



## COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

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# DESCRIPTION OF COURSES

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## DESCRIPTION OF COURSES BY DISCIPLINE

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### ACCOUNTING

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#### Department of Accounting

**OFFICE:** College of Business Building-Suite 462

#### **ACC 211 (3) Principles of Financial Accounting.**

Prerequisite: Sophomore classification recommended. Accounting principles and concepts relative to general use of accounting information, double entry bookkeeping, and financial reporting. (F, S)

#### **ACC 212 (3) Principles of Managerial Accounting.**

Prerequisite: ACC 211. Accounting principles and concepts as applied to managerial accounting. (F, S)

#### **ACC 314 (3) Intermediate Accounting I.**

Prerequisite: ACC 212. A study of the functions of financial accounting, basic theory, asset and liability recognition and measurement. (F, S)

#### **ACC 315 (3) Intermediate Accounting II.**

Prerequisite: ACC 314. A study of accounting theory and practice as applied to stockholders' equity, dilutive securities, investments, income measurement issues, and preparation and analysis of financial statements. (F, S)

**ACC 321 (3) Cost Accounting I.** Prerequisite: ACC 212. An introduction to the development and use of accounting information for internal decision making. Topics include: cost terminology and classifications, cost accumulation and analysis, CVP analysis, budgets and standard costs, inventory costing, and relevant costs for decision making. (F, S)

#### **ACC 381 (3) Government and NFP Accounting.**

Prerequisite: ACC 212. A study of accounting practice and theory as it related to state and local governments, and other non-for-profit entities. (F, S)

**ACC 423 (3) Income Tax Accounting.** Prerequisite: ACC 212. An in-depth study of federal and state income tax laws, tax research methods, effects on the distribution of individual income. (F, S)

#### **ACC 436 (3) Advanced and International Accounting.**

Prerequisite: ACC 315. Special accounting problems related to partnerships, consolidations, international operations, and International Financial Reporting Standards. (F, S)

#### **ACC 455W (3) Auditing.** Prerequisite: ACC 315.

Analysis of the problems encountered by practicing public accountants as related to financial statements audits; preparation of working papers and reports; and professional ethics. This course has been designated as a "Writing Across the Curriculum" course. (F, S)

**ACC 461 (3) CPA Review I.** Prerequisite: ACC 315 and Senior standing. An intensive review of accounting for business enterprises, taxation, managerial, and governmental and not-for-profit accounting as tested on the CPA examination. (D)

#### **ACC 473 (3) Advanced Income Tax Accounting.**

Prerequisite: ACC 423. A study of federal and state income tax laws for fiduciaries, partnerships, and corporations integrating recent technologies and research applications. (F, S)

#### **ACC 492 (3) Accounting Information Systems.**

Prerequisite: ACC 314. A study of theory and practice as applied to accounting information systems. The course examines the process of purchasing or designing accounting systems and a variety of topics dealing with the role of technology in building, implementing, controlling, and auditing accounting information system. A secondary goal of the course is to help students become more comfortable using computer based tools including e-mail, accounting software and the World Wide Web. (F, S)

#### **ACC 495 (3) Special Topics in Accounting.**

Prerequisite: ACC 212 and consent of department chair. Independent study of accounting topics. Credit granted for formalized research studies and/or accounting practicum (co-op). (F, S, Sum)

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### ART

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#### Department of Art

**OFFICE:** Johnson Hall, Room #213

**ART 101 (3) Art Fundamentals.** Designed for non-Art majors. Study and experimentation with art elements and art principles.

**ART 102 (3) Design I.** Exploration of processes and concepts of the visual arts and an introduction to design fundamentals.

**ART 111 (3) Drawing I.** Introduction to drawing with emphasis on the use of various media and techniques.

**ART 112 (3) Drawing II.** Prerequisite: ART 111. Representational drawing, concerned with space and volume relationships.

**ART 201 (3) Design II.** Introduction to two dimensional composition with emphasis on art elements and art principles.

**ART 202 (3) Design III.** Introduction to design in the third dimension with emphasis on art elements, art principles, and color theory.

**ART 203 (3) Introduction to Computer Graphics I.** This course provides students with skills needed to produce raster-based graphics. Students gain a thorough understanding of the nature of raster-based digital file development, as well as an in-depth study of the application used to create them. Projects and assignments focus on an exploration and understanding of the application, applying color, tools, and techniques.

**ART 206 (3) Art Appreciation.** Introduction to art and survey of architecture, painting, sculpture and related arts. Not required for art majors.

**ART 210 (3) Visual Thinking.** Prerequisites: ART 102 and 111. Students explore the creative process of making images that can move ideas and information to the minds of others. Assigned projects will explore the fundamental rigors of art theory and practice while honing students' conceptual and presentation skills. As a result, students will broaden their visual thinking and perceptual literacy to the point where they can easily transcend media barriers.

**ART 211 (3) Introduction to Ceramics.** Introduction and experimentation with various forming processes in ceramics; study of the nature and properties of clay; firing procedures; methods of glazing and decorating ceramic wares.

**ART 213 (3) Introduction to Graphic Design.** Prerequisites: ART 102, 111, 112, 201, 203, 210. Students will learn to use the principles of visual communication and to combine them successfully with basic production techniques. Also, they will gain awareness of how important ethics and social responsibility are in the creation of visuals. Questions and various activities will prompt discussions about the nature of design. The questions address issues that span time periods and stylistic groupings. The material is intended to

offer different viewpoints rather than draw conclusions about what makes something a work of design.

**ART 216 (3) Drawing III.** Prerequisites: ART 111, 112. Representational drawing from models.

**ART 217 (3) Drawing IV.** Prerequisite: ART 216. Figure drawing with emphasis on inventive lines and independent expression.

**ART 221 (3) Art History.** Survey of art history from prehistoric civilizations through the Renaissance.

**ART 222 (3) Art History.** Prerequisite: ART 221. Survey of art history from Baroque through contemporary movements.

**ART 224 (3) Introduction to Painting.** Prerequisite: ART 111, 112. Introduction to media and procedures in painting.

**ART 228 (3) Typography.** Prerequisites: ART 203 and 210. The theme of this course is the integration of type and image. The primary goal of the projects is how to achieve a harmonious and effective interplay of typography and imagery to express meaning. Through a confident use of grids, colors, images, type, and visual hierarchy, students will explore a variety of solutions to design problems that require both expressiveness as well as an understanding of the practical uses of communication design.

**ART 232 (3) Introduction to Sculpture.** Prerequisites: ART 111, 112, 201. Introduction to the media, tools, and procedures in sculpture.

**ART 242 (3) Introduction to Printmaking.** Prerequisites: ART 111, 112. Introduction to Printmaking processes.

**ART 301 (3) Art for Children.** Study and experimentation with art programming and art activities in the elementary school.

**ART 310 (3) Color Theory and Design.** Prerequisites: ART 201. Introduction to color theories in two-dimensional design.

**ART 311 (3) Web Design.** This course concentrates on the software knowledge, design, development, and implementation of effective static html interfaces based on principles of graphic design.

**ART 312 (3) Ceramics.** Prerequisite: ART 211. Advanced clay forming. Introduction to wheel throwing, and ceramic decoration procedures.

**ART 313 (3) Ceramics.** Prerequisite: ART 312. Introduction to ceramic processes, mold making, slip casting and the hand jigger process.

**ART 314 (3) Ceramics.** Prerequisite: ART 313. Experimentation with ceramic materials, properties and classification and calculation, compounding of ceramic glazes and clay bodies.

**ART 322 (3) Painting.** Prerequisites: ART 201, 224. Special emphasis on composition utilizing the elements of design.

**ART 323 (3) Painting.** Prerequisite: ART 322. Figure painting.

**ART 324 (3) Painting.** Prerequisite: ART 323. Experimentation with a variety of subjects emphasizing procedures, style and composition.

**ART 327 (3) Sound Design.** This course provides a basic introduction to sound design principles. Sound will be examined through digital audio workstations where students will cover fundamental, technical, and creative aspects of sound production, for both stand-alone audio projects and audio for film.

**ART 332 (3) Sculpture.** Prerequisite: ART 232. Basic procedures in casting with varied media. Emphasis on piece molds and waste molds.

**ART 333 (3) Sculpture.** Prerequisite: ART 332. Experimentation with procedures in construction of sculpture, combining materials and exploring spatial relationships.

**ART 334 (3) Sculpture.** Prerequisite: ART 232, 333. Introduction to wood; exploring its possibilities as a sculpture medium, and independent research and experimentation.

**ART 335 (3) Introduction to Photography.** Introduction to basic camera operation and black and white darkroom procedures, with an emphasis on creative applications for photography.

**ART 337 (3) Non-Western Art.** Survey of Non-Western Art: The Art of Africa, India and China are discussed.

**ART 338 (3) African American Art.** A survey of African American Art from 1619 to the present.

**ART 342 (3) Printmaking.** Prerequisite: ART 242. Introduction to silk screen printing.

**ART 343 (3) Printmaking.** Prerequisite: ART 342. Independent study in Printmaking.

**ART 349 (3) Junior Graphic Design Studio I.** This course is a study of the structural and organizing systems at work in graphic design such as grids, modules, proportion, progression, symmetry, and rhythm. Design problems will be studied holistically through projects that stress dynamic relationships among content, form, and context to gain a deeper understanding of systems at many levels.

**ART 351 (3) Junior Graphic Design Studio II.** This course expands and builds on previous graphic design knowledge and skills, offering students the opportunity of development of complex design projects. The emphasis will be on research and analysis, and the design processes that lead to creative conceptualization and polished final design solutions. All students are expected to demonstrate sophisticated design decisions and solutions. All students are expected to demonstrate sophisticated design decisions and appropriate design solutions that demonstrate a high level of expertise and achievement.

**ART 403 (3) Design IV.** Prerequisites: ART 201 and 202. Advanced problems in design.

**ART 412 (3) Painting.** Prerequisite: ART 324. Advanced problems in painting.

**ART 413 (3) Painting.** Prerequisite: ART 324. Advanced independent research and experimentation in painting.

**ART 414 (3) Ceramics.** Prerequisite: ART 314. Special problems in ceramic kiln design and construction.

**ART 415 (3) Ceramics.** Prerequisite: ART 414. Independent study and experimentation with ceramic sculpture and introduction to the history of ceramics.

**ART 416 (3) Sculpture.** Prerequisite: ART 331. Introduction to Lost Wax casting.

**ART 417 (3) Sculpture.** Prerequisite: ART 416. Special problems independent research and experimentation in sculpture.

**ART 418 (3) Display Design.** Developing designs for display purposes.

**ART 420 (3) Photography.** Introduction to camera operation, chemical solutions, negative development and contact printing.

**ART 421 (3) Photography.** Prerequisite: ART 420. Advanced problems in photography.

**ART 430 (3) Graphic Design Internship.** Training with professional designers of firms, eight hours per day for one semester. Students must have completed seven semesters in graphic design.

**ART 441 (3) Senior Graphic Design Studio I.** Prerequisites: ART 203, 210, 213, 228, 311, 327, 349, and 351. This course is to purposely apply acquired knowledge and skills (e.g., typography, color, visual translation, photography, and theory) to a set of “real” problems based on a theme. Necessary vehicles for information (such as brochures, printed materials, posters, web sites, etc.) will be developed from concept up to production. This course is intended to closely duplicate the actual working context of professional studio situations.

**ART 443 (3) Senior Graphic Design Studio II (Motion Graphics).** This course trains students in the basic and essential vocabularies, techniques, and methodologies of broadcast design/motion graphics. Students will receive training in video, sound, and motion software necessary for the creation of professional broadcast/motion graphic projects. It is set up to give a basic foundation in these techniques and software.

**ART 445 (3) Printmaking.** Prerequisites: ART 342 and 343. Special problems in Printmaking.

**ART 446 (3) Printmaking.** Prerequisite: ART 443. Advanced independent research and experimentation in Printmaking.

**ART 453 (2) Seminar on Aesthetics.** Evaluation of current art ideologies, styles, techniques, media, and modern approaches in contemporary art. (Open to seniors only.)

**ART 454 (3) Portfolio Development.** This course prepares students to meet the challenges of professional practice within the arts. Components of this class include building a resume, writing an artist’s statement, portfolio development, and strategies for a web presence, grant funding, self-promotion, marketing strategies, presentation, and senior exhibition.

**ART 455 (3) African Art.** Study of the art of West and Central Africa.

**ART 456 (3) African American Art.** A study of the art of African Americans, showing its development in the Americas from 1600 to the present.

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## AEROSPACE STUDIES

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**Department of Aerospace Studies**  
**OFFICE: AFROTC Building**

**AS 101 (1) The Foundation of the United States Air Force (General Military Course)** Corequisite: AF 101L. A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. Leadership Laboratory is mandatory for Air Force ROTC cadets, and complements this course by providing cadets with followership experiences.

**AS 102 (1) The Foundation of the United States Air Force (General Military Course)** Corequisite: AF 102L. Continuation of AF 101. A weekly Leadership Laboratory is mandatory.

**AS 101L/AF 102L (1)** Leadership Laboratory Consists of Air Force customs, courtesies, health, mandatory physical fitness, field training orientation, drill and ceremonies. These courses are graded Pass/Fail.

**AS 201 (1) The Evolution of USAF Air and Space Power (General Military Course)** The AF 201 course is designed to examine the general aspects of air and space power through a historical perspective. Utilizing this perspective, the course covers a time period from the first balloons and dirigibles to the space age global positioning systems of the Persian Gulf War. Historical examples are provided to extrapolate the development of Air Force capabilities (competencies), and missions (functions) to demonstrate the evolution of what has become today’s USAF air and space power. Furthermore, the course examines several fundamental truths associated with war in the third dimension: e.g. Principles of War and Tenets of Air and Space Power. As a whole, this course provides the cadets with a knowledge level understanding for the general element and employment of air and space power, from an institutional, doctrinal and historical perspective. In addition, the students will continue to discuss the importance of the Air Force Core Values, through the use of operational examples



and historical Air Force leaders, and will continue to develop their communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

**AS 202 (1) The Evolution of USAF Air and Space Power (General Military Course)** Corequisite: AF 202L. Continuation of AF 201. A weekly Leadership Laboratory is mandatory.

**AS 201L/AF 202L (1) Leadership Laboratory** Consists of Air Force customs, courtesies, health, mandatory physical fitness, drill, ceremonies, and field training orientation. These courses are graded Pass/Fail.

**AS 301 (3) Air Force Leadership Studies (Professional Officer Course)** A study of leadership, management fundamentals, professional knowledge, Air Force personnel evaluation systems, leadership ethics, and the communication skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical applications of the concepts being studied. A mandatory Leadership Laboratory complements this course by providing advanced leadership experience in officer-type activities, giving students the opportunity to apply the leadership and management principles of this course.

**AS 302 (3) Air Force Leadership Studies (Professional Officer Course)** Corequisite: AF 302L Continuation of AF 301. A weekly Leadership Laboratory is mandatory.

**AS 301L/AF 302 (1) Leadership Laboratory** Prerequisites: Completion of the General Military Course or Two-Year. Program selection and/or approval of the Professor of Aerospace Studies. Provides advanced leadership experience in officer type activities, giving students the opportunity to apply leadership and management principles. Includes a mandatory physical fitness program. These courses are graded Pass/Fail.

**AS 401 (3) National Security Affairs and Preparation for Active Duty (Professional Officer Course)** Corequisite: AF 401L. Examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism. Within this structure, continued emphasis is given to the refinement of communication skills. An additional

Leadership Laboratory complements this course by providing advanced leadership management principles.

**AS 402 (3) National Security Affairs and Preparation for Active Duty (Professional Officer Course)** Corequisite: AF 402L. Continuation of AF 401. A weekly Leadership Laboratory is mandatory.

**AS 401L/AF 402L (1) Leadership Laboratory** Prerequisites: Completion of the General Military Course or Two- Year Program selection and/or approval of the Professor of Aerospace Studies. Provides advanced leadership experiences in officer type activities, giving students the opportunity to apply leadership and management principles. Includes a mandatory physical fitness program. These courses are graded Pass/Fail.

**AS 403L/AF 404L (1) Leadership Laboratory Mandatory.** Prerequisites: Completion of the POC. Provides advanced leadership experiences in officer-type activities. These courses are graded Pass/Fail.

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## ENTREPRENEURSHIP AND PROFESSIONAL DEVELOPMENT

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**Department of Entrepreneurship and Professional Development**  
**OFFICE: College of Business Building-Suite 332**

### University Success

#### **UNIV 101 (2) University Success for Business Majors.**

This course is designed to assist the first year students in their adjustment to college life and in exploring career options. Emphases will be placed on self-assessment, image development, credit/money management, winning attitudes, goal setting, dressing for success, constructing personal web pages, action research, portfolio development, leadership skills, and library usage. Personal Development activities relative to the students' academic, social and professional success are reinforced through participation in enrichment workshops, seminars, student organizations, service learning, and mentoring. (F, S)

### Business Professional Development

#### **BPD 200 (3) Introduction to Business.** Prerequisites:

UNIV 101. This course is designed to introduce students to the basic concepts of business. Students receive instruction regarding the business environment, management of the enterprise, marketing management, accounting and financial management, and business careers. Professional dress is required. (F, S)

**BPD 325W (3) Business Communications.**

Prerequisites: ENG 104, 105, 205, UNIV 101, BPD 200, and junior standing. This course is designed to merge written, oral and nonverbal communication theory and applications. Strong emphasis will be given to leadership theory and development content, organization, presentation, networking, problem-solving and decision-making. Students are provided opportunities to participate in mentoring activities. Mandatory attendance at executive lecture series and special writing/speaking clinics. Students must actively participate in at least one business student organization and complete the Business II and/or GMAT test preparation exercises. Professional dress is required. (F, S)

**Entrepreneurship**

**ENTR 380 (3) Foundations of Entrepreneurship.** An introductory course designed to familiarize students with the world of small business, and analyze the personal strengths and weaknesses of students relative to launching a career in entrepreneurship. Attention is given to planning, financing, starting, and managing a new business. Elective-open to all majors. (F, S, Sum)

**ENTR 381 (3) Entrepreneurship and Small Business Management.** Prerequisites: BPD 325W, MNGT 330, and Junior standing. This course is designed to prepare the entrepreneurship student for the general management role of the entrepreneur. Critical issues affecting entrepreneurship and small business management will be examined. The primary focus of the course will include small business planning, locating and using information, and the fundamentals of business planning. A comparative view of entrepreneurship and case analyses will be used. (F, S)

**ENTR 382 (3) Entrepreneurial Financing, Accounting, and Control.** Prerequisites: ENTR 381, FIN 320, and Junior standing. The course will focus on understanding and exploring the requirements, costs and benefits of various forms of financing options open to the entrepreneur. Special emphasis will be placed on finance issues of particular relevance to the minority entrepreneur, as well as on funding sources for capital and operating needs of minority entrepreneurs. Methods of profit planning and cash flow management will be covered. Accounting for small business and internal controls will be stressed. (F)

**ENTR 482 (3) Financing Entrepreneurship Ventures.** Prerequisites: ENTR 381, 382, BPD 325W, and Senior standing. This course will explore financing

entrepreneurial companies at various phases of the life cycle. Students will also gain an understanding of what is in the numbers and how they reflect a specific strategy. Other topics will include financing of start-up businesses, season business, acquisitions, and public offerings. Also emphasis will be placed on analyzing legal documents so that the student will have a practical experience in this critical aspect of financing entrepreneurial ventures. (S)

**ENTR 483 (3) Marketing for Entrepreneurs.**

Prerequisites: MKT 351, MNGT 330, ENTR 381, 382, and Senior standing. This course is designed to introduce the new entrepreneur to the importance and role of marketing strategies in creating and organizing a new business, as well as in existing small businesses. The major emphasis will be on: ways to analyze and define the target market, evaluating competition, environmental trends, determining customer preference, and developing a marketing strategy for the start-up or existing business. (S)

**ENTR 484 (3) Internship in Entrepreneurial Studies.**

Prerequisites: ENTR 381, 382, BPD 325W, Junior standing and departmental approval. Supervised work experience in simulated student-managed business enterprises and new or emerging small business ventures which focus on the creation of jobs. (F, S, Sum)

**ENTR 485 (3) Entrepreneurship Senior Project.**

Prerequisites: Senior standing, ENTR 381, 382, 482, 483, BPD 325W, and departmental approval. This capstone course will focus on the development of a plan for a new business. Strategic planning for successful marketing and expansion will be stressed. Thorough planning of a venture will be required to include all components of a marketable business plan. Students will be expected to market the plan to actual sources of capital to secure potential financing for the venture. Students will be required to meet and work with successful entrepreneurs. (F)

**ENTR 487 (3) Family Business Management.**

Prerequisites: ENTR 382 and Junior standing. This course will explore the unique challenges and opportunities present in managing a family business. Topics will include: the decision to join the family firm, establishing credibility as a son or daughter, the stages of family business growth, strategic planning in the family firm, dealing with non-family managers, and succession. (S)

**ENTR 488 (3) Strategies in Entrepreneurship.**

Prerequisite: Senior standing. This course is designed



to provide students an opportunity to study current and relevant issues pertinent to the operation of a business. Students will use the knowledge gained from research to determine how their ventures may be affected. Through this process, students will continue to learn how to assess their personal aptitude and potential for small business, find and evaluate business opportunities, secure essential funding, and organize and manage such functional business areas such as manufacturing, marketing, accounting and finance. (F)

