Training in music for the non-musician teacher who will teach in a self-contained elementary classroom or who will support the work of a general music specialist. Activities include singing, listening, rhythmic and creative activities, and experience in playing instruments used in the K-6 classroom. **F, S, SU**

MUSIC 3231 BAND INSTRUMENT REPAIR

Practical course in instrument repair. **D**

MUSIC 3253 MUSIC THEORY III

The study of chromatic theory. Emphasis is given to altered chords, chords of the augmented sixth, enharmonic spellings, and various non-harmonic tones.

MUSIC 3261 AURAL SKILLS III

Continuation of MUSIC 1321 consisting of aural skills including intervals, ear training, sight singing, and harmonic and melodic dictation. Emphasis on chromaticism and modes. **F**

MUSIC 3303 MUSIC THEORY IV

Continuation of MUSIC 3253 with opportunity for creative experience in writing these styles. **S**

MUSIC 3311 AURAL SKILLS IV

Continuation of MUSIC 3261 consisting of aural skills including intervals, ear training, sight singing, and harmonic and melodic dictation. Emphasis on chromaticism and modes. **S**

MUSIC 3331 JAZZ IMPROVISATION

Application of the elements of basic harmony and theory to jazz improvisation. **S**

MUSIC 3353 HISTORY OF MUSIC I

Study of the historical eras from antiquity through the eighteenth century A.D., with emphasis on analytical study of the musical forms and styles of these periods. **F**

MUSIC 3403 HISTORY OF MUSIC II

Continuation of MUSIC 3353 with emphasis on the eras from 1800 to 1900. **S**

MUSIC 3452 HISTORY OF OPERA

History of the development of opera from 1600 to the present. **D**

MUSIC 3553 HISTORY OF MUSIC III

Continuation of MUSIC 3403 with emphasis on the eras from 1900 to the present. **S**

MUSIC 4001-4 INDIVIDUAL STUDY IN MUSIC

Individual study in various areas of musical knowledge. By permission of chair only. **D**

MUSIC 4011-4 SEMINAR IN MUSIC (TOPIC)

Group study of specified topic in music for undergraduate students. Credit one to four semester hours. **D**

MUSIC 4020 SENIOR RESEARCH PROJECT

Non-credit course required for all students who seek registration in music therapy. **D**

MUSIC 4021 WOODWIND ENSEMBLE

Performance of chamber music for woodwind instruments. Two rehearsals each week. Enrollment by permission of the instructor. **F, S**

MUSIC 4031 BRASS ENSEMBLE

Performance of chamber music for brass instruments with emphasis on the brass choir. Two rehearsals each week. Enrollment by permission of the instructor. **F, S**

MUSIC 4041 PERCUSSION ENSEMBLE

Performance of music written for percussion ensemble with emphasis on "total" percussion. Two rehearsals each week. Enrollment by permission of the instructor. **F, S**

MUSIC 4051 ORCHESTRA

One full orchestra and two string rehearsals each week. Enrollment by permission of the instructor. **F, S**

MUSIC 4061 SMALL INSTRUMENTAL ENSEMBLES

Performance of chamber music for small instrumental ensembles. Two rehearsals each week. Enrollment by permission of the instructor. **D**

MUSIC 4071 JAZZ ENSEMBLE

Performance of the literature of jazz. Two or three rehearsals a week, depending on ensemble assignment. Enrollment by audition and permission of instructor. **F, S, SU**

MUSIC 4081 BAND

The performance of band literature in an ensemble situation. **F, S, SU**

MUSIC 4102 FORMS AND ANALYSIS

A course which provides the basic tools for the analysis of music from any period style. Emphasis of study is upon forms developed by common practice in western music from 1700 to the present. **Prerequisite: MUSIC 1314. D**

MUSIC 4112 ORFF AND KODALY TECHNIQUES IN ELEMENTARY

A survey of method and materials developed by Carl Orff, Zoltan Kodaly, and their interpreters for the elementary general music classroom. Emphasis is on rhythmic activities and music literacy. **D**

MUSIC 4122 BASIC ORFF I

Beginning, detailed study of the music education system developed by Carl Orff. **D**

MUSIC 4132 BASIC ORFF II

Continuation of MUSIC 4122. **D**

MUSIC 4141 SOUTHWESTERN SINGERS

Choral ensemble performance for music majors and non-music majors. Non-music major students are placed in the ensemble at the discretion of the director through an audition. **F, S, SU**

MUSIC 4151 ORFF PRACTICUM

Supervised application in an elementary classroom of the general music procedures studied in MUSIC 4122 and MUSIC 4132. **D**

MUSIC 4182 RESEARCH AND STATISTICS

Survey of Research in Music in APA style, emphasizing both quantitative as well as qualitative techniques, and elementary statistics. **D**

MUSIC 4202 COMPOSITION

Practical experience in musical composition in various forms and styles. **Prerequisite: MUSIC 3303. D**

MUSIC 4213 MUSIC THERAPY III: MUSIC THERAPY IN SPECIAL EDUCATION

Survey of common physiological and psychological characteristics of special education recipients, music therapy assessment and treatment that correspond with the Individual Education Plan (IEPs) or other care plans, as well as crucial legal considerations in the special education setting. **D**

MUSIC 4222 INSTRUMENTAL PEDAGOGY

Physical and psychological problems associated with teaching wind, percussion, and stringed instruments. **FO**

MUSIC 4232 ARRANGING

A practical course in the technique of arranging for instrumental and vocal groups. **Prerequisite: MUSIC 3303. S**

MUSIC 4242-4 MUSIC THERAPY V-CLINICAL TRAINING

A six-month supervised internship. Credit: two to four semester hours; may be repeated for not more than a total of eight semester hours. **Prerequisite: Completion of all undergraduate course work. D**

MUSIC 4251 OPERA WORKSHOP

Practical experience in all phases of opera and musical theater production. **F**

MUSIC-4261 INTRO TO MUSIC TECHNOLOGY

Introduction to computer applications for MIDI sequencing, music notation, and digital audio.

MUSIC 4302 ELEMENTARY AND SECONDARY GENERAL MUSIC

A course for music majors which emphasizes materials and methods for teaching elementary and secondary music in general education. A portion of the course is devoted to discussion of various philosophies of music education and standardized testing in music. **F**

MUSIC 4311 FIELD STUDIES IV

Experiential learning of skills in observation, assessment, treatment design, documentation, and presentation with the focus on music therapy in special education. One to two hours of clinical experience and a one-hour seminar are required each week. **D**

MUSIC 4352 PIANO PEDAGOGY

Teaching methods and materials for all levels of piano instruction, from grade school through high school. Discussion of private and class techniques. **FO**

MUSIC 4362 MUSIC HISTORY SURVEY

A survey course of all stylistic eras of Western music from antiquity to the present. **D**

MUSIC 4372 MUSIC THEORY PRACTICUM

A review of the undergraduate music theory curriculum and an introduction of analytical techniques. **D**

MUSIC 4402 BAND METHODS

A study of techniques for teaching public school instrumental music. Emphasis is on methods and materials, marching band shows, and various problems of administration. **FO**

MUSIC 4452 VOCAL METHODS

A study of music teaching techniques for junior and senior high school music programs, including large choral groups, small ensembles, the changing voice, vocal solos, the voice class, programming, and public relations. **FE**

MUSIC 4463 TECHNOLOGY IN MUSIC

This course will foster an understanding of the basics of several software applications, including MIDI sequencing software, MIDI accompaniment software, loop-based music creation software, digital audio editing software, music notation software and electronic music instrument overview. In addition, students will cover Word, Excel and the Apple equivalent. **F, S**

MUSIC 4502 CHORAL LITERATURE

A review of music written for choral ensembles. Emphasis is on compositions appropriate for use in public school music programs. **SO**

MUSIC 4552 PIANO LITERATURE

A historical survey of the literature for the piano. **SE**

MUSIC 4602 INSTRUMENTAL LITERATURE

A review of music written for instrumental ensembles. Emphasis is on instructional material suitable for beginning, intermediate, and advanced students in the public schools. The class will review music for both private and group instruction. **SE**

MUSIC 4732 CHURCH MUSIC

A study of music as practiced by the various religious organizations in the U.S. which commonly employ professional musicians. Emphasis is on music literature and procedures used in formal worship. **D**