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## BIOLOGY

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### Department of Biology

**OFFICE:** John A. Peoples Science Building

**BIO 101 (2) Introduction to Biology.** Designed to acquaint the student with fundamental principles of biological science and their functional applications. This course is primarily for the general education program. (F, S, Sum)

**BIOL 101 (1) Introduction to Biology Lab.** Laboratory experience designed to re-enforce lecture materials in BIO 101. Primarily, the activities will involve the study of the basic principles in Biology including cell structures, metabolism, photosynthesis, genetics, etc. (F, S, Sum)

**BIO 103 (3) Environmental Science.** An introduction to the fundamental principles of ecology, biology, and chemistry for a better understanding of the inter-relationships between man and his environment. (F, S, Sum)

**BIOL 103 (1) Environmental Science Lab.**

Laboratories will consist of demonstrations of lecture materials as well as films and outside speakers relative to each week's topic. Field trips will be planned when appropriate. (F, S, Sum)

**BIO 105 (2) Introduction to Botany.** An introduction to the basic principles of botany especially those that have an impact on human affairs. Must be taken concurrently with BIOL 105. Designed for the general education requirement. (F, S, Sum)

**BIOL 105 (1) Introduction to Botany Lab.** The laboratory exercises will consist of studies pertaining to morphology, physiology, and taxonomy of lower and higher plants. (F, S, Sum)

**BIO 106 (2) Introduction to Marine Science.** An introduction to the fundamental principles in key areas

of marine science. Emphasis will be placed on marine and estuarine ecology, marine chemistry, diversity of marine flora and fauna, etc. Must be taken concurrently with BIOL 106. (F, S, Sum)

**BIOL 106 (1) Introduction to Marine Science Lab.**

Laboratory exercises and field trips will provide students with practical experience in the basic biology using the marine environment as a model. (F, S, Sum)

**BIO 107 (2) Introduction to Zoology.** Prerequisite: BIO 101. Diversification of animal groups and adaptive changes pertinent to solving problems of survival. Designed for the general education program. (F, S, Sum)

**BIOL 107 (1) Introduction to Zoology Lab.**

Laboratory exercises involving basic structure of protozoa through chordata. (F, S, Sum)

**BIO 111 (3) General Biology.** An introduction to the major unifying concepts among the biological sciences: metabolism, physiology, organization, genetics, evolution, and ecology. (F, S, Sum)

**BIOL 111 (1) General Biology Lab.** Prerequisite: Concurrent enrollment in BIO 111. Laboratory experiments designed to study the principles of metabolism, photosynthesis, genetics and other principles basic to biology. (F, S, Sum)

**BIO 112 (3) General Biology.** Prerequisite: BIO 111. An introduction to the major unifying concepts among the biological sciences: metabolism, physiology, organization, genetics, evolution, and ecology. (F, S, Sum)

**BIOL 112 (1) General Biology Lab.** Continuation of laboratory experiments begun in BIOL 111. Exercises will complement those topics covered in BIO 112. (F, S, Sum)

**BIO 114 (2) Introduction to Marine/Environmental Sciences.** An introduction to the fundamental principles of marine and environmental sciences. Emphasis will be placed on broad treatment of aquatic and terrestrial ecology, chemistry, pollution, and biodiversity for a better understanding of the interrelationships between man and his environment. (F, S)

**BIO 115 (3) General Zoology.** Study of the phyla protozoa through chordata. (F, S, Sum)

**BIOL 115 (1) General Zoology Lab.** Laboratory exercise involving the basic structure of protozoans through chordates. Laboratory must be taken with lecture (BIO 115). (F, S, Sum)

**BIO 119 (3) General Botany.** Prerequisite: BIO 111 and 112. Fundamentals of plant morphology, plant taxonomy and plant physiology are discussed in addition to the survey of lower and higher plants. (F, S, Sum)

**BIOL 119 (1) General Botany Lab.** Laboratory exercises pertaining to plant morphology, plant taxonomy, plant physiology, and lower and higher plants are conducted. Laboratory must be taken with the lecture. (F, S, Sum)

**BIO 200 (3) Introduction to Cell Biology.** Emphasis on the structure and function of cellular organelles. Introduction to bioenergetics and enzymes. Laboratory instruction for developing molecular biological techniques. (Sum)

**BIO 201 (3) Introduction to Environmental Science.** Basic environmental principles involved in natural environments will be addressed. Their relationships to human environmental functioning will be stressed. (S)

**BIOL 201 (1) Introduction to Environmental Science Lab.** Laboratory studies, field trips, and speakers will focus on pollution, environmental degradation and population problems relative to natural versus built environments. (S)

**BIO 202 (3) Elementary Biostatistics.** This course is designed as an applied introductory course for biology students. The students will be exposed to the basic concepts of biostatistics that will form the foundation for future admission to other schools that include biostatistics in their requirements. The Statistical Analysis System (SAS) computer software will be used to analyze and explain the various concepts. The course serves as a prerequisite for BIO 511. (F, S)

**BIO 213 (3) Principles of Microbiology.** Prerequisite: BIO 112. Cultural and immunological properties of medically important bacteria and viruses and their epidemiology. Concepts of pathogenicity, antibiotic action, and drug resistance. (F, S, Sum)

**BIOL 213 (1) Principles of Microbiology Lab.** Methods for isolating pathogenic bacteria and determining their significant properties. Laboratory must be taken with lecture. (F, S, Sum)

**BIO 218 (3) Comparative Anatomy.** Prerequisites: BIO 111 and 112. Comparative study of vertebrate organ systems. (F, S, Sum)

**BIOL 218 (1) Comparative Anatomy Lab.** Detailed dissection of the shark, cat, and other selected vertebrates. Must be taken with lecture. (F, S, Sum)

**BIO 233 (3) Anatomy and Physiology.** Prerequisite: BIO 112. The structure and function of the human body, tissues, skeletal, muscular, endocrine, circulatory, respiratory, reproductive and urinary systems. (F, S, Sum)

**BIOL 233 (1) Anatomy and Physiology Lab.** Laboratory study of selected biological systems utilizing preserved specimens and models. Laboratory must be taken with lecture. (F, S, Sum)

**BIO 234 (3) Human Anatomy and Physiology I.** Prerequisites: BIO 111 and 112. A study of introductory biological principles and some of the structure, physiology, and disorders of the human body with emphasis on the various organs and systems. (F, S, Sum)

**BIO 235 (3) Human Anatomy and Physiology II.** Prerequisite: BIO 234. A study of the structure, physiology and disorders of the human body with emphasis on the various organs and systems. (F, S, Sum)

**BIO 236 (3) Concepts of Public Health.** This course provides an introduction to the concepts and practice of public health at the community, state, and national levels. It addresses the philosophy, purpose, history, organization, function, tools, activities, and result of public health practice. (F, S)

**BIO 304 (2) Marine Sciences.** Introduction to subject matter and scope of the various marine studies specialties with view to stimulating undergraduate interest in participating in marine sciences program. No formal laboratory. (F, S)

**BIO 313 (3) Introduction to Microbiology.** Prerequisites: BIO 111, 112, CHEM 141, 142, 241, 242, and MATH 111. The study of bacteria, molds, yeasts, and viruses. Structure, growth, and the significance of these organisms in medicine, industry, and environment. (F, S, Sum)

**BIOL 313 (1) Introduction to Microbiology Lab.** Laboratory designed to acquaint students with techniques for culturing and identifying bacteria and fungi. Must be taken with lecture. (F, S, Sum)

**BIO 318 (3) Introductory Genetics.** Prerequisite: BIO 112, open for juniors and seniors only. An introductory study of the principles of heredity to include mechanisms of gene action and gene diversity. (F, S, Sum)

**BIOL 318 (1) Introductory Genetics Lab.** Prerequisites: BIO 111, 112. Designed to illustrate genetic principles through laboratory experiences. Studies on *Drosophila* and plant genetics are utilized. Must be taken with lecture. (F, S, Sum)

**BIO 324 (3) Vertebrate Embryology.** Prerequisites: BIO 114, 115, and 218. Descriptive and comparative development of the amphibian, avian, and mammalian embryos. (S)

**BIOL 324 (1) Vertebrate Embryology Lab.** Prerequisite: Current enrollment in BIO 324. Laboratory studies of frog, chick and pig. (S)

**BIO 332 (3) Parasitology.** Prerequisites: BIO 110, 114, and 115. The basic principles of parasitology. Emphasis will be placed on classification, morphology, life-histories, host-parasite relationships, and ecology of the important parasites of man and other animals. (F, S)

**BIOL 332 (1) Parasitology Lab.** Prerequisite: Concurrent enrollment in BIO 332. Laboratory study of parasitic organisms with respect to morphology and physiology. (F, S)

**BIO 380 (3) Modern Molecular Biology.** Prerequisites: BIO 313, 318, CHEM 241, and 242. A study of the structure of biological molecules and how these molecules regulate the various metabolic processes of the cell, a study of genetics and cell biology at the molecular level. (S)

**BIO 390 (1) Seminar in Biology.** Prerequisite: Junior or senior standing. Student is provided with an opportunity to present an oral and written report on current scientific topics in an attempt to acquire the fundamentals of biological statistics and to evaluate critically scientific papers. (F, S, Sum)

**BIO 391 (2) Introduction to Research.** Basic research methodology in the biological sciences will be demonstrated. Faculty advisors will be assigned on the basis of the nature of the project. (F, S, Sum)

**BIO 392 (2) Independent Study.** Prerequisite: Junior or senior standing. Students will elect a specific topic that is not covered in other biology courses. The student, working independently will be required to submit a paper that includes an exhaustive review of literature. (F, S, Sum)

**BIO 393 (3) Introduction to Medical Terminology.** Prerequisites: Junior standing or consent of instructor. The etymology of Greek and Latin terms as it relates to the medical sciences. (F, S, Sum)

**BIO 401S (1) Biology in Secondary School.** Prerequisite: Senior level biology major. A study of objectives, procedures and trends in teaching high school biology. (F, S, Sum)

**BIOL 401 (1) Biology in Secondary School Lab.** Skills and techniques for conducting laboratories and projects at the high school level. (F, S, Sum)

**BIO 404 (3) Environmental Science.** Prerequisites: BIO 115 and CHEM 142. An introduction to the fundamental principles of ecology, biology, and chemistry which are necessary for a better understanding of the inter-relationships between man and his environment. (F, S)

**BIOL 404 (1) Environmental Science Lab.** Field trips and lab exercises with emphasis on air and water pollution, noise, population, and thermal pollution. (F, S)

**BIO 406 (3) Human Environments and Natural Systems.** Prerequisite: Consent of instructor. Emphasis will be placed on the fundamental problems that confront man from day to day. Topics for discussion are: population, energy, food, transportation, land pollution, drugs, etc. (F, S)

**BIOL 406 (1) Laboratory Studies in Human Environments and Natural Systems.** Prerequisite: Consent of instructor. Laboratory associated with pollution, energy, transportation, drugs, etc. (F, S)

**BIO 409 (3) General Genetics.** Prerequisite: BIO 318. Provides general considerations of the principal concepts of heredity and the application of classical and modern genetics. (F)

**BIO 412 (3) Natural Resources and Conservation.** Prerequisites: BIO 115 and CHEM 142. A study of our natural resources with emphasis on their origin, properties, use and misuse and good conservation practices. (S)

**BIOL 412 (1) Natural Resources and Conservation Lab.** Experiments and field exercises in natural resources studying soil profiles, erosion, deposition, and other parameters. (S)

**BIO 413 (3) Principles of Human Nutrition.**

Prerequisites: BIO 111, and 112. A course designed to study the sources, requirements and chemical composition of food constituents; a survey of human diseases resulting from malnutrition. (F, S)

**BIOL 413 (1) Principles of Human Nutrition Lab.**

Laboratory activities to develop techniques for diet evaluation, qualitative and quantitative analyses of food for protein, carbohydrates, fat and mineral content. (F, S)

**BIO 414 (3) Methods of Environmental Analysis.**

Prerequisites: BIO 115 and CHEM 142. The course offers theory, methods, and techniques for identifying and quantifying environmental contaminants. Sampling methods are discussed and some coverage is provided on methods for separation and concentration. (S)

**BIOL 414 (1) Methods of Environmental Analysis**

**Lab.** Experimentation with the various tools and instruments in environmental science: atomic absorption, gas chromatography, and thin layer chromatography. (S)

**BIO 421 (3) Plant Morphology.** Prerequisite: BIO 119. Study of anatomical, reproductive, ontogenetic and phylogenetic aspects of vascular plants. (F, S)

**BIOL 421 (1) Plant Morphology Lab.** Study and dissection of selected plants, maceration and study of various plant vascular tissues. Must be taken with lecture. (F, S)

**BIO 422 (3) Plant Taxonomy.** Classification and nomenclature of flowering plants, introductory method of collection; laboratory and field studies of representative plant families. (S)

**BIOL 422 (1) Plant Taxonomy Lab.** Laboratory and field studies of representative plant families. Must be taken with BIO 422. (S)

**BIO 423 (3) Ecology.** Prerequisite: Senior standing and consent of instructor. A study of the trophic relationships and energy transfer in the ecosystem. (F, S)

**BIOL 423 (1) Ecology Lab.** Laboratory exercises on relationships among ecosystems. Must be taken with lecture. (F, S)

**BIO 424 (3) Plant Physiology.** Prerequisites: BIO 119 and CHEM 242. An introductory course dealing with

principal physiological processes of plants including water relations, synthesis, and use of foods and growth phenomenon. (F, S)

**BIOL 424 (1) Plant Physiology Lab.** Experiments will be conducted to illustrate principles of plant physiology. (F, S)

**BIO 425 (3) Introduction to Marine Biology.**

Prerequisites: BIO 114, 115, CHEM 142 and CHML 142. Life in the sea: an introduction to marine organisms, their position and function in the marine environment. Lecture and lab to be taken in the same semester. (F, S)

**BIOL 425 (1) Introduction to Marine Biology Lab.**

Field trips, collection, preservation techniques, classification and identification of marine organisms with emphasis on structure of the marine environment. Must be taken with lecture. (F, S)

**BIO 426 (3) Mycology.** Prerequisite: BIO 119. A survey of the principal fungal classes, morphology and cytology of fungi and their relation to industry and agriculture. (F)

**BIOL 426 (1) Mycology Lab.** Laboratory observations and related exercises with each of the major classes of fungi. Laboratory must be taken with lecture. (F)

**BIO 428 (3) Evolution.** A study of the processes of organic change. Historical development of organisms. (F, S)

**BIO 430 (3) Advanced Microbiology.** Prerequisite: BIO 313. Special methods for culturing microorganisms. Extensive consideration is given to some of the important microbes in medicine, industry, and public health. (F)

**BIOL 430 (1) Advanced Microbiology Lab.** The course gives the student practice in special methods of isolating and culturing microorganisms important in industry and medicine. Must be taken with BIO 430. (F)

**BIO 431 (3) Invertebrate Zoology.** Prerequisite: BIO 115, and CHEM 142. An extensive review of the principal types of invertebrates not studied in the introductory zoology course. (F, S, Sum)

**BIOL 431 (1) Invertebrate Zoology Lab.** A laboratory concerning the identification and morphology of various invertebrates in land and aquatic systems. (F, S, Sum)

**BIO 433 (3) Biology of Water Pollution.** Prerequisite: BIO 313. Biological approaches to water pollution problems are discussed. The effect of pollution on life in aquatic environments is emphasized. (S)

**BIOL 433 (1) Biology of Water Pollution Lab.**

Selected laboratory exercises, instrument use, and field trips are designed to further enhance the student's awareness in water pollution effects, analysis and problem solving.

**BIO 434 (3) Marine Vertebrate Zoology.**

Prerequisites: BIO 114, 115, or consent of instructor. Study of all vertebrate groups found in marine environment, emphasis on introduction to fishes. Lecture and lab to be taken during the same semester. (F, Sum)

**BIOL 434 (1) Marine Vertebrate Zoology Lab.**

Collection of available marine vertebrate animals, preservation techniques, classification and identification, emphasis on fishes as the largest group. Must be taken with BIO 434. (F, Sum)

**BIO 436 (3) Marine Botany.** Survey of marine algae, phytoplankton and maritime vascular plants, treating structure, reproduction, life histories, distribution and ecology. (S)

**BIO 437 (3) Applied Ecology.** Prerequisite: Consent of instructor. A study of the effects of environments on plants and animals with emphasis on factors of environment and the interaction with different plant and animal groups.

**BIOL 437 (1) Applied Ecology Lab.** The classification of representative groups of organisms, demonstrations, field trips and preparation of term paper citing practical applications. (F)

**BIO 438 (3) Marine Invertebrate Zoology.** Prerequisites: BIO 114, 115, or consent of the instructor. Introduction to invertebrate groups, emphasis on association of organisms in large categories and understanding function of each group in marine systems. Lecture and lab must be taken together. (F, S, Sum)

**BIOL 438 (1) Marine Invertebrate Zoology Lab.** Collection of available representatives of marine invertebrates, preservation, classification and identification; position in marine environment emphasized. Lecture and lab must be taken together. (F, S, Sum)

**BIO 440 (3) Cell Biology.** Prerequisites: BIO 111 and CHEM 242. Emphasis on the structure and function of cellular organelles; introduction to biochemical properties of proteins, carbohydrates, lipids, and nucleic acids; the genetic code and protein synthesis. (S)

**BIOL 440 (1) Cell Biology Lab.** Prerequisites: BIOL 111 and CHML 242. Experimentation to develop techniques for cell fractionation; introduction to spectrophotometry, electrophoresis and chromatography. (S)

**BIO 441 (3) Histology.** Prerequisites: BIO 115 and 218. Development and characteristics of cellular organization of tissues and organ systems. (F, Sum)

**BIOL 441 (1) Histology Lab.** Exercises studying the microanatomy of tissues and organ systems. Must be taken with BIO 441. (F, S, Sum)

**BIO 443 (3) Biotechnology.** Prerequisites: BIO 313, 318, and CHEM 241, 242. Emphasis on techniques in recombinant DNA technology; gene cloning, analysis and manipulation; understanding polymerase chain reactions and development of genetically engineered pharmaceuticals. (F)

**BIOL 443 (1) Biotechnology Lab.** Experimentation to develop techniques in recombinant DNA technology; gene cloning, analysis and manipulation; polymerase chain reactions and genetics engineering. Must be taken with BIO 443. (F)

**BIO 444 (3) Arthropod Diseases.** A study of the control and prevention of insect and other arthropod borne diseases. The physiology, taxonomy, life cycles and ecology of important vectors. (S)

**BIOL 444 (3) Arthropod Diseases Lab.** Study the external structure and make outline sketches to indicate the characteristics used in the classification of representative forms and unknown specimens of medical importance and to a limited extent veterinary important organisms. (S)

**BIO 450 (3) General Entomology.** An introductory course in entomology that covers diverse topics including insect structure and function, benefits and harm as related to humans. Emphasis is given to insects of medical and agricultural importance. Use of insecticides to control harmful insects and the impacts of insecticides on the environment is also addressed. (F, S)



**BIO 452 (3) Advanced Principles of Environmental Science.** Prerequisites: BIO 115, and CHEM 142. A study of the various air pollution problems facing man in his environment, diseases related to pollution and other health hazards. (S)

**BIOL 452 (1) Advanced Principles of Environmental Science Lab.** The lab will involve the use of various types of air pollution analysis including the use of high volume air samplers, particulate and pollen samplers, and decibel meters. Must be taken with BIO 452. (S)

**BIO 460 (3) Microzoological Techniques.** Study of the principles involved in making simple and differential stains. (S)

**BIOL 460 (1) Microzoological Techniques Lab.** Development of skills and techniques in tissue and slide preparations. Must be taken concurrently with BIO 460. (S)

**BIO 470 (3) Human Physiology.** Study of normal physiological processes in mammals with reference to abnormal conditions. (F)

**BIOL 470 (1) Human Physiology Lab.** Use of instrumentation for diagnostic studies of normal physiological processes with reference to certain abnormal conditions. (F)

**BIO 475 (3) Endocrinology.** Prerequisites: BIO 114, 115, CHEM 141 and 142. An introduction to endocrine organs in animals, with major emphasis on roles of endocrine glands and their hormonal secretions in integration, control systems and metabolism. (S)

**BIO 476 (3) Histopathology.** Prerequisites: BIO 115, 218, and 441. A study of the principal concepts of tissue and cellular pathology, with emphasis on human tissue and pathology. (F, S)

**BIOL 476 (1) Histopathology Lab.** Exercises studying diseased tissues. Must be taken with BIO 476. (F, S)

**BIO 480 (3) Limnology.** Prerequisites: BIO 115, CHEM 142 or consent of the instructor. Physical and chemical factors affecting the biology of ponds, reservoirs, and streams. Includes the use of various instrumentation in biological monitoring. (F, Sum)

**BIOL 480 (1) Limnology Lab.** Chemical and biological monitoring of aquatic systems will be explored. Hack Kits, conductivity meters, oxygen

meters, BOD, COD, and map survey will be taught. (F, Sum)

**BIO 481 (3) Research in Environmental Science.** Prerequisites: BIO 115, and CHEM 142. Theory in the use of various scientific instruments; automatic analyzers, spectrophotometers, Secchi Disk, and others. Writing techniques and procedures. Research by individual student on a research problem. (S, Sum)

**BIOL 481 (1) Research in Environmental Science Lab.** The lab will involve the various tools and instruments in Environmental Science; automatic analyzers. Surber samplers, collection of field data. (S, Sum)