MUSIC 4812 ADVANCED MUSIC ANALYSIS

A course which provides the basic tools for the analysis of music from any style period. Emphasis of study is upon forms developed by common practice in western music from 1700 to the present. **Prerequisites: MUSIC 3303 and MUSIC 3311. F**

MUSIC 4900 RECITAL ATTENDANCE

A non-credit course required each semester for music majors and minors. The course provides listening and performance opportunities in formal and informal concert settings. **F, S**

MUSIC 4901 RECITAL ATTENDANCE

Provides the same experience as MUSIC 4900, but carries one hour credit. **F, S**

MUSIC 4950 SENIOR RECITAL

Non-credit course required for senior music education majors. The public or private performance of an approved concert in the principal applied music area. **F, S, SU**

MUSIC 4951 SENIOR RECITAL

Required of performance and composition majors in the Bachelor of Music degree program. Public performance of an approved concert in the principal applied music area. **F, S, SU**

MUSIC INDIVIDUAL MUSIC LESSONS (APPLIED MUSIC)

Individual lessons in piano, voice, organ, guitar, or any of the orchestral instruments. Students enrolled in one hour's credit will receive twenty-five minutes of instruction each week. Students enrolled in two hour's credit will receive fifty minutes of instruction each week. All enrollments by signature from the chair of the music department. Enrollment in individual lessons is by permission of the department. Non-majors may apply for individual lessons, but music majors, minors, and endorsement students in good standing hold a higher priority for teacher assignment. **F, S, SU**

DEPARTMENT OF SOCIAL SCIENCES

Criminal Justice

CRMJS 1113 INTRO TO CRIMINAL JUSTICE

An overview of the agencies and processes involved in the administration of justice to those accused and convicted of violating the criminal law. Agency problems and due process issues related to law enforcement, prosecution, adjudication, sentencing and confinement of offenders are discussed. **F**

CRMJS 1223 INTRODUCTION TO LAW ENFORCEMENT

A description and analysis of law enforcement history and current practice. The complex role of American police agents at all levels of government, models of police service, critical issues affecting law enforcement and practice, and the progress toward professionalism are emphasized. **D**

CRMJS 2503 CRIMINAL JUSTICE ADMINISTRATION

A study of the organization and management of Criminal Justice agencies. **D**

CRMJS 3163 SOCIOLOGY OF DEVIANT AND CRIMINAL BEHAVIOR

A general study of causes, effects and the nature of deviant behavior; special attention is given to criminal behavior as a type of deviance. **F**

CRMJS 3243 COMPARATIVE CRIMINAL JUSTICE SYSTEMS

A trans-national study of criminal justice systems focusing on law enforcement, adjudication, and corrections for comparison with U.S. system. **S**

CRMJS 3353 THE CRIMINAL MIND

This course will explore the mind of those who commit criminal acts and attempt to understand their motives, backgrounds, and psyches. Additional topics discussed in the course will include the mind of the murderer, the stalker, the terrorist, the sex offender, the rapist, and the cyber stalker. **D**

CRMJS 3523 CRIMINOLOGY

The study of the etiology, classification, social control and theoretical analysis of criminal behavior. **D**

CRMJS 3803 PRIVATIZATION OF CRIMINAL JUSTICE

A study of the historical and contemporary involvement of citizens and business and industry (i.e., non-government) in law enforcement, investigation, security, surveillance, detention, corrections, and treatment. **D**

CRMJS 4012 SEMINAR IN CRIMINAL JUSTICE

Intensive study on selected topic in criminal justice. May be repeated with change of subject. **D**

CRMJS 4013 SEMINAR IN CRIMINAL JUSTICE

Intensive study on selected topic in Criminal Justice. **D**

CRMJS 4103 JUVENILE JUSTICE

The study of delinquency and agencies of delinquency control; juvenile courts, probation, institutions and community organizations. **S**

CRMJS 4143 CRITICAL ISSUES IN CRIMINAL JUSTICE

Analysis of selected critical issues facing the criminal justice system. **D**

CRMJS 4153 U.S. CORRECTIONS

A study of corrective social responses to adult criminal behavior; focuses largely on the process of institutionalization, along with alternative treatment strategies. **F**

CRMJS 4333 VICTIMOLOGY

A sociological analysis of victimization, the social response to victimization, and the victim movement. **D**

CRMJS 4903 DIRECTED READINGS IN CRIMINAL JUSTICE

Scope of project determined by instructor. May be repeated for a total of six hours. **Permission required.**

CRMJS 4913 INTERNSHIP IN CRIMINAL JUSTICE

Qualified students will be assigned to cooperating criminal justice agencies during appropriate academic periods to observe and to apply previous course work. **Permission required. F, S, SU**

Economics

ECONO 2263 INTRODUCTION TO MACROECONOMICS

Study of the economy as a whole. Topics include national income accounting, the determination of the levels of income, output, employment,

and price; money and banking; stabilization policies; international economics. **F, S, SU**

ECONO 2363 INTRODUCTION TO MICROECONOMICS

Fundamental microeconomic principles involving behavior of consumers, business firms, and resource owners as they relate to the allocation of resources; individual price and output determination. **F, S, SU**

ECONO 2463 BUSINESS STATISTICS

Study of the relationship of data collection, analysis, and decision-making; emphasis on data collection, tabular and graphical methods, numerical methods, probability, discrete and continuous probability distributions, sampling methods and distributions, interval estimation, hypothesis testing, statistical inference, and linear regression and analysis. **F, S, SU**

ECONO 3863 MONEY AND BANKING

The study of the role of money, financial markets, and monetary policy in the overall economy; monetary theory. **Prerequisites: ECONO 2263. D**

ECONO 3123 ECONOMICS OF AGRICULTURE

A study of economic principles with emphasis on their application to the solution of farm agribusiness and agricultural industry problems in relation to the role of agricultural sciences within the United States economy. **Prerequisites: ECONO 2263, ECONO 2363. F, S, SU**

ECONO 4003 INDEPENDENT STUDY IN ECONOMICS (TOPIC)

Individual study of selected topics under the supervision of an economics faculty member. **Permission required. D**

ECONO 4013 SEMINAR IN ECONOMICS (TOPIC)

Group study of specified topics in economics. **Permission required. D**

ECONO 4563 MANAGERIAL ECONOMICS

An application of economic analysis and theory to the decision-making process which faces the manager. Topics covered include consumer and business firm behavior; demand theory; production; cost analysis; market structure; pricing. **Prerequisite: ECONO 2363. D**

ECONO 4963 INTERNATIONAL ECONOMICS

Fundamentals of trade theory and international finance. Survey of important current economic problems of an international nature. **Prerequisites: ECONO 2263. D**

Geography

GEOG 1103 WORLD CULTURAL GEOGRAPHY

Study of world's cultural regions. Cultural development is surveyed for such topics as populations, technologic-economic systems, and socio-cultural beliefs and practices. **F, S**

History

HIST 1003 EARLY WORLD HISTORY

Introductory survey of the political, social, and cultural developments of the world's major civilizations from the beginning of human civilization through 1500.

HIST 1023 MODERN WORLD HISTORY

Introductory survey of the political, social, and cultural developments of the world's major civilizations from the Age of Exploration through the 20th Century.

HIST 1033 WORLD HISTORY

An introduction to the history of world civilizations with an emphasis on the development of ideas, institutions, and religions as well as an examination of the impact particular individuals and movements have had in history. Students will also be introduced to the study of primary sources. **F, S, SU**

HIST 1043 UNITED STATES HISTORY TO 1877

This course is an introductory survey of American history from the nation's origins as a fledgling group of British colonies until the end of the Reconstruction period after the Civil War. This course will cover a broad range of topics that affected the nation's development, social trends, etc., that all contributed to the creation of the American nation. By the end of the course, students should have a basic understanding of their nation's history and heritage. **F, S, SU**

HIST 1053 UNITED STATES HISTORY SINCE 1877

A survey of American history from the end of reconstruction to the present. **F, S, SU**

HIST 2603 WRITING HISTORY

The method and practice of writing history. **F**

HIST 3003 WORLD WAR I

An examination of the origins, course, and consequences of the Great War. **D**

HIST 3043 EARLY MODERN EUROPE

History of European states from the late medieval period to the outbreak of the French Revolution. **D**

HIST 3063 HISTORY OF IRELAND

A history of Ireland with an emphasis on the period since the 17th century. **D**