**BIO 490 (3) Reproductive Physiology.** Prerequisites: BIO 115, 218, CHEM 142, 424 or may be waived with approval of instructor. The mammalian reproductive system is presented with emphasis on sex determination, species variations in the estrus cycle, and the endocrine factors controlling normal development and function. (S)

**BIOL 490 (1) Reproductive Physiology Lab.** Prerequisites: BIO 115, 218, CHEM 142 and 242. Experimental analyses of the mammalian reproductive system. Emphasis is placed on basic methodologies employed in anatomical and physiological studies of the reproductive system. Must be taken concurrently with BIO 490 or with consent of instructor. (S)

**BIO 491 (3) Neurobiology.** Introduction to the physical chemical properties of excitable cells, synaptic physiology and the logic circuits mediating behavior. Emphasis will be placed on the neuroethology of simple systems. (F)

**BIOL 491 (1) Neurobiology Lab.** Introduction to electrophysiology and various other laboratory techniques employed in neuroscience research. Each student will be expected to complete an approved project and submit a written report. (F)

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## CHEMISTRY

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### Department of Chemistry

**OFFICE: John A. Peoples Science Building**

**CHEM 131 (3) Introduction to Chemistry.** Co-Requisite Mathematics 004 or higher. A study of scientific measurements, mathematic concepts, and basic principles of chemistry to prepare students for General Chemistry (CHEM 141) classes. (F, S, Sum)

**CHEM 141 (3) General Chemistry I.** Prerequisite: A score of 30 or above on the Toledo Chemistry Placement Test; grade of "C" or higher in CHEM 131 or MATH 111 or a higher level mathematics course. A study of the types and properties of matter, measurement, qualitative and quantitative descriptions of chemical reactions, atomic structure, bonding and thermochemistry. (F, S, Sum)

**CHML 141 (1) General Chemistry Lab.** Prerequisite or co-requisite: CHEM 141. Experiments in the areas covered in CHEM 141. (F, S, Sum)

**CHEM 142 (3) General Chemistry II.** Prerequisite: A passing grade of "C" or higher in CHEM 141 and CHML 141. A study of solutions, chemical equilibria, kinetics, thermodynamics, descriptive chemistry. (F, S, Sum)

**CHML 142 (1) General Chemistry II Lab.** Prerequisite: CHML 141, co-requisite: CHEM 142. Laboratory experiments in the areas covered in CHEM 142. (F, S, Sum)

**CHEM 241 (3) Organic Chemistry I.** Prerequisite: A passing grade of "C" or higher in CHEM 142 and CHML 142. Chemistry of carbon compounds, with emphasis on structure, stereochemistry, spectroscopy, and an introduction to synthesis. (F, S, Sum)

**CHML 241 (1) Organic Chemistry I Lab.** Prerequisites: CHEM 142, CHML 142. Co-requisite: CHEM 241. Laboratory experiments in the areas covered by CHEM 241. (F, S, Sum)

**CHEM 242 (3) Organic Chemistry II.** Prerequisite: CHEM 241, CHML 241. Chemistry of carbon compounds, with emphasis on synthesis, and an introduction to biochemistry. (F, S, Sum)

**CHML 242 (1) Organic Chemistry II Lab.** Prerequisites: A passing grade of "C" or higher in CHEM 241, CHML 241. Co-requisite: CHEM 242. Laboratory experiments in the areas covered by CHEM 242. (F, S, Sum)

**CHEM 243 (3) Qualitative Organic Analysis.** Prerequisites: CHEM 241, CHML 241, Co-requisite: CHEM 242, CHML 242, 243. A lecture covering the structure identification of organic compounds by the spectroscopic methods. It includes the theory and the application of spectroscopies like NMR, IR, UV/Vis and Mass Spectroscopy. (S)

**CHML 243 (1) Qualitative Organic Analysis Lab.** Prerequisites: CHEM 241, CHML 241; Co-requisites:

CHEM 242, 243, UV/Vis and mass Spectroscopy for the elucidation of structure of organic compounds by CHEM 243. (S)

**CHEM 254 (3) Elementary Quantitative Analysis.** Prerequisites: CHEM 142 and CHML 142. A study of the theory and applications of analytical chemistry. This is a lecture course primarily intended for students preparing for careers in the health sciences.

**CHML 254 (1) Quantitative Analysis Lab.** Co-requisite: CHEM 254. Laboratory experiments in the areas covered by CHEM 254.

**CHEM 310 (2) Introduction to Scientific Research.** Prerequisite: Consent by advisors. The course serves as an introduction to scientific research for chemistry students and it is especially important for students entering graduate studies. The course covers scientific literature, scientific writing, scientific presentation, research ethics, and introduction to federal agencies (NSF, NIH, DoD, etc.) and their research focuses, trends, and funding opportunities.

**CHEM 320 (3) Analytical Chemistry.** Prerequisite: CHEM 142, CHML 142, and CHEM 242. A quantitative study of the equilibrium in aqueous and non-aqueous systems and the application to analytical methods. The application of modern instrumentals techniques is emphasized. (F)

**CHML 320 (1) Analytical Chemistry Lab.** Co-requisite: CHEM 320. Laboratory experiments in the areas covered by CHEM 320.

**CHEM 331 (3) Introduction to Biochemistry.** Prerequisite: CHEM 241 and 242. A survey of the chemical composition of living matter and the chemical reactions of living cells. (F)

**CHEM 340 (2) Inorganic Chemistry I.** Prerequisites: CHEM 142 and CHML 142. This course is the first part of a series of two courses. Basic principles, such as chemical equilibrium and reaction kinetics, of inorganic reactions are emphasized in this course. The construction and application of the periodic table of the elements will be discussed. A descriptive discussion of the chemistry of elements will also be included in this course. (S)

**CHEM 341 (3) Physical Chemistry I.** Prerequisite: MATH 241, 242, CHEM 242; corequisite prerequisite: PHY 201 or 211. A study of fundamental concepts; includes structure, properties of gases and thermodynamics. (F)

**CHML 341 (1) Physical Chemistry I Lab.** Co-requisite: CHEM 341. Laboratory experiments on physical chemistry phenomena. (F)

**CHEM 342 (3) Physical Chemistry II.** Prerequisite: CHEM 341, and CHML 341. A study of physical chemistry, theory and practice; includes structure of matter, quantum mechanics, electrochemistry and kinetics. (S)

**CHML 342 (1) Physical Chemistry II Lab.** Prerequisite: CHEM 341; Co-requisite: CHEM 342. Laboratory experiments on Physical Chemistry phenomena. (S)

**CHEM 350 (Variable 1-3) Special Topics.** Prerequisite: Permission of instructor. A specialized topic course covering recent developments in chemistry selected on the basis of faculty and student interest and needs. (F)

**CHEM 371 (3) Forensic Chemistry.** Prerequisite: CHEM 320. This course covers the major forensic sub-disciplines such as firearms and tool mark examination, forensic biology, arson and explosives, questioned documents, and trace evidence. Evidence categories include glass, soil, hairs, fibers, paint (surface coating), and impressions resulting from friction ridge skin, tools, foot wear, etc. (S)

**CHML 371 (1) Forensic Chemistry Lab.** This course covers the theory and practice of techniques commonly used in forensic science including examination of biological evidence (DNA fingerprinting, bloodstains, etc.), fingerprinting, and impressions resulting from friction ridge skin, tools, foot wear, etc. (S)

**CHEM 380 (Variable 1-6) Independent Study.** Prerequisite: Permission of instructor. Laboratory investigation on literature research of a topic selected by the student in consultation with the staff. (F, S, Sum)

**CHEM 381, 382, 481, 482 (.5, .5, .5, .5) Chemistry Seminar.** Prerequisite: Permission of instructor. Presentation and discussion of current chemical topics and research by students, faculty and visiting speakers. (F, S)

**CHEM 401 (3) Chemistry in the Secondary School.** A course designed to treat the principles, problems, and materials involved in teaching chemistry on the secondary level. (F)

**CHEM 410 (3) Environmental Chemistry.** Prerequisite: CHEM 320. Environmental Chemistry is to study of the sources, reactions, transport, effects, and fates of chemical species in water, soil, air, and living environments, and

the effects of technology thereon. This course will cover three major areas of environmental chemistry: aquatic chemistry, atmospheric chemistry, and geochemistry. Each one includes organic, inorganic, analytical chemistry and biochemistry for pollutants in the environment, their fates, and analysis. The objectives in the course are to understand how environmental system will behave for the chemical species and to learn how to analyze the pollutants in the system. (F)

**CHML 410 (1) Environmental Chemistry Laboratory.** Prerequisites: CHEM 242 and CHML 242 Corequisite: CHEM 410 This course is the laboratory course of CHEM 410 Environmental Chemistry. Laboratory experiments are designed to illustrate the topics in the lecture and acquaint students with laboratory techniques in environmental chemistry. (F)

**CHEM 421 (3) Instrumentation.** Prerequisite: CHEM 320, CHML 320 or permission of the instructor. A lecture course covering the theory and applications of spectroscopic chromatographic and electroanalytical methods. (S)

**CHML 421 (1) Instrumentation Lab.** Prerequisite: CHEM 320, CHML 320; co-requisite: CHEM 421. A laboratory course covering the use of spectroscopic, chromatographic and electrochemical instrumentation for the analysis of materials.

**CHEM 431 (3) Biochemistry I.** Prerequisite: CHEM 242. A study of the chemical composition of living matter and the chemical mechanics of life processes. (S)

**CHML 431 (1) Biochemistry I Lab.** Co-requisite: CHEM 431. Basic purification and characterization techniques in biochemistry. (S)

**CHEM 432 (3) Biochemistry II.** Prerequisite: CHEM 431. A study of the chemical composition of living matter and the chemical mechanics of life processes. (F)

**CHML 432 (1) Biochemistry II Lab.** Co-requisite: CHEM 432. Basic purification and characterization techniques in biochemistry. (F)

**CHEM 436 (3) Physical Organic Chemistry.** Prerequisite: CHEM 342. Structure, bonding, and properties of organic compounds.

**CHEM 437 (2) Organic Synthesis.** Prerequisite: CHEM 242. The use of practical organic research techniques in the preparation of organic compounds. (S)

**CHEM 441 (3) Inorganic Chemistry II.** Prerequisite: CHEM 340, 341. This course is a continuation of the first part of the series. With the knowledge introduced in CHEM 341, a thorough discussion of the atomic properties, the nature of chemical bonds and the symmetry properties of compounds will be included in this course. The chemistry and application of transition metals will be the main theme of this course. The mechanisms of catalysis processes will also be covered. In addition, the function of inorganic elements in living systems will be briefly introduced to keep students updated to the current trends in inorganic research. (F)

**CHML 441 (1) Advanced Inorganic Lab.** Co-requisite: CHEM 441. Theoretical principles and laboratory techniques involved in the preparation and the characterization of inorganic compounds. (F)

**CHEM 451 (3) Chemical Application of Group Theory.** Prerequisite: CHEM 341. A course which places emphasis on the application of group theory to interpretation of the electronic and molecular spectra of molecules. An elementary treatment of abstract mathematical group theory is presented to serve as an introduction to the symmetry of point groups to which most molecular systems belongs. (S)

**CHEM 452 (3) Atomic and Molecular Structure.** Prerequisite: CHEM 342. An introduction to the concepts and methods of modern molecular spectroscopy. (S)

**CHEM 453 (3) Thermodynamics.** Prerequisite: CHEM 342. Principles of thermodynamics and their application to chemical and phase equilibria. (S)

**CHEM 458 (3) Quantum Mechanics.** Prerequisite: CHEM 342. Principles and applications of quantum theory. (F)

**CHEM 471 (3) Forensic Toxicology.** Pre-Requisites: CHEM 320 and CHEM 371. This course covers the major concepts of toxicology that include drug or toxin absorption, distribution, and excretion as well as binding to receptors. The processes and reactions, which transform a drug or toxin into a water soluble substance, also will be discussed. (S)

**CHEM 475 (3) Forensic Practicum.** Prerequisite: Departmental approval and CHEM 371 and CHML 371. Students will have an internship at a local or regional crime laboratory to satisfy the practice component of the program and spend a minimum of 8 hours per

week at the laboratory for 14 weeks. (S)

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## CRIMINAL JUSTICE PROGRAM

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**Department of Criminal Justice and Sociology**  
**OFFICE: Dollye M.E. Robinson Building, Room #358**

**CJ 100 (3) Introduction to Criminal Justice.** The student of the major components or sub-systems of criminal justice systems in America. Special consideration will be devoted to analyzing Law Enforcement, Law Adjudication and Correction from a functional as well as an administrative perspectives. (F, S, Sum)

**CJ 200 (3) Introduction to Law Enforcement.** Prerequisite: CJ 100. Principles of organization and administration in law enforcement; functions and activities; planning and research; community relations; personnel and training; inspection and control; policy formulation. (S)

**CJ 210 (3) Introduction to Correctional Services.** Principles of formal control devices, with emphasis on legal systems, philosophical background of criminal justice systems and Anglo-Afro experience. Introduction to criminal jurisprudence and a descriptive overview of present criminal justice components. (F)

**CJ 212 (3) Criminal Law.** Prerequisite: CJ 100. Examination of precedent setting cases of procedural criminal law in the United States and their application to American governance in producing a formal social control mechanism. Cases which develop the rights of the individual in a changing legal order. (S)

**CJ 220 (3) Corrections and Rehabilitation.** Prerequisite: CJ 100. This course provides an overview of the rights of the convicted in the United States. Topics covered include: Conviction, adjudication and their consequences, attacks upon validity of a conviction-past conviction, legal rights of probationers, prisoners, and parolees-an overview; and state and federal remedies for enforcement of prisoners' rights. (F)

**CJ 304 (3) Juvenile Justice.** Prerequisite: CJ 100. An overview of the Juvenile Justice System in the United States and a case law approach to the topics of jurisdiction, adjudication, arrest search and seizure, preliminary procedures, initiation of proceedings, and the judicial process. (F)

**CJ 310 (3) Women in the Criminal Justice System.**

Prerequisite: CJ 100. A critical analysis of women and crime. Includes theories about crime causation, the women's liberation movement and crime and women in prison.. (D)

**CJ 326 (3) Issues and Procedures of Criminal Justice Research.**

Prerequisite: CJ 100. Acquaints the student with the procedures and techniques employed in criminal justice research. Emphasis is on the scientific processes of social research, problem development, the role of theory in research, research design, sampling, data collection, statistical analysis, table construction and interpretation. (F, S, D)

**CJ 328 (3) Offender's Rights.**

Prerequisite: CJ 100. Legal problems from conviction to release; presentence investigations, sentencing, probation and parole; incarceration, loss and restoration of civil rights. (Emphasis on practical SOC 102 legal problems confronting the probation and parole officer and the correctional administrator.) (D)

**CJ 330 (3) Community Corrections.**

Prerequisite: CJ 100. Techniques and procedures utilized in the supervision of adult and juvenile probationers and parolees. Preparation of social history, pre-hearing; and pre-sentence investigation reports. Emphasis on practical problems confronting the probation and parole officer. (D)

**CJ 333 (3) Criminology.**

Prerequisites: CJ 100. Theories of the genesis of criminal behavior in terms of the person and the group; theories of crime and punishment. (F)

**CJ 399 (3) Introduction to Corporate Security.**

Prerequisite: CJ 100. This is a special workshop which informs students, practitioners, and citizens of the historical developments of security and the role of technology in recent developments. Focuses on loss prevention, risk management and safety for personnel in security. (D)

**CJ 440 (3) Comparative Study of Criminal Systems.**

Prerequisite: CJ 100 and seven hours of senior standing. Comparison of American Criminal Justice System with that of other federated nations. (S)

**CJ 443 (3) Foundation of Criminal Investigation.**

Prerequisites: Prerequisite: CJ 100, six hours of senior standing. Physical evidence, people, and documents; their pertinence to criminal investigation. Ethical problems; impact of legal systems on investigative

process; elements of effective testimony. Lectures and case materials. (F)

**CJ 445 (3) Introduction to Criminalistics.**

Prerequisites: CJ 100 and six hours of senior standing. Role of criminalistics as a forensic science. Investigative and probative values of clue materials such as fingerprints, blood, firearms, shoe impressions, tool imprints, and glass. Advantages and limitations of instrumental analysis; nature of expert testimony. (S)

**CJ 447 (3) Financial Investigations.**

Prerequisites: CJ 100, and CJ 443. Methods of tracing funds, recordkeeping, interviewing for detecting and resolving crimes, theoretical principles and applications of techniques. (D)

**CJ 460 (3) Law Enforcement and Societal Responses.**

Prerequisite: CJ 100 and seven hours senior standing. Consideration of realistic approaches to selected law enforcement problems. Emphasis on establishment of beneficial relationship between law enforcement agencies and subculture group. (F)

**CJ 464 (3) Seminar in Court Procedures and Family Law.**

Prerequisite: CJ 100. Philosophy and procedures of the juvenile court, dependency and delinquency; evaluations of juvenile court practices. Family law. (F)

**CJ 470 (3) Directed Study in Criminal Justice.**

Designed for academic flexibility. Take the semester prior to graduation. (D)

**CJ 471 (3) Correctional Counseling.**

Prerequisite: CJ 100. Counseling psychology with emphasis on principles and procedures; the theoretical foundations of counseling; casework techniques; therapeutic techniques and processes. (S)

**CJ 482 (3) Field Work.**

Prerequisite: CJ 100, junior/senior standing with a minimum 3.00 GPA or permission of the internship coordinator. In-service students will have to do a minimum of eighteen weeks (one semester). Non-in-service students will be placed in agencies dealing with some aspects of Law Enforcement and Corrections to fulfill the three-hour requirement. (D)

**CJ 483 (3) Seminar.**

Prerequisite: CJ 100. This course will examine contemporary issues in crime and criminal justice. Topics will vary each semester and the course may be repeated for up to nine hours of credit. (F, D)



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## PROFESSIONAL INTERDISCIPLINARY STUDIES

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### School of Lifelong Learning

OFFICE: E.E. Thrash Universities Center

**CLL 301 (3) Principled-Centered Leadership.** The objective of this course is to help each participant increase proactive behavior, become more opportunity minded, increase self-esteem and build on mission and values. This course will empower people and organizations to significantly enhance their performance capability, both personally and professionally.

**CLL 400 (3) Leadership Seminar.** Examines various theories and models of leadership and their practical application in commercial recreation, resort operational settings and faith-based organizations. The course addresses the structure of commercial recreation organizations and styles of effective leadership in different situations within this venue. Students learn practical skills such as group process, problem solving, conflict resolution and negotiation, team building, and effective presentation skills. Students engage in resort management activities in a leadership role designed to provide leadership practice and develop confidence. This course provides the critical elements of analytical and intellectual examination and reflection of certain core issues in the practice of leadership in commercial recreation.

**CLL 480 (1-3) Independent Study.** This course provides students with the skills needed to conduct research and write substantive reports in both academia and practical work situations. Students are provided an opportunity to explore topics through interdisciplinary studies that they cannot adequately pursue in a traditional degree program. Students will engage in research which results in case or observation studies, research studies, research reports, or literature reviews/abstracts.

**CLL 481 (1-3) Specialized Professional Training.** This course is designed to support students in their efforts to complete quality research projects in their prospective field. Students will select a topic, design studies, select appropriate permission, conduct projects, analyze results and prepare written reports. Students will also be required to present their findings to their fellow students. Extra credit will be given to students that present their research findings at professional conferences. Students will also be highly encouraged to submit their findings in article format to professional journals for possible publication.

**CLL 482 (1-3) Internship.** This course provides valuable work-learn experience in a professional environment outside of the classroom. Students will be able to explore many different career areas, gain practical skills, and make industry contacts. A minimum of 150 clock hours of on-site training with a relevant agency is required for successful completion of this course.

**CLL 483 (2) Special Field Research Project.** This course is designed to support students in their efforts to complete quality research projects in their prospective field. Students will select a topic, design studies, select appropriate permission, conduct projects, analyze results and prepare written reports. Students will also be required to present their findings to their fellow students. Extra credit will be given to students that present their research findings at professional conferences. Students will also be highly encouraged to submit their findings in article format to professional journals for possible publication.

### Human Resource Development:

**CLHR 200 (3) Foundations of Human Resource Development.** This course will provide an overview of the discipline and field of human resource development. The course will focus on how individuals and groups learn and interact within organizations. Topics will include strategic planning for human resource development, needs assessment, program development, application of workplace learning theories, career development theories and methods, and application of organizational learning theories.

**CLHR 215 (3) Design, Delivery, and Facilitation of Training.** This course is an introduction to provide theoretical and applied introduction to the analysis, design, development, implementation, and evaluation of training for adults in organizations. The learners will create a learning community to safely explore the theoretical and practical issues of adult learning research and theory.

**CLHR 220 (3) Training, Developing, and Communicating.** This course is designed to teach perspective trainers the importance of effective communication skills at every level of the training process. From assessing the audiences needs to developing and marking the training session, students will hone their communication skills and apply those skills to produce the types of documents required in an effective training program.

**CLHR 310 (3) Management and Administration of the Training Function.** This course addresses the principles and processes necessary to effectively manage and coordinate the training function in business and industry. Topics include strategic planning of the training function, responsibilities and tasks of managing training, analyzing training problems, managing training projects, facilities planning, legal and ethical considerations in training, budget and trends in the training and development field.