HIST 3083 NATIONALISM AND ETHNICITY

An examination of the theories of national and ethnic community, and the violent application of such theories in 19th and 20th century Europe. **D**

HIST 3103 MEDIEVAL ENGLAND

Intensive examination of English history from the Anglo-Saxon era through the reign of King John with an emphasis on the detailed study of chronicles, laws, and other primary sources. **F**

HIST 3113 TUDOR ENGLAND

A study of selected topics from the history of 16th century England. **D**

HIST 3173 HISTORY OF IDEAS

This course uses a seminar method to examine some of the influential texts and ideas of the modern age. Beginning with great humanist texts and working through writings of Marx, Freud, and others, students will use a Socratic method to examine primary sources. **D**

HIST 3193 THE EUROPEAN UNION

This course adopts a lively, interactive approach to study of the European Union, its institutions, member states, historical and legal background, and current issues. Students participate in debates, presentations, and a "Model EU". **D**

HIST 3203 HISTORY OF GERMANY: 9 A.D. – 1989

The history of the German people and states from ancient tribal society, through the Holy Roman Empire, the reformation of Martin Luther, to modern nationalism, Hitler's Reich, and the divided Germany of the Cold War. **F**

HIST 3303 HISTORY OF IMPERIAL RUSSIA

Social, political, economic, and cultural developments from Muscovy to Bolshevik Revolution of 1917; emphasizing principal Muscovite regimes, Russian expansion, revolutionary movements, and World War I. **D**

HIST 3313 WORLD WAR II

An examination of the origins, course, and consequences of the second World War. **D**

HIST 3403 MODERN FRANCE

Surveys developments of modern France from the collapse of the ancient regime through the French revolution, the Napoleonic empire, the rise of the bourgeoisie, the Third Republic, the First and Second World Wars, the Fifth Republic, and contemporary French society as part of the European economic community. **D**

HIST 3503 EARLY CHRISTIAN THOUGHT

A historical introduction to early Christian writings and the development of Christian doctrine during Christianity's first centuries. **D**

HIST 3603 20th CENTURY WORLD HISTORY

A history of the 20th century and the early years of the new millennium. The emphasis will be on traditionally non-western nations and regions such as China, Japan, India, Russia, and Africa. The role of the United States and Europe in this period will also be examined. **D**

HIST 4011-4 SEMINAR IN HISTORY

Intensive study on selected topic in history. Credit from one to four hours. May be repeated with change of subject for total of 12 hours. **D**

HIST 4023 COLONIAL AMERICA: 1492-1765

A study of the European Colonies north of Mexico from earliest European exploration to the victory of the British in the Wars for North American Empire. **D**

HIST 4033 REVOLUTIONARY AMERICA: 1765-1808

Study of the revolutionary process in the British colonies and the Revolutionary War, the creation of the 1st American Republic under the Articles of Confederation and a 2nd under the Constitution, the revolution 1800 and the stabilization of the republic in the presidency of Thomas Jefferson. **D**

HIST 4043 NEW NATION AND AGE OF JACKSON: 1808-1850

America from the Age of Good Feeling through the Age of Jackson including the War of 1812, the second Great Awakening, the rise of social reform movements, the rise and decline of the second party system and developing tensions between nationalism and sectionalism. **D**

HIST 4053 CIVIL WAR AND RECONSTRUCTION: 1850-1877

Causes of Civil War, forming of Southern Confederacy, major events of war, political, economic, and social problems associated with restoration of the union. **S**

HIST 4063 GILDED AGE/PROGRESSIVE ERA

Study of the transformation of America from rural society "isolated" from world affairs into highly industrialized power. Social change will be stressed. **D**

HIST 4073 20th CENTURY AMERICA: 1915-1950

The 1920's, Depression and New Deal, WWII, Cold War, Korea, and McCarthyism. **D**

HIST 4083 AMERICA SINCE 1970

Study of Vietnam, Counterculture, Nixon, Watergate, "me generation", and Ronald Reagan's America through 9/11. **D**

HIST 4093 HISTORICAL RESEARCH AND WRITING

The process of historical research, including methods of locating materials, criticizing sources, analyzing and organizing notes, and writing results and presenting findings. **Prerequisite: HIST 2603. S**

HIST 4103 AMERICAN INDIANS

Emphasis is on Native American cultures and societies in the United States and federal Indian policy from 1830 to the present. **F**