**CLHR 320 (3) Conflict Resolution and Negotiation.** Students will learn conflict resolution skills for managing and resolving conflicts in the workplace. Emphasis will be placed on alternate dispute resolution methodologies, including mediation and negotiation strategies. An extensive use of case studies as they relate to conflict resolution among peers, subordinates, and superiors will be examined. A special project will include the design and implementation of an Alternative Dispute Resolution (ADR) program for an organization.

**CLHR 330 (3) Ethical Procedures in the Workforce.** This course is designed to prepare students to apply ethical principles to issues that exemplify the kinds of moral challenges encountered in everyday life and the workplace. This course prepares the student to do ethical analysis, think critically about ethical issues, and evaluate ethical considerations which face human resource professionals and line managers as they relate to employee rights and employer responsibilities.

**CLHR 415 (3) Program Planning and Development in Continuing Education.** This course will examine methods for establishing a productive continuing education/lifelong learning program. The principles and procedures involved in designing, organizing, operating, and evaluating comprehensive continuing education and training programs will be explored. An emphasis will be placed upon the role and responsibilities of the program manager or director.

**CLHR 425 (3) Assessing and Analyzing Training Needs.** This course is designed to provide students with an opportunity to effectively plan, develop, and implement training for organizations. The course will allow students to determine the training needs of an organization, develop the training design, implement, and evaluate training material.

**CLHR 450 (3) Human Resource Development Research Seminar.** This seminar is designed for students to

examine critical issues in the area of human resource development using various research methodologies. Students will be able to evaluate how research has been used to study those critical issues.

#### **Infant and Toddler Development:**

**CLIM 111 (3) Foundations of Infant and Toddler Studies.** This course provides an introduction to the overall care of infants and toddlers. The primary focus will be given to the value of play and exploration, as well as giving careful attention to those care-giving times, when relationships grow and an abundance of learning occurs. Students in this course are required to attend the Mississippi State Department of Health's Infant and Toddler Regulations and complete a minimum of twenty (20) clock hours of classroom observation or instructions.

**CLIM 131 (3) Observing and Assessing the Behaviors of Very Young Children.** This course is designed to investigate assessment methods used when observing infants and toddlers in their educational or home environment. Emphasis is placed on observing children and assisting in the implementation of developmentally appropriate activities/environments for all children; and modeling reflective/professional practices. Students in this course are required to complete a minimum of twenty (20) clock hours of classroom observation or instruction.

**CLIM 171 (3) Health, Safety, and Development of Very Young Children.** This course will focus on the caregiver's role in optimizing children's well being; this course emphasizes preventing injury and illness and incorporating specific healthful practices into daily routines for infants and toddlers.

#### **Commercial Recreation and Resorts:**

**CRR 410 (3) Administration of Commercial Recreation.** This course will focus on administrative functions required of the recreation professional. Course topics will include: organization structures, standards of service, staffing issues, accounting procedures, communication processes within organizations, and labor management relations.

**CRR 411 (3) Leisure Services and Facilities Marketing.** This course allows students to study marketing principles, theories and concepts and the use of management principles (control to maximize marketing effectiveness of leisure services). A variety of case studies from the tourism, sport, entertainment, leisure, and hospitality industry will be discussed.

**CRR 412 (3) Law, Legal Issues, and Risk Management.**

Topics to be discussed will include liability and risk, jurisdiction, legal apparatus, and decision-making in commercial recreation and resort management. This course focuses on financial decision-making and the management of risk by commercial recreation corporations, recognizing the relationship between risk management and the overall goals of the organization. Emphasis is placed upon the identification, evaluation and management of commercial recreation organizational risks, which are broadly defined as encompassing operating and strategic as well as financial risks. This course will also acquaint participants with relevant case law and legal issues that pertain to risk assessment and management in the commercial recreation sector.

**CRR 421 (3) Foundations of Commercial Recreation.**

This course introduces the commercial recreation and tourism industry including history, definitions, and trends associated with the growth and development of commercial recreation and resorts. This course also examines the status, operations, and trends in specific types of commercial recreation industries.

**CRR 422 (3) Introduction to the Gaming Industry.**

Topics to be discussed will include casino history, regulations and modern operations, and the relationship between gaming and the hospitality industry. This course will provide students with an orientation to the historical background, terminology and regulatory aspects of the gaming industry. The course will explore all facets of the gaming operation, including food and beverage, cage operations, auditing, marketing and reporting. Students will examine the mathematics and utility analysis of gaming, including all newly introduced technologies and related practices for gaming operations.

**CRR 423 (3) Commercial Recreation and Resort Programs.**

This course focuses on the resort segment of the hotel industry, its history, planning, operations, and special considerations. Emphasis is placed on the study of recreational activities as they relate to the operations of a resort. Additional topics will include the analysis of commercial recreation, including design, development, and programming.

**CRR 424 (3) Special Events Planning and Development.**

This course provides students with an introductory approach to planning special events and conferences for various occasions. The course provides students with information on every aspect of organizing and managing special events, such as preparing

and managing the budget, scheduling, coordinating food and beverages, selecting décor and themes, entertainment, promotions, marketing, and staffing.

**CRR 425 (3) Customer Relations.** This course helps students to understand customers' needs and behaviors in the commercial recreation and resort environments. Students will learn to address challenges that arise from the needs and behaviors of the customer service situation. This class will also help students learn to develop and implement effective service standards, create service plans and to develop and monitor a customer service situation. Finally, students will develop the skills needed to effectively relate to customers and exceed their expectations. At the conclusion of this course, students will be able to effectively relate to both internal and external customers and plan for their total satisfaction.

**Faith-Based Leaders:**

**FBL 406 (3) Faith-Based Leaders: Mentoring the Next Generation.** In this course, students will have the opportunity to learn about and begin implementing the approaches to mentoring in their personal and professional lives. Students will examine and analyze the mentoring process as a means of training others in the practice of leadership of faith-based organizations. This course will help students develop a mentoring plan for equipping new leaders who can effectively lead and subsequently mentor others.

**FBL 407 (3) Development and Operation of Family Life Centers and Programs.**

This course will provide students with information on how to develop and operate family life centers and programs. Students will be exposed to a variety of educational programs, information on assessing the needs and resources within the community, preparing a budget, and establishing policies and procedures for a family life center. In addition, students will be exposed to information on dealing with the challenges and concerns of family living.

**FBL 408 (3) Community Relations for Faith-Based Organizations.**

This course will provide information on helping communities build their own capacity for improving the quality of life for people in the community. Also, the course will explore plans to develop media relations and programs to enhance their communities. This course will explore strategies for building strong relationships in the communities that serve faith-based organizations.

**FBL 409 (3) Managing Faith-Based Personnel and Volunteers.** In this course, students will learn how to better organize their efforts to manage faith-based personnel and volunteers. It will provide clear definitions of paid personnel and volunteers as well as eliminate the legitimate and mythical staff fears associated with these populations. Additionally, students will gain information on motivating and supervising diverse types of people.

**FBL 418 (3) Organizational Leadership for Faith-Based Leaders.** This course is designed to familiarize learners with various elements of leadership in community development activities and social service programs. These elements are goal setting, strategic planning, delegation, team building, and training. This course will focus upon updating and developing essential leadership skills for leaders in faith-based organizations.

**FBL 419 (3) Communication Skills for Faith-Based Leaders.** This class will focus on the development and practice of organizational and interpersonal communication skills (oral and written), with some emphasis on conflict management. Students will learn communication styles and the strengths and weaknesses inherent in each. Emphases will include communicative needs of faith-based organizations. Students will learn to assess and improve themselves as well as assist their peers to become better communicators.

**FBL 420 (3) Financial Management for Faith-Based Leaders.** This course will teach students how faith-based organizations can adopt successful financial practices by exploring all aspects of income and expenditures within faith-based environments. Additionally, this course examines ways to balance organizational missions with financial stability. Students will learn how to manage financial resources such as accounting and financial reporting, budgeting, collecting account receivable, risk management, and insurance.

#### **University Success–Lifelong Learning:**

**UNIV 105 (2) University Success for Adult Learners.** This course is designed to assist adult learners in maximizing their potential to achieve academic success by providing a general orientation to the functions and resources of the University. The course is designed to help each student establish personal and professional goals and assess barriers to personal, academic and career goals. In addition, the course is designed to provide students with positive learning experiences utilizing instructional methods of lectures, demonstrations, small and large group discussions, consultants and technology.

The course will provide students with information on how to apply skills needed to take notes, communicate effectively, and develop good study skills to be successful college students. Students will have the opportunity to engage students in action research, leadership skills, library initiatives, and enrichment workshops/seminars activities relative to their academic, social and professional success.

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## **COMMUNICATIVE DISORDERS**

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**Department of Communicative Disorders**  
**OFFICE: 3825 Ridgewood Road, Suite 8**

**CMD 211 (3) Introduction to Communicative Disorders.** Describes normal speech, language, and cognitive development. The nature, symptoms, and etiology relating to articulation, voice, fluency, motor disorders, impaired hearing, delayed language, and acquired neurological language disorders are discussed. Open to Juniors and Seniors in other departments.

**CMD 219 (3) Phonetics.** Provide general knowledge about the nature of speech sounds, how they are formulated, vocalized, and visually symbolized. Auditory recognition and discrimination between phonemes are stressed. The dynamics of speech sounds are considered in relation to pronunciation, phonetic change, and dialectal variation. Open to Juniors and Seniors in other departments.

**CMD 310 (1) Introduction to Clinical Practicum.** Prerequisite: CMD 211, 219, 312, 316, and 321. An introduction to clinical methods and procedures. The student will earn twenty-five (25) clock hours in observation that are needed for ASHA 's Certificate of Clinical Competence. The student must have earned a GPA of at least 2.5 (on a 4-point scale). Restricted to majors only.

**CMD 312 (3) Anatomy and Physiology of the Speech Mechanism.** Basic course designed for an in-depth study of the anatomical structures of the head, neck, and trunk. The physiology of these structures will be related to the process of normal breathing and verbal speech production.

**CMD 316 (3) Speech and Hearing Science.** An introductory course in psychological measures of speech production, speech perception, and speech acoustics. Students will be introduced to basic elements of the physics of sound and acoustic cues relevant to the perception of speech and non-speech auditory stimuli. Open to Juniors and Seniors in other departments.

**CMD 321 (3) Language Development.** Study of acquisition and development of child language. Emphasis is placed on structural aspects of language and language-learning. Open to Juniors and Seniors in other departments.

**CMD 322 (3) Articulation Disorders.** Prerequisites: CMD 211, 312, 316, and 321. Study of the etiology, assessment, and management of disorders of articulation and phonology.

**CMD 324 (3) Fluency Disorders.** Prerequisites: CMD 211, 312, 316, and 321. Study of the etiology, assessment, and management of disorders fluency.

**CMD 325 (3) Language and Cognitive Disorders in Children.** Prerequisite: CMD 211, 219, 312, 316, and 321. Study of the assessment and management of children with developmental and acquired language and cognitive disorders.

**CMD 344 (3) Assessment of Children.** Prerequisite: 21 semester hours in basic and advanced speech pathology courses. A study of the methods and procedures employed in testing and evaluating speech and language disorders in children.

**CMD 423 (3) Introduction to Audiology.** Prerequisites: CMD 312, 316, 321, 322, and 325. Study of the physics of sound, the anatomy and physiology of the ear, hearing loss, and basic audiological assessment.

**CMD 450 (3) Speech-Language Pathology Services in Schools.** Prerequisite: CMD 322, 324, and 325. Study ethics, case load selection, disability criteria, behavior management, as well as the administration and organization of speech-language programs in schools.

**CMD 480 (3) Clinical Practicum in Speech-Language Pathology I.** Prerequisites: CMD 310, 322, 324, 325, and 344. Supervised clinical experiences in speech, language, and hearing disorders.

**CMD 486 (3) Clinical Practicum in Speech-Language Pathology II.** CMD 310, 322, 324, 325, 344, and 480. Supervised clinical experience in speech, language, and hearing disorders.

**CMD 495 (3) Senior Project.** Prerequisite: Senior status in the major. A research project will be undertaken on a topic in communicative sciences/disorders selected in consultation with and supervised by a faculty member within the Department.

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## COMPUTER SCIENCE

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**Department of Computer Science**  
**OFFICE: John A. Peoples Science Building**

**CSC 115 (3) Digital Computer Principles.** An introduction to the study of computer science. Subject matter consists of word processing, spreadsheet, database, graphics, computing, data processing, the organization of a computer, input and output devices, number systems, internal data representation and an introduction to a high-level programming language. (F, S, Sum)

**CSC 116 (3) Computational Thinking.** This course will introduce students to the principles of computational thinking, focusing on the fundamental concepts of computing as they apply to various disciplines, and developing abstraction and logical reasoning as the foundational tools for problem-solving. The course will consist of five units, each responsible for providing students with a set of computational thinking skills, knowledge, and abilities as well as exposure to cutting-edge research in the discipline. Topics include modeling, simulation, visualization, data analysis, visual analytics, virtual organizations, social interaction, mobile computing, and robotics.

**CSC 117 (3) FORTRAN.** Prerequisite: CSC 115 or equivalent. Topics include definition of language syntax and semantics, structured programming, sub-programs and basic algorithm design. Students are required to write several programs and to achieve successful computer execution of them. Credit not allowed as a Computer Science Elective for the Computer Science Degree. (S)

**CSC 118 (3) Programming Fundamentals.** Prerequisites: MATH 118 or equivalent, CSC 115 or equivalent; co-requisite: CSCL 118. This is the first course in the computer science programming sequence and is required of all computer science majors. Course objectives include: introduction to problem solving methods and algorithm development; definition of language syntax and semantics of a high level programming language; and developing the ability to design, code, debug, document, and successfully execute programs. Topics include objects and classes, data types, applets and graphics, decision statements, iteration, methods, testing and debugging, arrays, sorting and searching, inheritance, interfaces and polymorphism. (F, S)

**CSCL 118 (1) Programming Fundamentals Lab.** Prerequisites: MATH 118 or equivalent, CSC 115 or equivalent; co-requisite CSC 118; this lab is to be



taken with the course CSC 118. The objective of the lab is to give the students hands-on experience on the topics covered in the CSC 118 class. Students will learn to use a text editor to write their programs and how to compile and run them. Students will be required to develop programs applying learned concepts such as object-oriented design, data types, decision-making, iteration, arrays, methods, inheritance and interfaces. (F, S)

**CSC 119 (3) Object-Oriented Programming.**

Prerequisites: CSC 118, CSCL 118; co-requisite: CSCL 119. This course is the follow-up of CSC 118. Additional topics in Object-Oriented Programming are covered in this course. Then the emphasis shifts to object-oriented analysis and design. This course covers I/O streams, exception handling, threads, reflection, UML, object-oriented analysis and design, object-oriented graphical user interfaces, design patterns, and refactoring. (F, S)

**CSCL 119 (1) Object-Oriented Programming Lab.**

Prerequisites: CSC 118, CSCL 118; co-requisite: CSC 119. Students explore, design, program, and analyze laboratory exercises of object oriented programming in a supervised setting. Laboratory submissions include not only software and data, but also short reports that are graded both for technical content and writing mechanics. (F, S)

**CSC 204 (3) COBOL.** Prerequisites: CSC 115, 117 or equivalent. A study of the COBOL programming language and its applications. Students are required to write/modify several programs applying structured programming techniques and to achieve successful computer execution. Credit not allowed as a Computer Science Elective for the Computer Science Degree.

**CSC 209 (3) Programming in C/UNIX.**

Prerequisites: CSC 119, CSCL 119. Problem-solving methods, algorithm development, debugging and documentation in the C programming language with emphasis on the UNIX operating system environment. Topics include: pointers, strings, structures, unions, linked lists, UNIX process management, and UNIX shell programming. (F)

**CSC 211 (3) Object-Oriented Programming in C++.**

Prerequisites: CSC 119, CSCL 119. Problem-solving methods, algorithm development, debugging and documentation in the C++ programming language. Topics include: classes, operator overloading, inheritance, polymorphism, stream input/output,

exception handling, and file processing. (S)

**CSC 214 (3) Programming for the Web.**

Prerequisites: CSC 119, CSCL 119. This course is designed for students who have computer programming experience and who want to write Web applications. Students will learn the basic programming skills and languages that are needed to implement distributed Web applications. Topics include client-side programming techniques including HTML, Dynamic HTML and JavaScript; server-side programming techniques including CGI programming using Perl; and Web architectures and servers. (S)

**CSC 216 (3) Computer Architecture and Organization.**

Prerequisites: CSC 119, 225, CSCL 119, EN 212, ENL 212; co-requisite: CSCL 216. Students will learn functional behaviors and structural organizations of a computer. Topics include machine level representations of data, computer arithmetic, instruction set architecture and assembly language, datapath and control, memory system and bus architectures and I/O devices. Also, the compilation and the assembly processes, and linking and loading are covered. (F, S)

**CSCL 216 (1) Computer Architecture and Organization Lab.**

Prerequisites: CSC 119, 225, CSCL 119, EN 212, ENL 212; co-requisite: CSC 216. Students will learn MIPS computer organization, MIPS assembly language, and the SPIM simulator, and carry out MIPS assembly programming assignments, which will cover the following subjects: system I/O, arithmetic, logic, shift and rotation operations, control flow structures, addressing modes, stacks and procedures, memory-mapped I/O, expectations and interrupts, and pipelined implementation. (F, S)

**CSC 225 (3) Discrete Structures for Computer Science.**

Prerequisites: CSC 118, CSCL 118, MATH 118 or Higher. Introduces the foundations of discrete mathematics as they apply to computer science, focusing on providing a solid theoretical foundation for further work. Topics include basic logic, proof techniques, sets, bags, ordered structures, graphs, trees, facts and properties of functions, and construction techniques. (F, S)

**CSC 228 (3) Data Structures and Algorithms.**

Prerequisites: CSC 119, 225, CSCL 119; co-requisite: CSCL 228. The concepts of data abstraction and data structures are developed. For the basic data structures of linked lists, stacks, queues, hash tables, graphs, and trees, associated algorithms are described and analyzed. The course also treats

recursion, sorting, fundamentals of software engineering, and the philosophy of object-orientation. (F, S)

**CSCL 228 (1) Data Structures and Algorithms Lab.**

Prerequisites: CSC 119, 225, CSCL 119; co-requisite: CSC 228. Students explore, design, program, and analyze implementations of data structures and algorithms in a supervised setting. Laboratory submissions include not only software and data, but also short reports that are graded both for technical content and writing mechanics. (F, S)

**CSC 312 (3) Advanced Computer Architecture.**

Prerequisites: CSC 216, CSCL 216. Uniprocessor computer architectures are reviewed. Quantitative approaches of computer designs are emphasized. Performance enhancements to the uniprocessor architecture model, including pipelining and superscalar architectures, techniques to reduce instruction pipeline stalls, and memory organization techniques are studied. Advanced computer organizations, performance evaluation, and programming of vector processors, array processors, and multi processors are also covered. (F, S)

**CSC 321 (3) Logic.** Prerequisites: CSC 118, CSCL 118.

Topics include: Number bases, 2's and 1's complements, set theory, Venn diagrams, Boolean logic, DeMorgan's Rules, Propositional Calculus, Finite Calculus, introduction to the Predicate Calculus, combinatorics, gcd, modular arithmetic, introduction to the theory of computation and Turing Machines.

**CSC 323 (3) Algorithm Design and Analysis.**

Prerequisites: CSC 228, CSCL 228. Introduces students to various techniques to design and analyze algorithms. Topics include examples of computational problems, basic issues related to algorithms, efficiency comparison, and the design and analysis of brute force, divide-and-conquer, decrease-and-conquer, and transform-and-conquer algorithm design strategies. (F, S)

**CSC 325 (3) Operating Systems.** Prerequisites:

CSC 216, 228 and CSCL 216, 228. This course introduces the major concepts of process communication and synchronization, protection, performance measurement, and causes and evaluations of the problems associated with mutual exclusions and process synchronization among concurrent processes. This course introduces and analyzes various operating systems in terms of processor management, memory management, device management, information management, and distributed systems management. (F, S)

**CSC 330 (3) Database Systems.** Prerequisites:

CSC 228 and CSCL 228. This course is designed to introduce students to the concepts and theories of database systems. Topics include: information models and systems; the database environment; data modeling; conceptual modeling using the entity-relationship approach and mapping to relational tables; the relational model including the relational data structure, integrity rules, relational algebra and relational calculus; normalization; data definition and data manipulation in SQL; conceptual, logical, and physical database design; security; transaction management; query processing; and advanced topics in database systems. (F, S)

**CSC 332 (3) Compiler Construction.** Prerequisites:

CSC 216, CSCL 216. This course presents a general model of compilers, then uses this model to demonstrate the implementation of advanced features. Topics to be covered are logical analysis, syntax, and storage allocation.

**CSC 350 (3) Organization of Programming**

**Languages.** Prerequisites: CSC 216, 228, CSCL 216, 228. Study of the organization and specification of programming languages. Topics include an overview of programming languages; issues in language design, including typing regimens, data structure models, control structure models, and abstraction; virtual machines; language translation; interpreters; compiler design; lexical analysis; parsing; symbol tables; declaration and storage management; code generation; and optimization techniques. (F, S)

**CSC 403 (3) Computer Science Seminar.**

Prerequisites: Senior level with 15 hours of 300-level courses. Discussion on trends in computer science. Students are required to prepare a paper and present it to their peers. Students who have participated in a Co-op Program will conduct a seminar discussing their work assignments.