HIST 4123 AMERICA IN THE 1950s AND 1960s

The study of the "liberal decade" including the administrations of Eisenhower, Kennedy, Johnson, Nixon, as well as King, Civil Rights, Vietnam, 1968, and the counterculture. **D**

HIST 4133 WOMEN IN AMERICAN HISTORY

The changing role of women in American society from colonial times to the present. Emphasis on cultural values and attitudes, the suffrage movement, feminism and antifeminism in the 20th century as well as the contemporary economic, legal, political, social, and intellectual issues facing women today. **D**

HIST 4203 OLD SOUTH

Study of antebellum South. Emphasis on role which South and Southerners played in national affairs and development of southern societal characteristics. **S, D**

HIST 4213 NEW SOUTH

Survey of postbellum South with emphasis on economic, political, and social forces which have changed culture of this region. **D**

HIST 4313 AMERICAN WEST

Study of the Trans-Mississippi West with emphasis on the impact of the frontier on American life, environmental issues, and the 20th Century West. **D**

HIST 4353 HISTORY OF OKLAHOMA

Oklahoma history from its beginning to present, including Indian background, formation into territories, achievement of statehood, and general cultural, economic, and political development. **S, SU**

HIST 4503 AMERICAN DIPLOMATIC HISTORY

This course covers the history of foreign relations of the United States from the colonial period to the present. This course takes a thematic view with emphasis on the Cold War and policy towards the Middle East. It emphasizes the complexities involved in making foreign policy by focusing on the major themes, personalities, and events that shaped the nation's status as a world power. **D**

HIST 4803 PUBLIC HISTORY INTERNSHIP

Readings, essays, and an internship in a public history setting. **Permission required. D**

HIST 4901-4 DIRECTED READINGS IN HISTORY (TOPIC)

Scope of project determined by instructor. Credit from one to four hours. May be repeated for a total of six hours. **Permission required. D**

Political Science

POLSC 1103 AMERICAN GOVERNMENT AND POLITICS

Survey of origin, structure, and functions of national government with emphasis on Constitution and the American political process. **F, S, SU**

POLSC 2303 COMPARATIVE POLITICS

Introduction to the systematic study of comparative government and politics. Analytical topics include political change, political communication, political culture, and political socialization. **Prerequisite: POLSC 1103. F**

POLSC 2623 CRIMINAL LAW AND PROCEDURE

An introduction to the elements of the criminal law and procedural rights of defendants. **Prerequisite: POLSC 1103. F**

POLSC 2803 THE JUDICIAL PROCESS

Introduction to the legal system with emphasis on organization and jurisdiction of federal and state courts, judicial process, and basic principles of American jurisprudence. **Prerequisite: POLSC 1103. S**

POLSC 3003 FEDERAL CONSTITUTION

Decisions through which the Supreme Court has developed judicial review and defined the scope of federal power. **Prerequisite: POLSC 1103. F**

POLSC 3033 POLITICAL PARTIES

Survey of the origin and development of the parties of the United States including an analysis of contemporary policies and issues. **Prerequisite: POLSC 1103. S**

POLSC 3113 POLITICAL THEORY

Examines classic and current views on the nature of authority, liberty, and justice. **Prerequisite: POLSC 1103. F**

POLSC 3163 PRINCIPLES OF INTERNATIONAL RELATIONS

Basic survey of international relations, including a consideration of the basis of national power and the fundamentals of international politics, law, and organization. **Prerequisite: POLSC 1103. D**

POLSC 3323 LEGISLATIVE-EXECUTIVE RELATIONS

The study of the organization and functioning of Congress and the Executive Branch. **Prerequisite: POLSC 1103. F**

POLSC 3343 THE ROAD TO EQUALITY

This course examines the political struggles of disenfranchised groups, primarily in the United States, focusing on race, gender, and class. Primary and secondary readings will concentrate on civil rights and the struggle for equal participation in employment, education, and other political and social institutions. **Prerequisite: POLSC 1103. D**

POLSC 3353 MODEL UNITED NATIONS I

Inform students about the United Nations system; consideration of the political, social, economic, and environmental issues, as well as disarmament and other issues within the international community. Participation in the Midwest Model United Nations is required. **Prerequisite: POLSC 1103. FO**