**CSC 435 (3) Computer Networks.** Prerequisites:

CSC 323 and 325. The CSC 435 course will primarily focus on the following five layers of the TCP/IP protocol stack: Physical, Link, Network, Transport, and Application layers. Topics to be covered include: Physical Layer-encoding and decoding data for short distance and long-distance communications; Link Layer-local area network technologies and their extension using interconnection devices; Network Layer-routing protocols, IP addressing, subnets, datagram forwarding, fragmentation, and other auxiliary network-level communication protocols;

Transport Layer-UDP and TCP; and Application Layer-Socket programming. The course would also cover appropriate security aspects for each of the above layers. (F, S)

**CSC 437 (3) Computer Security.** Prerequisite: CSC 325. This course will examine the risks of security in computing, consider available countermeasures, controls, and examine some of the uncovered vulnerabilities. Topics covered will include: Cryptography, Program Security, Operating System Security, and Network Security.

**CSC 439 (3) Advanced Information Security.** Prerequisite: CSC 325. This course will discuss advanced topics in information security related to Cryptography, Steganography, Network security controls, Web and E-mail security, Wireless network security, Security in distributed systems, and Database security.

**CSC 441 (3) Computers and Society.** Prerequisites: CSC 325 and 330. This course presents concepts of computer moral and legal issues, describes the impact of computers on society and presents techniques which are applicable in addressing problems posed by the social impact of computers. As a Service Learning Course, students will be able to help agencies and businesses in educating them on the most recent Anti-virus software available, viruses, e-mail scams, privacy issues, intellectual property rights, and computer crimes. (F, S)

**CSC 450 (3) Senior Project.** Prerequisites: CSC 325 and CSC 475. Students will design, code, test, implement and document a large and complex application program. (F, S)

**CSC 452 (3) System Simulation.** Prerequisites: MATH 355, CSC 228, CSCL 228. Introduction to simulation models, writing programs to generate random numbers from various probability distributions. Simulation models using GPSS/H language for problem solving.

**CSC 456 (3) Automata, Computability and Formal Languages.** Prerequisites: CSC 350 and a knowledge of discrete structures. An introduction to formal models of computation. Assignments will develop students skills in understanding rigorous definitions in computing environments and in determining their logical consequences.

**CSC 460 (3) Introduction to Artificial Intelligence.** Prerequisite: CSC 323. An introduction to the theory, research paradigms, implementation techniques, and philosophies of artificial intelligence. Introduction to Prolog, Lisp and expert system-shell programming.

**CSC 470 (3) Computer Graphics.** Prerequisites: CSC 216, 228 and CSCL 216, 228. Introduction to Graphics Hardware and software, Display Architecture, User-Computer interface design, 2D and 3D Transformation, Projections, Clipping, and Raster Graphics Algorithms.

**CSC 475 (3) Software Engineering.** Prerequisite: CSC 330. Introduction to software engineering, software design, APIs, software tools and environments, software development processes, software requirements and specifications, software verification and validation, software implementation, software evolution, and software project management. (F)

**CSC 485 (3) Digital Image Processing.** Prerequisites: CSC 312 and 323. Introduction to Digital Image Processing and its Applications, where the emphasis is on earth resources analysis. Subject matter consists of Hardware and Software Requirements, Transformations, Registration, Encoding, Enhancement and Restoration, and Image Databases.

**CSC 499 (3) Special Topics.** Prerequisite: Approval of instructor. Advanced, specialized topics selected on the basis of mutual interest of the student and the instructor.

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## THEATER

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**Department of Speech Communication and Theater  
OFFICE: Rose Embly McCoy Auditorium**

**DR 101, 102, 103, 104, 105, 106 (1) (1) (1) (1) (1) (1) Production Laboratory.** Practical application in at least one departmental production activity. Required of freshman and sophomore majors. Open to non-majors. Repeatable to a maximum of six (6) credit hours.

**DR 201 (3) Introduction to Theater.** A survey of drama and theater history examining historical practices used in the modern theater. Attendance at theater performances and the reading of the representative plays are required open to all students.

**DR 202 (3) Fundamentals of Acting.** Basic training in voice, movement, and improvisation to enhance the beginning actor's understanding and artistic

growth. Open to all students.

**DR 204 (3) Introduction to Technical Production.**

Prerequisite: DR 201, co-requisite: DRL 204..

An overview of the theory and practices in implementation of set construction and related aspects of technical theatrical production.

**DRL 204 (1) Introduction to Technical Production Lab.**

A laboratory course for practical application of theory in DR 204. Technical participation in departmental rehearsals and productions is required.

**DR 205 (3) Advanced Acting.** Prerequisite: DR 201, 202 and 204. Study and practice of the art and craft of acting. Selected readings, discussion, laboratory exercises.

**DR 301 (3) Movement for the Stage.** A fundamental movement course for the student performer. Emphasis is placed on developing within the actor an understanding of his/her body as an instrument of expression and communication, and enhancing the actor's ability to use his/her instrument. Course encompasses exercises and explorations based on a variety of techniques for developing body and spatial awareness and use.

**DR 306 (3) Introduction to Science Design.**

Prerequisites: DR 201 and 204. This course acquaints the student with artistic elements and practical techniques of scene design. Laboratory work consists of several scene designs in different styles. Each design includes ground plans, perspective drawings and frontal evaluations.

**DR 310 (3) Theater History and Literature: Origins-1700s.** Prerequisite: DR 201. The history of the physical theater, drama, and the participants from Egyptian origin of theater ritual through the Greek classical theater to Elizabethan England.

**DR 311 (3) Theater History and Literature: 1700s-Present.** Prerequisite: DR 201. The history of the physical theater, drama, and the participants from Elizabethan England to the development of the modern theater.

**DR 313 (3) Survey of Black Drama and Theater.**

Prerequisite: DR 201. A study of Black drama and theater in America, treating the contributions and involvement of Black artists in the drama and theater in this country from 1553 to the present.

**DR 314 (3) Fundamentals of Playwriting.** A lecture-

laboratory course in the fundamentals of playwriting. Laboratory work consists of exercise in exposition, traditional scenes, builds, crisis, resolution, etc. Lectures include script analysis, discussion of certain avant-garde plays and the works of the individual playwright. A scenario will be written.

**DR 356 (3) Reader's Theater.** A course designed for the oral study of dramatic literature through analysis and group performance.

**DR 410 (3) Theories and Techniques of Directing.**

Prerequisites: DR 201, 310 and 311. The director's initial approach to the play, research, research, textual study, and formal analysis. Demonstrations and directorial skills in composition, movement, and business.

**DR 414 (3) Stage Lighting.** Prerequisite: DR 204. Work in lighting design plots for different modes of staging. The study of lighting control principles, color theory, and design theory in practical application.

**DR 415 (3) Advanced Playwriting.** Prerequisite: DR 314. A course designed to give the student further experience in concepts and techniques of playwriting. Each student is required to write a one-act play or scenario.

**DR 416 (3) Costuming and Make-up.** Discussion of basic elements of design for costumes and make-up. Overview of historical dress and accessories. Practical experience in make-up application. Open to all students.

**DR 419 (3) Dramatic Criticism.** Prerequisites: DR 310 and 311. An in-depth study of the principles of dramatic criticism from Aristotle to modern period. Particular reference is given to the influence of the theory of the church, state and press in evaluating drama.

**DR 421 (3) Creative Dramatics.** Prerequisite: a lecture-laboratory course acquainting the student with the acting and directing techniques of children's theater. Emphasis is on improvisational acting. Some attention is devoted to production techniques.

**DR 422 (3) Children's Theater: Production and Directing.** Prerequisite: DR 421. Study the principles and techniques of acting, and staging for children's theatre. Practical application through laboratory, assignments, and participation in production projects.

**DR 425 (6) Play Production.** Prerequisite: Reserved for senior Drama majors only. Full directing responsibility for the production of a one-act play or approved activity.

**DR 426 (3) Independent Study.** Prerequisite: Drama majors only; requires Coordinator approval and Departmental approval necessary. Directed research or project work for the superior student of drama.

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## ECONOMICS

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**Department of Economics, Finance and General Business  
OFFICE: College of Business Building**

**ECO 211 (3) Principles of Macroeconomics.** This course will provide an overview of macroeconomic issues: the determination of output, employment, unemployment, interest rates, and inflation. Monetary and fiscal policies are discussed, as are the public debt and international economic issues. We introduce basic models of macroeconomics. (F, S, Sum)

**ECO 212 (3) Principles of Microeconomics.** This course will provide an overview of microeconomic issues: price determination, supply, and demand. Of primary importance are the behavior of individuals/households and firms, and their impact on prices, and the supply and demand for goods and services. We introduce basic models of microeconomics. (F, S, Sum)

**ECO 311 (3) Intermediate Macroeconomic Theory.** Prerequisites: ECO 211 and 212. This course develops a general equilibrium theory of the economy at the intermediate level. Topics include the aggregate demand and supply model, the IS-LM model, unemployment, international trade, economic growth, and monetary and fiscal policies. We further build upon models introduced in ECO 211. (F)

**ECO 312 (3) Intermediate Microeconomic Theory.** Prerequisites: ECO 211 and 212. This class presents microeconomic theory and applications of consumer and producer behavior at an intermediate level. This course focuses on the following topics: basic theory of consumer behavior; production and costs; partial equilibrium analysis of pricing in competitive and monopolistic markets; general equilibrium; welfare economics; and externalities. We further build upon models introduced in ECO 212. (S)

**ECO 313 (3) Labor Economics.** Prerequisites: ECO 211 and 212. This course is an introduction to the field of Labor Economics. We expect that this course will

enable students to think critically about research and public policy issues. The emphasis is on applied microeconomics and empirical analysis. Topics to be covered include: labor supply and demand, taxes and transfer, human capital, minimum wages, income distribution, unions and strikes, immigration, incentives, discrimination, unemployment and unemployment insurance. (D)

**ECO 325 (3) Economic Development.** Prerequisites: ECO 211 and 212. This class introduces both theoretical and empirical approaches to analyzing economic growth and development. Accordingly, the role of labor, capital, and technological progress are investigated. Additionally, cultural/social institutions, income demographics, social/class conflicts, political/economic factors, macro/trade policies, financial sector development, etc., may be covered. In this class, basic growth models will be introduced. (F)

**ECO 359 (3) Business Statistics.** Prerequisites: MATH 111, ECO 211 and 212. This course covers basic concepts of statistics: methods of describing numerical data; probability in business decisions; random variables; sampling distributions, estimation, and hypothesis testing; and correlation and regression. Use of statistical software is required. (F, S, Sum)

**ECO 360 (3) Mathematics for Economics and Finance.** Prerequisite: MATH 221. This course introduces students to a sample of the mathematical techniques that are used in economics and finance. Additionally, the course is designed to help students acquire the mathematical skills needed to understand the less technical economic and finance literature. In general, it should foster a solid mathematical intuition. (S)

**ECO 416 (3) History of Economic Thought.** Prerequisites: ECO 211 and 212. This course focuses on an historical examination of the development of economic analysis and reasoning. Several schools of thought are examined. These include but are not limited to the following schools of thought: mercantilist, physiocratic, classical, institutionalist, Keynesian, and neo-classical. (F)

**ECO 442 (3) Money and Banking.** Prerequisites: ECO 211 and 212. This course analyzes banking and currency in the United States. Also, the impact of policies regulating banks and non-bank financial institutions are covered. Central to this coverage is a review of the role of the central bank, money supply and demand, monetary policy, and interest rates. Particular attention is paid to the effects these items



have on the economy. (F, S)

**ECO 444 (3) Public Economics.** Prerequisites: ECO 211 and 212. This course examines the role of the public sector in the economy. The aim of the course is to provide an understanding of the reasons for government intervention in the economy, the extent of that intervention, and the response of private agents to the government's actions. (F)

**ECO 445 (3) Comparative Economic Systems.** Prerequisites: ECO 211 and 212. This course examines the major economic systems of the world, in both theory and practice. The approach will generally focus on encouraging a general understanding of how economic systems work and how economic theory interacts with government policy, history, and culture to explain economic performance. Economies examined can be divided into three basic types. These types are: traditional economic systems, market economic systems, and command economic systems. (F)

**ECO 446 (3) International Trade.** Prerequisites: ECO 211 and 212. This course focuses on determinates of the flow of goods and services across international boundaries or territories. The subject is one of the oldest fields in economics; however, its economic, social, and political importance has been on the rise. With the ongoing debate on globalization, free trade agreements, and the call for a new global financial architecture, interest in the subject should continue to rise. In this course, both basic theories and some current topics will be covered. (S)

**ECO 456 (3) Urban Economics.** Prerequisites: ECO 211 and 212. This course exposes students to the branch of microeconomics concerned with spatial relationships underlying the formation, the functioning, and development of cities. Cities are currently facing severe challenges, and in this course, urban problems contributing to these problems will be analyzed from an economic perspective. This will lay the foundation for discussions about policy alternatives aimed at addressing these problems. Emphasis is placed on the spatial characteristics of the urban economy as well as on market failures arising from the presence of externalities. (S)

**ECO 460 (3) Introduction to Econometrics.** Prerequisite: ECO 359. This course covers the statistical tools needed to understand empirical economic research and to plan and execute independent research projects. Strong emphasis is placed on applications. Mathematical models of economic

behavior are tested using various inferential statistical methods. In general, this course should foster a solid mathematical intuition and a fundamental understanding of economic analysis. (S)

**ECO 470W (3) Economics Seminar.** Prerequisites: ECO 211 and 212. This course pivots around individual research projects. The topics researched reinforce the students' mastery of basic economics and econometrics. (S)

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## ELEMENTARY EDUCATION

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**Department of Elementary and Early Childhood Education**  
**OFFICE: Joseph H. Jackson Building, Room 311**

**EDCI 100 (3) Introduction to Education.** Prerequisite to all other education courses for prospective teachers and is to be taken during the Freshman year by students seeking careers in Teacher Education. It is a multi-purpose foundation course designed to give an overview of teaching and learning. Requires 10 clock hours of field-based activity.

**EDCI 120 (3) Practical Child Care Experiences.** Designed to introduce the students to a variety of personnel certification programs and to assist in the preparation for assessment when appropriate (i.e., Child Development Associate [CDA] and National Association of Education for Young Children's Validation [NAEYC]). Includes an in-depth review of the functional areas providing the basis for competency goals as designated by validating agencies. (D)

**EDCI 121 (3) Innovations, Problems, and Issues in Child Care.** A comprehensive study of the growth and development of the infant and toddler—including physical environment, care and handling, immunizations and health care, toilet training, developmentally appropriate activities, and the special needs of infants and toddlers. (D)

**EDCI 122 (3) Family Dynamics and Interpersonal Relations.** Discuss the development of family structures and the various types and functions of families. Emphasizes basic communication skills and their application within the family; family values; and the caregiver's role in the family. (D)

**EDCI 208 (3) Materials and Methods of Early Childhood Education.** This course is designed to investigate curricula methods and materials for teaching nursery, kindergarten and primary children. This includes preparation, executive, and evaluation

of materials and methods within the subject matter areas of mathematics, science, social science, music, art, and language arts. (F, S)

**EDCI 220 (3) Teaching and Learning Styles of Young Children.** Prerequisite: EDCI 120, 121, 122, or special permission by the department Chair prior to enrollment. Instructional strategies of content and materials, and evaluation of child care procedures in programs designed for infants, toddlers, and pre-school children. (D)

**EDCI 221 (3) Administration of child Care Services.** Leadership styles, director-staff relationships, staff training, and goal setting are explored within the framework of developing lessons with appropriate developmental activities for young children. Construction of lesson plans, integration of yearly curriculum goals with weekly plans and evaluation of curriculum should be included. (D)

**EDCI 301 (3) Communicative Arts for the Elementary Teacher.** This course will provide comprehensive information of instructional strategies needed to provide the learner with a compendium of competencies in the communicative arts. Emphasis will be stressed in the communicative areas to enhance responsible, receptive and expressive language skills.

**EDCI 303 (3) Parent, Child and Teacher Interactions.** This course examines the importance of developing good relationships between parent, children and teachers during the early childhood and elementary years. The goal is to assist students to delineate nonblaming environments where dialogue and mutual planning can take place between families and school personnel.

**EDCI 305 (3) Studies in Child Guidance.** This course is designed to provide comprehensive information on the nature and need of infants, toddlers, and pre-school children. Emphasis is placed on psychological, sociological, and physiological development and growth.

**EDCI 320 (3 - 8) Field Experiences in Child Care.** Prerequisites: EDCI 120, 121, 122, 220, or special permission by the department Chair prior to enrollment. This course is of the practical learning experiences engaged in a more intensified and concrete manner. These experiences occur in off-campus, school, and community situations where opportunity is given to the student to test theories of teaching and learning, to initiate and test ideas with children. With guidance and supervision, the student

is also given the opportunity to develop the ability, initiative, and responsibility for planning, guiding, and evaluating the total child care program. (D)

**EDCI 400 (3) Theories and Principles of Early Childhood.** This course is concerned with the basic history, philosophy, theories, and principles underlying early childhood education. (D)

**EDCI 401A, B (3) Research, Classroom Management, and Clinical Practice.** (A-Elementary Schools, B-Secondary Schools). This course is designed to integrate the research on effective teaching and learning with theory and practice. Students will engage in micro-teaching and will be expected to demonstrate mastery of the fourteen competencies measured by the Mississippi Teacher Assessment Instrument. Students will also be introduced to classroom management strategies for effective classroom discipline and teaching routines. The Clinical practice will be a field based activity.

**EDCI 402 A, B (12) Clinical Internship in Student Training.** (A-Elementary Education, B-Secondary Education). This course is a continuation of the practical learning experiences engaged in during the 401C course, but in a more intensified and concrete manner. These experiences occur in an off-campus school and community situations for twelve weeks where opportunity is given to the student teacher to test theories of teaching and learning, to initiate and test ideas with children. With guidance and supervision, the student teacher is also given the opportunity to develop the ability, initiative and responsibility for planning, guiding and evaluating the total program of the children with whom he/she is working.

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## EDUCATIONAL TECHNOLOGY

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**ETEC 212 (3) Utilization of Computer application Package and Lab.** Introduction to the management and application of technology programs in business, educational agencies, and the world of work.

**ETEC 337 (3) Technology Selection, Maintenance, Management and Support.** Students will gain selecting skills in the management of networked and support services.

**ETEC 368 (3) Distance Learning.** An introduction to procedures and applications involved in the delivery of distance learning.

**EETEC 377, L377 (3) Multimedial Development and Computer Assisted Instruction and Lab.** Planning producing, and disseminating technology based instruction with authority systems composed of integrated text, audio, video, graphics, and electronic dissemination.

**EETEC 378 (3) Adult Education and Technology Life Learning and Training.** Student will gain principles of workforce education and lifelong learning.

**EETEC 435, L435 (3) Emerging Technology and Lab.** Student will gain a variety of skills and knowledge of Modern Technology appropriate to business, industry and schools.

**EETEC 438, L438 (3) Introduction to the Internet.** Students will gain skills in utilizing and managing the world wide web via Internet.

**EETEC 439 (3) Topics in Education Technology.** Selected problems in Educational Technology.

**EETEC 451 (9) Internship in Educational Technology.** A well planned exercise of supervised, on the field, concentrated experiences. Location for internship may include business, industry, banks, hospitals, agencies, and other appropriate entities.

**EETEC 496 (3) Special Topics in Educational Technology.** This course is designed to meet the special needs and interests of students in selected areas of educational technology.

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## ENGINEERING

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### General Engineering Courses OFFICE: School of Engineering Building

**EN 105 (3) Programming for Engineers.** Prerequisite: MATH 111 or equivalent. The course introduces C/C++ programming concepts to engineering students. Its emphasis is on acquiring fundamental programming skills, and learning appropriate syntax. Topics include variables, data types, expressions and statements, input/output formatting, modularization and subroutines, arrays, pointers and strings, and use of library functions. Course projects include program development for various engineering applications.

**EN 201 (2) Engineering Graphics.** Prerequisite: MATH 112 or 118 or equivalent. Develop skills to visualize and represent three-dimensional objects graphically, orthographic projection, pictorial drawings, graphics

and charts, principles of computer-aided drafting and design (CADD) including substantial use of the AutoCAD software or equivalent, two and three-dimensional drafting and pictorial drawings using a CADD system, applications in various engineering disciplines and systems approach.

**EN 212 (3) Digital Logic.** Prerequisite: MATH 111 or equivalent. This is an introductory course to digital design. Topics include number systems, binary logic, Boolean algebra, truth tables, minimization of Boolean functions. K-maps, and Flip-Flops, Designs include combinational circuits, counters, and sequential circuits.

**ENL 212 (1) Digital Logic Lab.** Co-requisite: EN 212. This laboratory course enables students to validate the major concepts covered in ENG 212, digital Logic. Experiments include basic gates, adders, counters, and Flip-Flops.

**EN 220 (3) Circuit Theory.** Prerequisite: PHY 211; Co-requisite: MATH 232. This course introduces concepts and basic laws in the analysis of AC and DC linear electric circuits. Topics include mesh and nodal analysis. Thevenin's and Norton's theorems, superposition principle, transients in RLC circuits, phasor notation, and frequency response.

**ENL 220 (1) Circuit Theory Lab.** Co-requisite: EN 220. This laboratory enables students to validate the major concepts covered in EN220, Circuit Theory. Experiments include OHM's law, node voltage analysis, RC circuits, and RL circuits.

**EN 222 (3) Engineering Mechanics I.** Co-requisite: PHY 211. Calculus-based statics of particles and rigid bodies, equilibrium; distributed forces; centroids; structures, trusses, frame, machines; forces in beams and cables; friction; moments of inertia, real life examples for engineering applications and systems approach.

**EN 223 (3) Engineering Mechanics II.** Prerequisites: EN 222 and MATH 232. Calculus-based kinematics and kinetics of a particle. Planar kinematics of a rigid body; planar kinetics of a rigid body including force and acceleration; work and energy; impulse and momentum; vibrations, real life examples and systems approach.

**EN 230 (3) Engineering Thermodynamics.** Prerequisites: PHY 21, PHY 211, and MATH 232. Concepts of engineering thermodynamics, properties, first law, flow equation, second law, entropy, availability

analysis, power and refrigeration cycles, mixtures and gasses, and psychrometrics, real life problems, engineering applications and systems approach.

**EN 240 (3) Strength of Materials.** Prerequisite: EN 222. Forces and stresses, axial loading, torsion, pure bending, transverse loading, shear force and bending moment diagrams, transformation of stress and strain, design of beams and shafts, deflection of beams, statically indeterminate problems, energy methods, columns, real life examples and systems approach.

**EN 252 (3) Engineering Analysis.** Prerequisite: MATH 231. This course introduces the principles and applications of engineering mathematics, including linear algebra, Fourier analysis, and complex variable theory.

**EN 350 (3) Engineering Systems Clinic.** Prerequisites: EN 212, 240, and junior level standing. Analysis and design of multi-disciplinary systems; engineering specifications for quality design, analyze, evaluate, and synthesize multiple sources. Generate multiple engineering design solutions; critical thinking and judgement, ethical, societal, economical, and legal considerations; written and oral presentations.

**EN 355 (3) Engineering Economy.** Prerequisites: MATH 232, and junior standing. Introduction to economic principles, application of economic principles to multidisciplinary engineering problems; calculation of capitalized costs, present worth, prospective rates of return, and annual costs, economy of equipment replacement, market forces and firm analysis; case studies and group project.

#### **Civil Engineering Courses:**

**CIV 310 (2) Engineering Surveying.** Prerequisite: PHY 211; Co-requisite: CIV 311. Plane surveying, measurement of distances and angles, differential leveling, traverse adjustment and area computations, topographic surveying and contours, horizontal and vertical curves, surveying computations, elements of site plan, professional ethics in surveying.

**CIVL 310 (1) Engineering Surveying Lab.** Prerequisite: PHY 211; Co-requisite: CIV 310. Field experience to measure surveying parameters including distances, angles, and elevations. Field notes, surveying equipment; critically analyze and interpret data, report writing.

**CIV 320 (3) Structural Analysis.** Prerequisite: EN 240. Analysis of statically determinate and indeterminate structures for fixed and moving loads. Equations of

equilibrium and compatibility. Influence lines, and shear and moment envelopes. Analysis of forces and deflections in structures by methods of moment distribution, consistent deformation, and virtual work, computer analysis of structures, real life examples.

**CIV 330 (2) Fluid Mechanics.** Prerequisites: EN 223, 240, and MATH 368; Co-requisite: CIVL 330. Fluid properties and definition; fluid statics; fluid dynamics; Bernoulli equation and linear momentum; viscous flow; drag forces and boundary layer concepts; ideal flow; velocity potential and stream functions; dimensional analysis and dynamic similitude, real life problems.

**CIVL 330 (1) Fluid Mechanics Lab.** Co-requisite: CIV 330. Laboratory experience to measure fluid properties and apply principles for application in engineering design. The experiments will include pressure and velocity measurement, application of mass, energy, and momentum principles, energy losses, forces on immersed bodies, and flow measurement devices; critically analyze and interpret data, report writing.

**CIV 340S (3) Introduction to Environmental Engineering.** Prerequisite: CHEM 141; Co-requisite: CIVL 340, CIV 330, CIVL 330. Basic concepts of environmental engineering, local and global environmental issues, scientific, social, ethical, regulations and public policy on environmental protection; quantitative engineering analysis of sources, transformations, and effects of pollutants in water, air, and soil; introduction to water and wastewater treatment processes, air pollution control technologies, solid waste, and hazardous waste management. This course requires the completion of a service learning component in specific areas of environmental engineering.

**CIVL 340 (1) Environmental Engineering Lab.** Prerequisite: CHEM 141; Co-requisites: CIV 330, 340, CIVL 330. Experiments for the analysis of water, wastewater and certain solid wastes. Selected experiments may include determinations of water's or wastewater's pH, alkalinity, turbidity, hardness, and electric conductivity, solids, nitrogen species, dissolved oxygen, biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon, and chlorinated compounds. Also included will be contaminant leaching test of some solid or hazardous wastes and absorption of contaminants by solid media. Critical analysis of experimental and interpretation of data and scientific

presentation (reporting) of results are emphasized.

**CIV 360 (2) Design of Steel Structures.** Prerequisite: CIV 320. Engineering properties of steel, behavior and design of members subjected to fatigue, and combined loading and compression, plate girders composite beams, open-web joists and connections. Methods of allowable design stress, and load resistance factor design. Elements of plastic analysis and design. Framing systems and loads for industrial buildings and bridges, design constraints.

**CIV 370 (3) Water Resources Engineering.** Prerequisite: CIV 330 and CIVL 330. This course is designed to review the fundamentals and practices of water resources engineering. Students will explore water resources engineering processes in the theoretical and applied realm in the fields of closed conduit (pipe) flow, open channel flow, surface water hydrology, and groundwater flow. Application of probability and statistical concepts along with the legal, economic and environmental considerations to the analysis and design of complex hydraulic and hydrologic systems will prepare interested student for future careers in water supply, wastewater, flood plain, storm water, and groundwater management.

**CIV 380 (3) Introduction to Geotechnical Engineering.** Prerequisites: EN 240, and CIV 330. Co-requisite: CIVL 380. Engineering soil classification, flow of water in soils, soil permeability and seepage, concepts of effective stress, stress and compressibility of soils, primary and secondary consolidation settlement, time rate of settlement, soil compaction, soil shear strength, introduction to slope stability, critical thinking and engineering judgment.

**CIVL 380 (1) Geotechnical Engineering Lab.** Co-requisite: CIV 380. Laboratory experiments to be performed by students to obtain soil parameters for designed problems. Engineering classification of soils, grain size distribution, Atterberg limits, specific gravity, unconfined compression, compaction, in-situ field tests, consolidation, and shear strength determination, application to design problems, critically analyze and interpret data, report writing.

**CIV 390 (3) Introduction to Transportation Engineering.** Co-requisite: CIV 380. Introduction to planning practice and procedure, design, operation, management, and maintenance of transportation systems, with emphasis on urban issues. General characteristics of transportation engineering systems including streets, highways, transit, airways. Capacity considerations including time-space diagrams. Elementary

dynamics of traffic and functional consideration of routes and terminals. Components of transportation engineering facility design including geometric design, earthwork, and pavements.

**CIV 410 (3) Capstone Design I.** Prerequisites: CIV 340, 360, 390, and senior standing in civil engineering. Group projects for senior students to work in teams to analyze and design civil engineering systems, and to consider various factors for design. Understanding of multi-disciplinary systems, interaction between design and construction professionals, realistic design constraints, economical issues, professional practice issues including importance of professional licensure and continuing education, contemporary issues, procurement of work, bidding vs. quality based selection processes, engineering professionalism and ethics. Developing teamwork and leadership skills. Oral presentation and written report are required.

**CIV 411W (3) Capstone Design II.** Prerequisite: CIV 410. Continuation of Capstone Design I. Group projects for senior students to work in teams to design civil engineering systems, and to consider various factors for design. Understanding of multi-disciplinary systems, interaction between design and construction professionals, realistic design constraints, economical issues, professional practice issues including importance of professional licensure and continuing education, contemporary issues, procurement of work, bidding vs. quality based selection processes, engineering professionalism and ethics. Developing teamwork and leadership skills. Oral presentation and written report are required.

**CIV 420 (2) Design of Concrete Structures.** Prerequisite: CIV 320. Behavior of reinforced concrete structural elements; design and proportion of sections for strength and serviceability; background of specification requirements; strength design applied to beams, columns, and members under combined axial load and bending; continuous beams; introduction to prestressed concrete; introduction to project management.

**CIV 421 (1) Structural Engineering and Materials Testing Lab.** Prerequisite: EN 240. Engineering properties and behavior of concrete and other structural members. Test of small-scale model structures. Use of computer-based data acquisition and interpretation systems for comparison of experimental and theoretically predicted behavior; nondestructive testing, critically analyze and interpret data, report writing.

**CIV 430 (3) Foundation Engineering.** Prerequisite: CIV 380. Shallow foundation analysis and factors to consider for design, subsurface investigations for design, bearing capacity and settlement, mat foundations, piles, caissons, lateral earth pressures and retaining walls, site improvement techniques, design of sheet pile walls and support systems, critical thinking and engineering judgment, ethical considerations.

**CIV 441 (3) Water and Wastewater Treatment Processes.** Prerequisites: CHEM 141, CHML 141, CIV 340, and CIVL 340. Theories, engineering principles, and design of modern water supply and wastewater treatment processes. Physical-chemical process, including screening, sedimentation, aeration, coagulation, flocculation, filtration, absorption, softening, and disinfection. Biological processes including activated sludge process and anaerobic processes for wastewater and sludge digestion, with emphasis on urban issues. Completion of a design project.

**CIV 451 (3) Computer Methods in Civil Engineering.** Prerequisite: EN 105, MATH 368, and departmental approval. Fundamentals of analog and digital computers. Organization of problems for computational solution, flow charts, programming, simulation of nonlinear physical systems for application in engineering design, numerical methods in civil engineering. Case studies in civil engineering.

**CIV 460 (3) Design of Environmental Engineering Facilities.** Prerequisite: CIV 330, 340, and CIVL 340. Analysis and design considerations for environmental engineering facilities such as water and wastewater treatment plants; physical engineering management and solid and hazardous waste, design constraints, resources recovery; biological processes; economical, ethical, societal and other professional considerations, urban issues, completion of a major design project.

**CIV 461 (1) Professional and Ethical Issues in Civil Engineering.** Prerequisites: senior standing in civil engineering. The task of this course is to reflect on the professional and ethical responsibilities of engineers, which can sometimes conflict with technical responsibilities. This course will articulate an ethical framework for engineers by critically reflecting on engineering practice and examining the ethical challenges that confront engineers working within teams and organizations. The course covers issues such as the social responsibility of engineers, attitudes, truth-telling and disclosure, whistle-blowing, contemporary issues, and risk-assessment, and the importance of professional licensure.

**CIV 465 (3) Advanced Water Resources Engineering.** Prerequisite: CIV 370. Advanced engineering hydrology, advanced hydraulic structures, hydraulic similitude and modeling, wave action, flow over spillways, optimization of water resources systems, design constraints, introduction to GIS applications to water resources engineering, completion of a major design project.

**CIV 466 (3) Advanced Design of Hydraulic Structures.** Prerequisite: CIV 370. Analysis and characteristics of flow in open channels (natural and artificial); channel design considerations including uniform flow (rivers, sewers), flow measuring devices (weirs, flumes), gradually varied flow (backwater and other flow profiles, flood routing), rapidly varied flow (hydraulic jump, spillways), and channel design problems (geometric considerations, scour, channel stabilization, sediment transport); analysis and design of hydraulic structures such as dams, spillways, etc., based on economic, environmental, ethical, political, societal, health, urban issues, and safety considerations.

**CIV 468 (3) Hazardous Waste Engineering.** Prerequisite: CHEM 241, CHML 241, CIV 340, and CIVL 340. Comprehensive study of the complex, interdisciplinary engineering principles involved in hazardous waste handling, collection, transportation, treatment, and disposal. Also covered are waste minimization, site re-mediation, and regulations important for engineering applications. Design constraints, engineering judgment, and ethical responsibility are covered. Contemporary hazardous waste issues and urban issues are also addressed.

**CIV 470 (3) Urban Transportation Engineering System Design.** Prerequisites: CIV 310, 390, and CIVL 310. Advanced design of highway systems, vehicle and driver characteristics, highway capacity, design of urban streets and expressways. Design constraints. Individual and team design projects oriented toward the solution of local urban transportation problems, societal and economical considerations.

**CIV 471 (3) Principles of Geoenvironmental Engineering.** Prerequisite: CIV 380. Topics in geoenvironmental engineering in an urban environment, landfill design and incineration options. Stability of landfills, liner systems. Waste characterization, minimization, collection, treatment, transport and disposal. Leachate characteristics and potential groundwater contamination, design constraints. Legal and ethical considerations.



**CIV 472 (3) Applied Geotechnical Engineering Design.**

Prerequisite or co-requisite: CIV 430.

Practical real life urban projects and advanced laboratory experience in geotechnical engineering, construction dewatering, construction issues, safety and economy, urban geotechnical engineering issues, preparation of subsurface investigation and geotechnical engineering reports, ethical considerations, oral presentation.

**CIV 475 (3) Pavement Design.**

Prerequisite: CIV 380

and 390. Aggregate, binder systems. Theory and design of pavement structures, rigid and flexible pavement design, subgrade materials, pavement management, nondestructive testing, pavement maintenance, design constraints, infrastructure maintenance, major design project.

**CIV 476 (3) Advanced Design of Steel Structures.**

Prerequisite: CIV 360. Behavior and design of members subjected to fatigue, dynamic, combined loading. Methods of allowable design stress, and load resistance factor design. Design of continuous beams, plate girders, composite beams, open-web joists, connections, torsion and plastic analysis and design. Framing systems and loads for industrial buildings and bridges, design constraints and a major design project.

**CIV 477 (3) Advanced Design of Concrete Structures.**

Prerequisite: CIV 420. Theory and design of reinforced concrete continuous beams, slender columns, two-way slabs, footings, retaining walls, shear walls and multi-story buildings. Design for torsion and design constraints. Framing systems and loads for buildings and bridges, design constraints and a major design project.

**CIV 478 (3) Design of Wood and Masonry Structures.**

Prerequisite: CIV 420. Engineering properties and behavior of wood for analysis and design of wood beams, walls and diaphragms. Engineering properties and behavior of masonry for analysis and design of masonry walls, columns, and shear walls. Framing systems and loads of multi-story buildings, design constraints and a major design project.

**CIV 479 (3) Evaluation, Maintenance, and Rehabilitation of Public Works Infrastructure.**

Prerequisites: CIV 390 and 475. Evaluation, maintenance, and rehabilitation of deteriorated infrastructure systems by considering life cycle costs and long-term performance. Understanding rehabilitation alternatives in the practical field and

designing rehabilitation schemes based on the non-destructive testing methods of economical considerations.

**CIV 481 (3) Special Problems in Civil Engineering.**

Prerequisite: departmental approval. Individual investigation in a recognized major area of civil engineering of particular interest to the students that are not normally covered in regular courses. May include a co-op project.

**CIV 491 (1-3) Internships in Civil Engineering I.**

Prerequisites: Junior or senior standing. Students work as interns with engineering firms or research laboratories to receive career-related training under the supervision of qualified engineers. The projects and tasks for the internship must be approved by both the work supervisor and the departmental instructor. Progress reports and final report in both writing and oral presentation are required. A minimum of 50 hours per credit is required.

**CIV 492 (1-3) Internships in Civil Engineering II.**

Prerequisite or co-requisite: CIV 491. Continuation of the internship projects or tasks that the students conducted in the previous CIV 481 course and need more time to finish, or start of the second internship with engineering firms or research laboratories. The projects and tasks for the internship must be approved by both the work supervisor and the departmental instructor. Progress reports and final report in both writing and oral presentation are required. A minimum of 50 hours per credit is required.

**Computer Engineering Courses:****CPE 312 (3) Computer Organization and Design.**

Prerequisite: EN 212 and CPEL 212. This course introduces the basic computer organization, which includes the Central Processing Unit (CPU) architecture, memory organization, and input/output subsystem. It covers instruction sets, addressing modes, hardwired control, and microprogrammed control. Projects emphasized simple CPU designs.

**CPE 315 (3) Synthesis with Hardware Descriptive Language.**

Prerequisites: EN 212, ENL 212, and CSC 118. This course provides an overview of digital logic design. It covers modeling and simulation of basic digital systems using a hardware descriptive language. Topics include behavioral, data flow, and structural modeling.

**CPE 330 (3) Electronics.**

Prerequisite: EN 220. This course introduces fundamental concepts in

electronics. Topics include diode, BJT, and FET circuits. It covers frequency response, biasing, current sources and mirrors, small-signal analysis, and design of operational amplifiers.

**CPEL 330 (1) Electronics Lab.** Co-requisite: CPE 330. Co-requisite: CPE 330. This laboratory course includes experiments that validate the concepts covered in CPE 330–Electronics. Experiments include diode circuits, BJT characteristics, FET characteristics, and MOSFET circuits.

**CPE 345 (3) Electromagnetic Fields.** Prerequisites: EN 252 and PHY 212. This course introduces fundamental concepts in electromagnetics and photonics. Concepts include flux, potential, gradient, divergence, curl, and field intensity. Topics cover boundary conditions, solutions to Laplace and Poisson equations, capacitance and inductance calculations, conductors, insulators, and magnetic materials.

**CPE 351 (3) Signals and Systems.** Prerequisites: EN 220 and EN 252. This course introduces theoretical analysis of signals and systems. Topics include time-domain response and convolution, Fourier transform, frequency-domain response using Fourier series, and Laplace transform, discrete Fourier series and transform, sampling, z-transform, and relationships between time and frequency descriptions.

**CPE 355 (3) Control Systems.** Prerequisite: CPE 351. This course introduces fundamental principles of classical feedback control. Topics include state variable analysis of linear dynamic systems, stability of linear control systems, time-domain analysis and control of linear systems, root-locus analysis and design-pole-zero synthesis, and frequency domain techniques for analysis and design of control systems.

**CPE 360 (3) Embedded Microprocessor Systems.** Prerequisite: CPE 312, EN 220; Co-requisite: CPE 330. This course covers the architecture, operation, and applications of microprocessors. Topics include microprocessor programming, address decoding, interface to memory, interfacing to parallel and serial input/output, interrupts, and direct memory access. Course project is to design, build, and program a simple microprocessor-based system.

**CPEL 360 (1) Microprocessor Laboratory.** Co-requisite: CPE 360. This laboratory course enables students to validate the major concepts covered in CPE 360–Embedded Microprocessor Systems. Experiments include building and/or

interfacing a microprocessor system.

**CPE 412 (3) Computer Architecture.** Prerequisite: CPE 312. This course covers computer architecture design issues. Topics include organization of CPU, processor systems design, computer arithmetic, memory system organization and architecture, interfacing and communication, performance, and multiprocessing.

**CPE 430 (3) Digital VLSI Design.** Prerequisite: EN 212 and CPE 330. This course introduces principles of the design and layout of Very Large Scale Integrated (VLSI) circuits with concentrations on the Complementary Metal-Oxide-Semiconductor (CMOS) technology. Topics include MOS transistor theory and CMOS technology, characterization and performance estimation of CMOS gates. Course projects involve layout designs and simulations using computer-aided design tools.

**CPE 431 (3) Digital System Testing and Design for Testability.** Prerequisites: CPE 330 and EN 212. This course introduces fundamental techniques for detecting defects in VLSI circuits. Topics include fault models, fault detection, and schemes for designing systems to be easily testable and with self-test capability.

**CPE 440 (3) Communication Systems.** Prerequisites: CPE 351 and MATH 307. This course introduces students to analog and digital modulation techniques. Topics include random processes, power spectral density, effects of noise, and bandwidth requirements of different modulation schemes.

**CPE 441 (3) Computer Networks.** Prerequisite: CPE 312. This course introduces students to network protocols and network architectures. Topics include characteristics and principles related to Wide Area Network (WAN), and network devices and their relationship with network protocols and architectures. It also provides methods for characterizing and analyzing communications systems performance.

**CPE 442 (3) Digital Communications.** Prerequisite: CPE 440. This course introduces the principles of transmission and reception of digital signals, and the design and performance analysis of digital receivers. Topics covered include pulse code modulation (PCM), line coding, modulation schemes, digital multiplexing, optimum detection thresholds, and analysis of communications system in presence of noise, information

theory, and error correcting codes.

**CPEL 442 (1) Digital Communications Laboratory.**

Co-requisite: CPE 442. This laboratory courses includes experiments that validate the concepts covered in CPE 442-Digital Communications. Experiments include modulation and demodulation of AM and FM signals, sampling, matched filtering, generation and detection of ASK, PSK, QPSK, and QAM signals, simulation, and analysis of a complete digital receiver.

**CPE 445 (3) Applied Electromagnetics.**

Prerequisite: CPE 345. This course introduces to the analysis wave propagations over free space as well as over transmission lines. Furthermore, it discusses the principles of operation and performances of antennas. Topics covered include plane wave propagation, analysis of wave propagation over transmission lines and wave guides, radiation and antennas, introduction to fiber optical and satellite communications.

**CPE 446 (3) Wireless Communications.** Prerequisite:

CPE 440. This course introduces students to signal transmission and reception in wireless communication systems. Topics include understanding of radio channel characteristics, cellular concept, multiple access methods, modulation techniques, diversity and error correcting codes for wireless systems and also wireless communication standards.

**CPE 447 (3) Telecommunications Switching and Transmission.** Prerequisite: CPE 440. The course

introduces students to the telecommunications standards and infrastructure which includes both the switching and transmission components. Topics covered include public switching network hierarchy, various switching methods, the digital transmission hierarchy, transmission media characteristics and applications, and switching and transmission technologies and standards (ATM, ISDN, etc.).