POLSC 3363 PUBLIC ADMINISTRATION THEORY AND PRACTICE

Introduction to principles and problems of public administration, organization, planning, supervision, budgeting, and administration responsibility. **Prerequisite: POLSC 1103. D**

POLSC 3373 MODEL UNITED NATIONS II

Along with Model United Nations I, explores the United Nations in action, represents different nations at the Midwest Model United Nations and hosts SWOSU Model United Nations. **Prerequisite: POLSC 1103 and POLSC 3353. SE**

POLSC 4013 SEMINAR IN POLITICAL SCIENCE (TOPIC)

Intensive study on selected topic in Political Science. May be repeated with change of subject for a total of 12 hours. **Prerequisite: POLSC 1103. D**

POLSC 4233 STATE AND LOCAL GOVERNMENT

An exploration of Oklahoma's political journey to statehood, state-federal relations, and local and tribal relations. **Prerequisite: POLSC 1103. D**

POLSC 4253 INTERNATIONAL LAW

An analysis of international organizations, international courts, issues of sovereignty, diplomatic relations, treaties, human rights, economic policies, and when the use of force is justified. The course will review cases from the United States Supreme Court, the International Court of Justice and other courts throughout the world. **Prerequisite: POLSC 1103. D**

POLSC 4303 INTERNATIONAL ORGANIZATIONS

Development and operation of international organizations from League of Nations to present, with emphasis on UN but including regional and nongovernmental organizations. **Prerequisite: POLSC 1103. D**

POLSC 4403 PUBLIC POLICY FORMATION

A survey of the development and administration of public policy. **Prerequisite: POLSC 1103. D**

POLSC 4613 CIVIL RIGHTS AND LIBERTIES

Limitations placed on federal and state governments by the Constitution. Emphasizes First Amendment freedoms and the Fourteenth Amendment. **Prerequisite: POLSC 1103. S**

POLSC 4903 DIRECTED READINGS IN POLITICAL SCIENCE (TOPIC)

Scope of project determined by instructor. May be repeated for a total of six hours. **Prerequisite: POLSC 1103. Permission required. D**

POLSC 4933 POLITICAL SCIENCE INTERNSHIP

Qualified students will be assigned to cooperating government, legal, or other offices during appropriate academic periods to observe and to apply previous coursework. A final outcome assessment will be determined by the instructor. **Prerequisite: POLSC 1103 in addition to 12 or more POLSC credits, 2000 level and above. D**

Social Sciences

SOCS 3853 STATISTICS FOR THE SOCIAL SCIENCES

Introduction to statistical methods in the social sciences. Emphasis on analyzing and presenting data utilized by social scientists; survey of descriptive techniques. **F, S**

SOCS 3863 FUNDAMENTALS OF RESEARCH

Use of scientific method in social science research. **PREREQUISITE: SOCS 3853. S**

SOCS 4011-3 SEMINAR IN SOCIAL SCIENCES

Intensive study on selected topic in social sciences. Credit from one to three hours. May be repeated with change of subject for total of 12 hours. **D**

SOCS 4133 TEACHERS COURSE IN THE SOCIAL SCIENCES

Resources, methods and problems in teaching the social sciences in secondary schools. Required for certification in this field. **F**

Sociology

SOCIO 1003 INTRODUCTION TO SOCIOLOGY

A general education course covering the fundamental concepts of sociology; foundations of group life; social change, processes, and problems. **F, S, SU**

SOCIO 3043 RACIAL AND CULTURAL MINORITIES

An interdisciplinary examination of the causes and consequences of prejudice and discrimination. **D**

SOCIO 3163 SOCIOLOGY OF DEVIANT AND CRIMINAL BEHAVIOR

A general study of the causes, effects and the nature of deviant behavior; special attention is given to criminal behavior as a type of deviance. **F**

SOCIO 4013 SEMINAR IN SOCIOLOGY

Intensive study on selected topic in Sociology. **D**

SOCIO 4033 ADVANCED ANALYSIS OF SOCIAL PROBLEMS

Contemporary U.S.A. and international social problems are examined through use of contemporary sociological theories. (The course is designed to give an in-depth understanding of a structural approach to a changing social milieu. **D**