**CPE 451 (3) Digital Signal Processing.** Prerequisite:

CPE 351. This course introduces the theory and algorithms for processing deterministic and stochastic signals. Topics include discrete signals, linear filtering; Fast Fourier Transform, nonlinear filtering, spectrum estimation, linear prediction, adaptive filtering, and array signal processing.

**CPE 490S (3) Senior Design Projects I.** Prerequisite:

EN 220, CPE 330, and CPE 360. This course is based on group design projects. Students work in teams to develop proposals for their selected projects. Topics

include engineering professionalism, ethics, design methodology, project management, development of specifications, and evaluation of alternatives. Students make oral presentation and submit written reports on their proposed projects.

**CPE 491W (3) Senior Design Projects II.** Prerequisite:

CPE 490. In this course students complete the design projects proposed in CPE 490-Capstone Design I. Students perform the design synthesis, analysis, construction, testing, and evaluation of their team projects. Topics include safety, engineering professionalism, ethics, safety. Students make oral presentation and submit final reports documenting their results.

**CPE 492 (1 - 4) Special Studies in Computer**

**Engineering.** Prerequisites: Junior/Senior standing in Computer Engineering and consent of Chair. This course is based on individual projects and problems selected by instructors and individual students. It is open to juniors/seniors in computer engineering only. No more than four credit hours of CPE 492 can be applied towards the degree.

**CPE 493 (1 - 4) Special Topics in Computer**

**Engineering.** Prerequisites: Junior/Senior standing in Computer Engineering and consent of Chair. This course includes lectures on recent topics of special interests to students in various areas of computer engineering. It is designed to test new experimental courses in computer engineering. No more than four credits of CPE 493 can be applied toward the degree.

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**DEVELOPMENTAL ENGLISH**

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**Division of Undergraduate Studies**

**OFFICE: Charles F. Moore Building, 1st Floor**

**ENG 001 (3) Developmental English.** This course is designed to give intensive practice in the fundamental of grammar usage, sentence structure, mechanics and diction.

**ENG 002 (3) Intermediate English.** This course is designed to serve as a bridge course between ENG 001 and 104. Primary emphasis will be placed on paragraph writing.

**ENG 399 (3) Functional Writing.** This course is designed to help the student gain proficiency in thinking logically, writing intelligently and effectively. (For students who are not successful on the English Proficiency Examination.)

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## ENGLISH

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**Department of English and Modern Foreign Languages**  
**OFFICE: Dollye M. E. Robinson Building, 4th Floor**

**ENG 104 (3) Composition I.** This course is the first part of the two-semester freshman composition program and is designed to give intensive study and practice in writing themes. Emphasis is placed on grammar and mechanics, the sentence, the paragraph, and the essay.

**ENG 105 (3) Composition II.** Prerequisite: ENG 104. ENG 105 is a continuation of ENG 104 with emphasis on critical thinking and writing essays; writing the research paper, business letters, and resumes.

**ENG 111, 111X-Honors (3) Composition for the Language Arts Major.** An intensive course in the principles of rhetoric and composition with emphasis on the structure, organization and style of the various types of discourse: exposition, description, narration, and argumentation.

**ENG 112, 112X-Honors (3) Composition for the Liberal Arts Major.** Prerequisite: ENG 111. A continuation of ENG 111, with emphasis on the styles and types of writing reflected in literary genres.

**ENG 201 (3) Humanities I.** Man's achievements in literature, art and music from prehistoric times to the middle ages are studied in this course. Both western and nonwestern cultures will be included.

**ENG 202 (3) Humanities II.** Man's achievements in literature, art and music from the middle ages to modern times are studied, with attention to the gradual unification of world culture.

**ENG 205 (3) World Literature I.** Prerequisites: ENG 104, 105, or ENG 111, 112. A one-semester survey of classical literary masterpieces representative of the Ancient, Medieval, and Renaissance and Modern Periods. The course will assist the student in reading literary works with increased perceptiveness and understanding of the complex resources available to the imaginative writer for the representation of human experience and reality.

**ENG 206 (3) The Literature of Science I.** A one-semester survey of literature by scientists or about science which conveys scientific and literary values.

**ENG 207 (3) Literature of Science II.** A continuation of Literature of Science I, which surveys additional works by scientists or about science having both

literary and scientific value. A unit on the relationships between mathematics and the arts will be included.

**ENG 208 (3) The Law in Literature I: Humanities and Criminal Justice.** To gain knowledge of human applications of the law and their consequences through a study of fictional works from ancient times to the 20th Century.

**ENG 209 (3) The Law in Literature II: Humanities and Criminal Justice.** This course is a continuation of ENG 208.

**ENG 211 (3) Humanities for English and Mass Communication Majors.** A course that focuses on the ways in which human beings express their creativity through music, art, literature, dance, film, and other media. The student studies those expressions of man which best reveal how he has viewed himself over the centuries: his art, his music, his literature, ranging from social and political concepts to poetry and drama.

**ENG 212 (3) Humanities for English and Mass Communication Majors.** A continuation of ENG 211.

**ENG 213 (3) Professional Writing.** A course designed for those students of varied academic backgrounds and occupational interests whose jobs or careers will, or already do, require specific writing skills. Since many of the types of writing are not taught in basic composition courses, this course offers students opportunities to enhance these particular skills, thereby providing them with on the job experience that would not ordinarily be gained in regular composition courses offered at Jackson State University.

**ENG 216 (3) Survey of the Elements of Fiction.** A one semester course dealing with the elements of fiction with specific emphasis on the analysis of the elements.

**ENG 218 (3) Advanced Composition.** This course is designed to help students master the basic forms of writing appropriate to each level of discourse.

**ENG 219 (3) Classical Mythology.** A course designed to gain knowledge of Greek and Roman myths and what they symbolize in the contemporary world.

**ENG 222 (3) World Literature II.** A one-semester survey of literary masterpieces representative of the Enlightenment, Romantic, Realist, and Modernist traditions. The course is designed to serve as a direct although optional continuation of ENG 205.

**ENG 223 (3) Practical Rhetoric.** Practical Rhetoric is a course in effective writing the disciplines. While the course reinforces the writing skills students have already learned, it is concentrated largely on learning to apply the modes of discourse-exposition, description, narration, and persuasion—to issues, problems, and concerns related to one's discipline. Attention is also given to writing summaries, syntheses, and critiques.

**ENG 228 (3) English Word Power.** Building English vocabulary from a knowledge of Latin and Greek roots.

**ENG 303 (3) Grammar and Composition.** A study of the structural, functional, and rhetorical aspects of composition. Linguistic concepts will be discussed. Articles on applied linguistics will be reviewed, and language will be presented from an objective structural point of view.

**ENG 313 (3) Seminar on Learning Strategies.** A course designed to improve student's performance on standardized tests.

**ENG 315 (3) Women in Literature.** Women in Literature is a study of various portraits and delineations in literature showing both problems and progress of women. Male and female authors will be studied with particular emphasis given to a study of works by female writers. The course is multi-ethnic and multi-cultural in its approach. It is open to all students as an elective.

**ENG 316 (3) Adolescent and Young Adult Literature.** The course is designed to give students an overview of books and related materials suitable for adolescent and young adult readers. This course will investigate various issues in adolescent and young adult literature theory, teaching resources, and effective pedagogy.

**ENG 319, 320 (3) (3) Survey of English Literature.** A two-semester course designed to acquaint the student with the masterpieces of English Literature and with the various intellectual and literary movements (ENG 319–Beowulf to Pope; ENG 320–Johnson to contemporary writers).

**ENG 321 (3) Survey of American Literature (1600–1865).** Prerequisites: ENG 205, English Option. A general survey of American Literature and the Literary and intellectual movements from Colonial days to the Civil War. Writers from Smith to Whitman are studied.

**ENG 322 (3) Survey of Recent American Literature (1865 to present).** A survey of American Literature from the Civil War to the present.

**ENG 330 (3) Syntax.** The study of principles by which words are combined to form grammatical sentences. Discussions of constituent structure, transformation, grammatical category, and lexicon.

**ENG 331 (3) Introduction to Linguistics.** An introduction to major linguistic theories, including the transformational-generative theory. Illustrations will be drawn from modern languages with their phonological, syntactic, and semantic components.

**ENG 332 (3) The English Language.** The origins and development of the English language, with stress on the problem of change. The relationship of English orthography to pronunciation will be discussed.

**ENG 335, 336 (3) (3) Creative Writing.** A laboratory of imaginative writing emphasizing composition for students interested and talented in creative writing. Hours and credits to be arranged by instructor.

**ENG 401 (3) Language Arts in Elementary School.**

All phases of an effective language arts program in the elementary school curriculum are examined.

**ENG 402 (3) Language Arts in Secondary Schools.** This course examines exploratory and systematic approaches to teaching the language arts in the high school in order to give prospective teachers alternate approaches to teaching language arts.

**ENG 403 (3) Linguistics and the Teaching of English.**

This course is designed to equip students with a general background of linguistic theory and orientate them to the most effective methods for teaching the expressive arts.

**ENG 404 (3) Richard Wright: Art and Protest in Twentieth Century Black Prose and Fiction.** A study of the major works of Richard Wright, his career as a bridge between the Harlem Renaissance and the Black Arts Movement, and as a major figure in literary criticism and art as protest.

**ENG 405 (3) Margaret Walker: Art and Protest in Twentieth Century Black Poetry and Fiction.** A study of the major works of Margaret Walker, her career as a bridge between the Harlem Renaissance and the Black Arts Movement, and as a major figure in literary criticism, humanism, and feminism.

**ENG 415 (3) The English Novel.** The development of the novel from the works of Richardson to the present.

**ENG 416 (3) The American Novel.** Puritan, Romantic, Naturalistic, and Realistic traditions in the American novel from its origin to the present.

**ENG 418, 419 (3) (3) Survey of Literature Black Authors.** A two-semester course that treats selected works by African American authors.

**ENG 420 (3) Survey of Literature Black Authors.** A study of English Literature up to 1500. Beowulf, Sir Gawain and the Green Knight, and The Pearl will be read in translation. The works of Malory and Chaucer will be read in the original Middle English.

**ENG 421 (3) Chaucer.** This course centers on Chaucer's Literary achievement and merit and on treatment of the Prologue to the Canterbury Tales, selected Tales, and selections from his shorter works.

**ENG 422 (3) Renaissance Literature.** English Literature from 1500 to 1649, excluding the works of Shakespeare and Milton.

**ENG 423, 429 (3) (3) Comedies and Tragedies of Shakespeare.** A study of the major comedies, histories, and tragedies. Tragedies and comedies alternate per semester. Comedies–Summer; Tragedies–Fall. Students can earn a total of six (6) hours of credit. (See ENG 429.)

**ENG 424 (3) Milton.** The major poetry and selected prose within the context of the historical and literary background of the period.

**ENG 425 (3) Restoration and Neo-Classic Literature.** A study of English Literature from 1660 to 1798 emphasizing the historical, rational, critical, and philosophical trends.

**ENG 426 (3) The English Romantic Movement.** Primarily the works of Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats as they express the literary trends of the age.

**ENG 427 (3) Dramatic Literature of England (1581-1640).** A study of the drama of the period, exclusive of Shakespeare.

**ENG 428 (3) The Victorian Period.** An intensive survey of literature of the period, especially of the poets and essayists.

**ENG 429 (3) Tragedies of Shakespeare.** Study of the major tragedies, including historical tragedies of Shakespeare. Tragedies and comedies alternate per session: Comedies–Summer; Tragedies–Fall. Students can earn a total of six (6) hours of credit. (See ENG 423.)

**ENG 430 (3) Classical and World Literature.** Studies in translation of outstanding literary models throughout the world.

**ENG 431 (3) Modern and Contemporary World Literature.** The study of worldwide literature and literary trends in relationship to social aspects of today's world.

**ENG 432 (3) American Renaissance Literature.** Selected works of Emerson, Thoreau, Hawthorne, Melville, Poe, Whitman, and Dickinson.

**ENG 433 (3) American Drama.** The development of American theatrical writing since the First World War.

**ENG 434 (3) Twentieth-Century American Fiction.** Major writers of the period.

**ENG 435 (3) Twentieth-Century American Poetry.** The study of contemporary American poets.

**ENG 436 (3) Principles of Literary Criticism.** The study of basic principles of literary evaluation in the light of major critical theories from Plato to Deconstruction.

**ENG 440 (3) Independent Study (Honors Course).** Intense reading and writing of a long investigative paper in a specific area of American or English Literature under the direction of a specialist in that area, by permission of department head.

**ENG 445 (3) Sociolinguistics.** This course intends to promote awareness of various language patterns in the oral and written language of individuals from multi-ethnic backgrounds.

**ENG 452 (3) Comparative Literature.** Comparative studies of great authors, genres, and periods.

**ENG 495 (3) Senior Seminar in English.** A research course designed to have majors think through what they have learned in their discipline, to share their knowledge with one another and the faculty, and to expand their knowledge of the field both in depth and breadth.



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## PRE-ENGINEERING

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**Department of Technology**  
**OFFICE: J. Y. Woodard Building**

**ETD 361 (4) Statics.** Prerequisite: MATH 112. Force systems, moments of force, couples, equilibrium, moments of area, load diagrams, graphic and analytical methods.

**ETD 362 (4) Material Mechanics.** Prerequisites: ETD 361, and MATH 232. Stress, strain, elastic constants, deflection, indeterminant loading, torsion, bending, instability and fatigue.

**ETD 366 (4) Pre-Engineering Statics.** Prerequisite: MATH 231. Concurrent force systems, moments of force, couples, equilibrium, moments of area, and load diagrams.

**ETD 367 (4) Pre-Engineering Material Mechanics.** Prerequisites: ETD 366, and MATH 232. Stress, strain, elastic constants, deflection, indeterminant loading, torsion, bending, instability.

**ETD 368 (4) Pre-Engineering Dynamics.** Prerequisites: ETD 366, and MATH 232. Kinematics and Kinetics of rigid body motion, graphic and analytic solutions, linkages, gears, cams.

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## FINANCE AND GENERAL BUSINESS

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**Department of Economics, Finance and General Business**

**OFFICE: College of Business Building**

### Finance

**FIN 317 (3) Principles of Insurance.** Prerequisite: Junior classification. This course covers the theory of insurance and risks shifting, and current insurance practices. We also examine personal and business insurance coverage, and the significance or various insurance related contract clauses. (F, S)

**FIN 320 (3) Business Finance.** Prerequisite: ACC 212. This course acquaints students with business organizational forms, financial statement analysis, capital budgeting, time value of money, international finance, and ethics. (F, S, Sum)

**FIN 443 (3) Financial Management.** Prerequisites: FIN 320. This course is a study of capital budgeting, risk analysis and valuation, cost of capital, leasing, reorganization, capital structure, and dividend policy. (F, S)

**FIN 446 (3) Commercial Banking.** Prerequisites: FIN 320. This course considers the theory of commercial banking's affect on the money supply and national income. Emphasis is placed on the concept of asset management, the relationship of asset management to liquidity and profitability, and commercial banking and the nation's credit structure. (F, S)

**FIN 447W (3) Investments.** Prerequisite: FIN 320. This course covers alternative investment analysis, securities markets, valuation of securities, capital market theory, and aggregate stock market analysis. (F, S)

**FIN 450 (3) Financial Institutions.** Prerequisite: FIN 320. This course is a study of financial institutions and markets. Students will be exposed to historical factors that led to the development of major financial institutions and the impact of legislation on financial institutions. The importance of intermediation will be stressed along with the theory of interest rates, and regulatory issues. (F, S)

**FIN 451 (3) Portfolio Theory.** Prerequisite: FIN 447. This course is a study of the theory underlying the management of portfolios consisting of securities and other assets, the measurement of risk and return, utility analysis, the construction of portfolios, and the evaluation of portfolio performance, international diversification, and the legal and ethical responsibilities of financial planners. (F, S)

**FIN 452 (3) International Finance.** Prerequisite: FIN 320. This course considers financial decision making involving the transfer of funds across national boundaries. A multi-dimensional approach is used in examining terms of trade, the international monetary system, foreign exchange markets, international financial markets and portfolio diversification, import and export financing, theory of comparative advantage, and global issues. (F)

### General Business

**GB 201 (3) Introduction to the Legal Aspects of Business.** This course provides an overview of the legal foundations of American society, and its court system. Emphasis is placed on examining the application of laws to the business community, the legal structure and operation of business organizations, and the affect of government regulations on business activity. Business ethics is also covered. (F, S, Sum)

**GB 302 (3) Business Law.** Prerequisite: GB 201. This course is an in-depth review of the law of contracts,

i.e., formation, operation, discharge, and legal and equitable remedies. It examines Articles 2, 3, 4, and 9 of the Uniform Commercial Code (UCC): Sales Contracts, Negotiable Instruments, Bank/Customer Relations and Electronic Funds Transfers. It also covers a review of individual and business organizations bankruptcy relief. (F, S, Sum)

**GB 318 (3) Principles of Real Estate.** This course surveys the rights and duties involved with real property ownership. The class is divided into three components: fundamental concepts of property rights and the law; principles of real estate and business practices involved in real estate transactions and finance; and third, the professional duties and responsibilities of the real estate brokerage profession. (F, S)

**GB 350 (3) Real Estate Sales.** This course covers the theoretical and practical guidelines in selling real estate through advertising, personal contact and sales techniques. A combination of theory and practical application are used to enhance the student's ability to successfully compete in real estate sales without a long period of on-the-job training. (D)

**GB 418 (3) Introduction to Commercial/Industrial Real Estate.** Prerequisite: FIN 318. This course is designed to acquaint the student with all types of commercial and industrial real estate from raw, undeveloped land to multi-story office buildings. The effect of zoning and other regulations, utilities, location and function are analyzed along with design and aesthetic qualities. (D)

**GB 440 (3) Business Research.** Prerequisite: ECO 359. This course considers research design and methodologies applicable to business problems. The class also focuses on the analytical and mathematical foundation to methodologies covered. Use of statistical software is required. (D)

**GB 448 (3) The Influence of Government on Business.** Prerequisite: GB 301. This course focuses the relationship between the governmental sector and non-governmental sectors of the economy. Topics covered typically pertain to the legal environment, legislation, and/or regulations governing business organizations. (D)

**GB 453 (3) Real Estate Appraisal.** This course examines the nature of real property value and the functions and methods of estimating value with emphasis on residential market value, and covers the Uniform Standards of Professional Appraisal Practices. (D)

**GB 455 (3) Real Estate Property Management.** This course involves practical training for real estate salespersons, brokers and others in the management of income-producing real property in organizations, leases, contracts, merchandising, tenant selection, relations with owners and tenants, collections maintenance, accounting ethics, and legal and professional relationships. (D)

**GB 456 (3) Real Estate Brokerage Management.** This course covers the organizing, planning, and running of a real estate office (sales) and is designed for the person who wants to open his/her own office or become a real estate sales manager. Human relationships and organizational theory involved with motivational techniques are examined. (D)

**GB 457 (3) Real Estate Law.** This course is a study of the principles of laws governing real estate including acquisitions, encumbrances, transfer rights and obligations of parties and state and federal regulations thereof. (D)

**GB 458 (3) Real Estate Financing.** This course is a study of the institutions involved in real estate financing; and the procedures and techniques requisite to the analysis of risks involved in financing real estate transactions, and an examination of the terminology and instruments used in financing and taxing real property. (D)

**GB 460 (3) Co-op/Independent Study.** Prerequisite: Junior standing and the permission of the department chair. This course is designed for the student who desires work experience to relate to his conceptual background in business theories or for the student who wishes to research a topic that is not currently being offered in the curriculum. (D)

**GB 461 (3) Co-op/Independent Study.** Prerequisite: GB 460, senior standing, and the permission of the department chair. This course is a follow-up to GB 460 for the student who desires additional work experience or for the student who wishes to research a second topic that is not currently being offered in the curriculum. (D)

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## FOREIGN LANGUAGES

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**Department of English and Modern Foreign Languages  
OFFICE: Dollye M. E. Robinson Building**

**FLG 455 (3-6) Travel/Study Course in Languages and Culture.** Supervised travel to a foreign country prepared for with the completion of an independent

study reading list. The student will enroll in this course the semester before the two-week period scheduled for the trip, and at that time the student will be given a reading list from which he/she will prepare for an examination. A total of six credits will be received for passing the examination and taking the trip; three credits for passing the examination.

**FLG 460 (1-6) Special Studies in Modern Foreign Languages.** A course designed to adapt to almost any problem posed by a student whose needs cannot be filled by the existing arrangement of course titles and credit hours. Subjects can include study of language, literature, or culture with emphasis on either oral, reading, or written aspects. Senior standing preferred.

**FR 252 (1) French for Scientists/Technologies.** (Mini-course). Condensed study of linguistic structures. Exercises and reading of selections in: mechanical, electrical, and civil engineering; chemistry, biology; physics; health-related sciences. Designed principally for the community.

**FR 254 (1) French for Business Careers.** (Mini-course). Vocabulary, phraseology and sentence structure of business organization; transactions; money and legal matters; business letters; inquiry and information; application and references. Exercises and readings. Designed principally for the community.

**SP 250W (1) Spanish for Travelers.** (Mini-course). A course tailored to the needs of those Mississippians who plan to travel to Spain and/or Latin America. Emphasis will be given to expressions and vocabulary necessary for passing through customs, registering in a hotel, ordering meals, and asking directions. Designed for the community.

**SP 254W (1) Spanish for Businessmen.** To acquaint businessmen with the vocabulary, office procedures, and customs of the Spanish-speaking business world. Proper pronunciation will be stressed to facilitate communication. Designed for the community.

**SP 256W (1) Spanish for Industry.** This course is designed to acquaint the trained technologist with the possible uses of the many technical manuals available in Spanish. Stress will be placed on developing facility in the use of these manuals to promote communication with industrialists and technologists of the Spanish-speaking world. Designed for the community.

**SP 258W (1) Spanish for Health-related Professions.** To acquaint the professional in the areas related to health with various manuals available to communicate with the Spanish-speaking patient. Proper pronunciation of the materials in these manuals will be stressed so that communication with the patient will not be impeded. Designed for the community.

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## CHINESE

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**Department of English and Modern Foreign Languages  
OFFICE: Dollye M. E. Robinson Building**

**CH 101, 102 (3) (3) Elementary Mandarin Chinese.** An introduction to the essentials of the language. Training in the four skills of listening, speaking, reading, and writing in the Mandarin Chinese language. May not be taken by native speakers.

**CH 201(3) Intermediate Chinese.** Prerequisites: CH 101 and 102. This course adopts multi-learning approaches to lead students to further their study of Chinese in the basic language skills of listening, speaking, reading, and composition. It goes beyond the basic grammar rules and exposes students to more authentic cultural contexts by assisting them in achieving successful communication (i.e., Skype with native Chinese language partners). May not be taken by native speakers.

**CH 202 (3) Intermediate Chinese.** Prerequisites: CH 101, 102, 201, or equivalent. Continuation of CH 201. May not be taken by native speakers.

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## FRENCH

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**Department of English and Modern Foreign Languages  
OFFICE: Dollye M. E. Robinson Building**

**FR 101, 102 (3) (3) Elementary French.** An introduction to French. Essentials of the language. Training in the four skills of listening, speaking, reading, and writing in the French language. May not be taken by native speakers.

**FR 201 (3) Intermediate French.** Prerequisites: FR 101, 102 or equivalent. Review of essentials. Reading of appropriate texts and analysis and discussion emphasizing content and grammar. Conducted mainly in French. May not be taken by native speakers. May be used to satisfy 3rd or 4th semester departmental requirement.

**FR 202 (3) Intermediate French.** Prerequisites: FR 101, 102, 201 or equivalent. Continuation of FR 201.

May not be taken by native speakers. May be used to satisfy the 4th semester departmental requirement.

**FR 213 (3) French Phonetic and Reading.** Prerequisites: Intermediate option, FR 201 or equivalent. Scientific study of the sounds and pronunciation of the French language using the International Phonetics Alphabet (IPA) as a foundation.

**FR 230, 231 (3) (3) French Civilization Studies.** Emphasis on French history, philosophy, sociology, politics, cultural and social institutions, and, to a limited degree, literature. Taught in English and open to the general study body.

**FR 311 (3) Survey of French Literature.** Prerequisites: FR 201 and 202. A general outline course in the history of French literature from the Middle Ages to the end of the 18th Century.

**FR 312 (3) Survey of French Literature.** Prerequisites: FR 201 and 202. A general outline course in the history of French literature from the beginning of the 19th Century to the present.

**FR 321 (3) Composition and Conversation.** Prerequisites: Any 6 hours of Intermediate options or equivalent. Exercises in speaking, comprehension, and composition. May not be taken by native speakers.

**FR 322 (3) Composition and Conversation.** Prerequisite: FR 321. A continuation of FR 321. May not be taken by native speakers.

**FR 401 (3) Methods of Teaching Modern Foreign Languages.** A course designed to treat the principles, problems and materials involved in the teaching of French and other foreign languages on the secondary level. Required of foreign language majors with senior standing who follow teaching program.

**FR 421, 422 (3) (3) Advanced Topics for Conversation.** Prerequisite: FR 321, 322 or equivalent. Intensive practice in oral French using topics of culture, civilization, politics, and economics of the French-speaking world. May not be taken by native speakers.

**FR 425, 426 (3) (3) French Structural Review I and II.** Prerequisites: Any 6 hours of intermediate options. Development of written skills through grammatical and stylistic drills; guided and original compositions. Individual corrections.

**FR 430, 431 (3) (3) Advanced French Civilizational Studies.** Prerequisites: FR 230 and 231. Advanced studies of the political, cultural, social, literary, and philosophical background of French Civilization. Taught in French with emphasis on in-depth study and research. Course countries may be adapted to student needs and interests.

**FR 441 (3) Medieval and Renaissance French Literature.** Prerequisites: FR 230 and 231. Study of the origins of French literature, from courtly romances through lyric poetry, culminating with an examination of the humanistic literature of the French Renaissance. Discussions, reports, tests, papers.

**FR 443 (3) Seventeenth-Century French Literature.** Prerequisites: FR 230 and 231. An examination of artistic and social writings, of baroque and classical literary figures such as Corneille, Moliere, Racine, La Fontaine, Descartes, Pascal, Mme de LaFayette, La Bruyere, and La Rochefoucauld. Discussions, reports, tests, papers.

**FR 444 (3) The Classic Theater.** Prerequisites: FR 230 and 231. A study of representative plays of Corneille, Racine, and Moliere. Discussions, reports, tests, papers.

**FR 445 (3) Eighteenth-Century French Literature.** Prerequisites: FR 230 and 231. Representative works of Montesquieu, Voltaire, Diderot, and Rousseau. Discussions, reports, tests, papers.

**FR 447 (3) Nineteenth-Century French Literature.** Prerequisites: FR 230 and 231. Selected works of prose, poetry, and drama from the writers of the first half of the 19th Century. Discussions, reports, tests, papers.

**FR 448 (3) Nineteenth-Century French Literature.** Prerequisites: FR 230 and 231. Selected works of poetry and drama from the writers of the second half of the 19th Century. Discussions, reports, tests, papers.

**FR 449 (3) Twentieth-Century French Literature.** Prerequisites: FR 230 and 231. A study of the writers and dominant literary currents from 1900 to the 1950s. Discussions, reports, tests, papers.

**FR 450 (3) Twentieth-Century French Literature.** Prerequisites: FR 230 and 231. A continuation of FR 449, covering literary works during and after the 1950s. Discussions, reports, tests, papers.

**FR 451 (3) The Negritude Literary Movement.**

Prerequisites: Any 6 hours of Intermediate options. An introductory seminar on Black Authors of French Expression from French-speaking Africa, Haiti, the Antillean Islands and the Malagasy Republic. Discussions, reports, tests, papers.

**FR 452 (3) The Novel in Afro-French Literature.**

Prerequisites: Any 6 hours of Intermediate options. An examination of novels written in French by Black authors from Africa, Haiti, the Antillean Islands, and the Malagasy Republic. Discussions, reports, test, papers.

**FR 454 (3) Poetry in Afro-French Literature.**

Prerequisites: Any 6 hours of Intermediate options. An examination of the poetry written in French by Black authors from Africa, Haiti, the Antillean Islands, and the Malagasy Republic. Discussions, reports, test, papers.

**FR 464, 465 (3) (3) Honors Course in French.**

Prerequisites: Departmental approval and a 3.00 average in French. Topics vary yearly, depending on needs and desires of students.

**FR 480 (3) Independent Study.** Prerequisite: Departmental approval. Special reading assignments, investigative paper, or research project in a specific area of French literature, philosophy or culture directed by a specialist in that area.

**FR 499 (3) Senior Seminar.** Prerequisites: Departmental approval and senior status. The primary purpose of this course is to interrelate all areas covered in French during the first three years of study of the language, literature and culture.

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**GEOGRAPHY**

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**Department of History and Philosophy**  
**OFFICE: Dollye M. E. Robinson Building, Room #358**

**GEOG 103 (3) Introduction to Physical Geography.**

Knowledge of basic concepts and techniques in studying the physical features of the earth.

**GEOG 105 (3) Introduction to Cultural Geography.**

Knowledge of the basic concepts characterizing each culture with emphasis on past population and global problems; patterns and spatial aspects of fertility and mortality; migration; social customs on the landscape; and urban patterns. Students are required to do two cultural field based projects.

**GEOG 209 (3) World Regional Geography.** Study of the different geographical regions of the world consisting of early settlement; people and economic development; physical environment; resources; and future. This class is a lecture-lab. Students are required to do lab activities in class, the library, and community field based as well.

**GEOG 210 (3) Economic Geography.** Analysis of the interrelationship of economics and geography, with emphasis on international economic activity.

**GEOG 211 (3) Population Geography.** Analysis of population trends and the geographical conditions necessary to support certain types of populations.

**GEOG 212 (3) Transportation Geography.** Analysis of the role of geography in the volume and types of transportation characteristics of certain areas.

**GEOG 224 (3) Aerial Photo Interpretation.** An introduction to the techniques of interpreting data from aerial photographs and other remotely sensed media of geographic information.

**GEOG 251 (3) Climatology.** An introductory study of the characteristics and causes of climatic conditions and changes.

**GEOG 315 (3) Conservation of Natural Resources.** Exploration of ways to conserve natural resources as well as the need for such.

**GEOG 321 (3) Field Methods in Geography.** Acquaintance with techniques utilized by geographers in field study.

**GEOG 322 (3) Social Geography.** The study of the geographic factors and characteristics that affect the spatial distribution of various social groups with emphasis on North America.

**GEOG 323 (3) Introduction to Geographic Research.** Introduction to the essential methods and processes involved in geographic research.

**GEOG 324 (3) Introduction to Cartography.** Introduction to the essential methods and processes involved in geographic research.

**GEOG 325 (3) Political Geography.** Analysis of the interrelationship of politics and geography, with emphasis on political nation-states, as affected by geography.

**GEOG 326 (3) Urban Geography.** Examination of the

role that geography plays in helping one understand the nature and development of urban areas.

**GEOG 391 (3) Geography of Anglo America.** Study of the characteristics of Anglo-America and its geographic development.

**GEOG 396 (3) Geography of the South.** Study of the physical and political characteristics of the South.

**GEOG 421 (3) Remote Sensing Applications.** Deals with techniques for measuring the earth's physical, biological, and cultural resources from a few feet to thousands of miles.

**GEOG 425 (3) Geography of Africa.** Study of the human, biotic, and physical elements of Africa.

**GEOG 433 (3) Geography of Latin America.** Examination of the geographical characteristics of Latin America.

**GEOG 449 (3) Geography of Asia.** Exploration of the continent of Asia as a geographical region.

**GEOG 452 (3) History and Development of Geographical Thought.** Traces the development of geographical thought and the discipline from Ancient Egypt to the present.

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## GENERAL STUDIES

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### Division of Undergraduate Studies

**OFFICE: Charles F. Moore Building, 1st Floor**

**GNST 100 Learning Skills Lab.** This course is designed for students enrolled in the Summer Developmental Program. Emphasis is placed on English, math and reading skills along with study skills and other academic and social activities at the university.

**GNST 101 Academic Support I.** This course is designed to assist conditionally admitted, as well as other volunteer students with their freshman courses. The goal of this course is to provide individualized support for "marginally" prepared students in regular academic credit courses.

**GNST 102 Academic Support II.** This course is the second part of the year-long academic program which is designed to continue to offer individualized support for "marginally" prepared students in regular academic credit courses. Emphasis is placed on study

skills, learning to learn strategies and lifelong skills.

**GNST 103 (1) First-Year Writing Seminar.** This seminar focuses on the academic strategies, resource knowledge, and social networking necessary for freshmen to make a successful transition to college life., this course is taken in conjunction with Intermediate English 002. In this course, students practice processes appropriate for college writing and reading, identifying rhetorical contexts (audiences and purposes) common in academic discourse and writing about personal experiences as well as academic readings. By writing and revising several essays, students refine their pre-writing, drafting and revising strategies to produce focused and detailed papers.

**GNST 104 (1) First-Year Reading Seminar.** This seminar focuses on topics and strategies in reading comprehension designed for first-time freshmen on the university level. The seminar in reading plays a central role in the development of the learning communities and meets the requirements of the Freshman First-Year Program. The seminar is designed to assist students in enhancing various intellectual skills necessary for a successful first-year program at Jackson State University.

**GNST 105 (1) First-Year Mathematics Seminar.** This seminar is designed to show the undergraduate community at Jackson State University some fascinating and exciting sides of mathematics. The seminar is taught by faculty members and support staff who have an interest in freshman education. The seminar does not follow a structured classroom format, but it will provide an opportunity for students to become involved in experiences that broaden the subject of mathematics.

**GNST 200 (2) Learning to Learn.** This course is designed to give students a chance to put failure in perspective and take charge of their future. It will assist students in determining what obstacles are interfering with their learning, in overcoming their problems and in gaining self-confidence and self-determination. (For students on probation.)

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## GERMAN

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**Department of English and Modern Foreign Languages**  
**OFFICE: Dollye M. E. Robinson Building**

**GR 101, 102 (3) (3) Elementary German. An introduction to German.** Essentials of the language. Training in the four skills of listening, speaking, reading,



and writing in the German language. May not be taken by native speakers.

**GR 201 (3) Intermediate German.** Prerequisites: GR 101, 102 or equivalent. Review of essentials. Reading of appropriate texts and analysis and discussion emphasizing content and grammar. Conducted mainly in German. May not be taken by native speakers. May be used to satisfy 3rd or 4th semester departmental requirement.

**GR 202 (3) Intermediate German.** Prerequisites: GR 101, 102, 201, or equivalent. Continuation of GR 201. May not be taken by native speakers. May be used to satisfy 4th semester departmental requirement.

**GR 203 (3) Scientific German.** Prerequisites: GR 101, 102, or equivalent. Open only to students concentrating or preparing to concentrate in one of the natural sciences. Selected readings in scientific German designed to develop a technical vocabulary facility for reading materials in various sciences. May satisfy 3 hours of a Natural Science departmental requirement.

**GR 204 (3) Intermediate German Conversation.** Prerequisites: GR 101, 102 or equivalent. Emphasis on the spoken aspects of German. May not be taken by native speakers. May be used to satisfy 3rd or 4th semester departmental requirements.

**GR 205 (3) Intermediate German: Culture and Civilization.** Prerequisites: GR 101, 102 or equivalent. Emphasis on cultural highlights of Germany. Readings, discussions, slides, media presentations. May not be taken by native speakers. May be used to satisfy 3rd or 4th semester departmental requirements.

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## **GUIDANCE AND COUNSELING**

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**Department of School, Community and Rehabilitation Counseling**

**OFFICE: Joseph H. Jackson Building**

**GUID 100 (2) Concepts for Success in College.** A course designed to assist freshmen in their adjustment to college life and in exploring career options.

**COUN 315 (3) Human Growth and Development.** This course is designed to provide pre-service education majors with a broad overview of processes, patterns, and influences on human development and learning from birth through adolescence. Special emphasis will be placed on (1) cognitive, social-emotional and physical

development during the early childhood, middle childhood and adolescent years; and (2) cultural and ecological influences on the developing child such as the family, the school, and the peer group. Particular emphasis will be placed on the role of learning throughout the developmental process. (F, S, Sum)

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## **HEALTHCARE ADMINISTRATION**

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**Department of Health Policy and Management**  
**OFFICE: Jackson Medical Mall**

**HCA 300 (3) Healthcare Administration Practicum.**

The first in a series of two that allows students to apply learned theories and concepts in a work situation. Sites to be considered for placement will include, but not limited to hospitals, long-term care facilities, ambulatory centers, managed care organizations, mental health centers, community health centers, medical group practice, health insurance companies, rehabilitation centers, and government health agencies.

**HCA 301 (3) Introduction to Healthcare Organizations.**

An overview of the healthcare delivery systems in the United States. It is designed to familiarize beginning healthcare administration students with social, political, economic, demographic, cultural, financial, and technological forces that shape the organization, structure, and operation of the United States healthcare system.

**HCA 303 (3) Medical and Administrative Terminology.**

This course is designed to study the basic and administrative medical language skills and essential concepts of management science applied in healthcare organizations.

**HCA 310 (3) Health Economics and Payer Systems.**

This course is designed to acquaint students with the application of micro-economics to the health sector. Topics covered will include concepts and measures of health, markets for medical and hospital care, health insurance, financing of healthcare, demands for healthcare, physician supply, cost efficiency, cost effectiveness, and cost benefit analysis.

**HCA 311 (3) Public Health and Epidemiology.** This course is concerned with the modern organization, philosophy and objectives of public health policies and practices. This course examines methods, information, and determinants of health status involved in applications of epidemiology to control the health problems of community populations.

**HCA 320 (3) Healthcare services Management.** This course introduces students to modern management concepts, tools, and techniques in healthcare administration, and to practical applications of management theory in health services organizations. Topics covered will include: (a) the ethical, legal and technological aspects of healthcare administration; (b) motivational theories and leadership and managerial styles; (c) strategic planning and marketing; (d) problem-solving, decision-making, and conflict resolution strategies; (e) organizational communication; (f) human resources management; and (g) labor relations.

**HCA 334 (3) Organization and Personal Health Behavior.** This course studies human health behavior from the interrelated perspective of individuals who need and seek medical attention and the professionals who provide these services in healthcare settings. The patient focus concerns the social determinants of health status and personal management of risks affecting it, while professional considerations examine the behavioral roles and relationships that contribute to managing organizational performance, culture, conflict, design and change.

**HCA 340 (3) Healthcare Administration of Ambulatory Services.** This course examines the organizational characteristics and management requirements of the diverse range of ambulatory healthcare setting, including emergency departments, primary care centers, attached and free-standing outpatient service units, physician office practices, and other such non-inpatient diagnostics, surgical, and rehabilitation facilities. Of special interest is the exploration of both general and distinct administrative competencies and practices that are essential for professional managers of these ambulatory-based services.

**HCA 352 (3) Human Resource Management in Healthcare.** Human resources are the most valuable elements of any organization, especially in the healthcare industry. It is management's responsibility to implement and coordinate a total human resource system—composed of work force planning, recruitment and selection, placement, and retention—to ensure that the health service organization is properly staffed.

**HCA 365 (3) Hospital Acute Care Administration.** Major teaching hospitals (academic medical centers), short-term general community hospitals, community hospitals, long-term care hospitals, rehabilitation hospitals, military and Veteran Administration hospitals, psychiatric hospitals, and women and children's hospitals, are all licensed as institutions

offering acute medical care. Among these various types of facilities are vast differences in their characteristics and the different needs of people served. This course explores these various institutional distinctions of organizational design, service goals, and professional cultures.

**HCA 380 (3) Statistics for Health Services.** This course studies basic biomedical public health and administrative statistical measurement techniques to test hypotheses, confirm correlations and interpret health information for management, clinical, and organization decision purposes.

**HCA 381 (3) Long-term and Mental Healthcare Administration.** This course is designed to provide students with a basic overview of the long-term care continuum, including nursing homes, mental health systems, and non-institutional alternatives such as home health agencies, adult day care centers, and retirement homes. The long-term care needs of the elderly and the mentally ill concomitantly with the public policy responses to their needs will be examined.

**HCA 384 (3) Healthcare Policy and Politics.** This course is an overview of healthcare policy in the United States. It is designed along four major themes: (1) a historical and socio-political analysis of the relationship of government and health; (2) an exploration of health policy and the political structure; (3) an examination of the role of interest groups and public opinion in health policy; and (4) health policy and the political process.

**HCA 400 (3) Healthcare Administration Internship.** The second in a two-sequence series of administrative internships for healthcare administration students. The course is designed to allow students to apply learned theories and concepts in a work situation. Placement sites will include, but not be limited to, hospitals, long-term care facilities, ambulatory care centers, managed care organizations, mental health centers, community health centers, medical group practice, health insurance companies, rehabilitation centers, and public health agencies.

**HCA 402 (3) Healthcare Planning and Marketing.** This course is designed to provide students with an overview of the strategic planning processes used by healthcare organizations. Methods and practices of determining market demands and resource requirements for health services development are explained.

**HCA 410 (3) Integrated Seminar for Strategic Management.** Prerequisite: All other courses.

A senior culminating seminar provides a comprehensive “capstone” or integrative study for students concluding the HCA curriculum. It is intended to draw upon all dimensions of course work to review and apply the learning derived from previous studies towards solutions and reforms in contemporary health issues, policy questions, professional practices and administrative challenges. Case and literature studies, guest seminar leaders, internship reports and experiences, and individual student problem-solving applications provide the focus of weekly topics investigated.

**HCA 420 (3) Administrative Law and Ethics in Healthcare.**

This course is an exploration of the legal issues and professional management ethics related to providers and consumers of health services. Emphasis is placed on application of legal doctrines in the healthcare settings and the administrative implications of health related legislation and programs. Study topics include negligence, liability, medical malpractice, labor law, informed consent, and related patient care protective rights.

**HCA 431 (3) Health Professional Career Development Seminar.**

This is a professional development course designed to socialize and familiarize the student with the historical background and trends in the field of healthcare administration. The social, political, economic, and technological factors influencing the development and growth of the healthcare administration profession will be explored. Additionally, students will be introduced to the job search process and the process of applying for admission to professional schools. Students will learn how to: (a) write a cover letter and resume, (b) write a job search plan, (c) apply interviewing techniques, (d) dress professionally, and (e) develop networking skills.

**HCA 440 (3) Health Management Information Systems.**

The analysis, design and installation of management of information systems in healthcare organizations are studied, including their application to data processing, inventory control, resource allocations, space utilization, work flow and job design and analysis, quality improvement, reengineering, and change management.

**HCA 450 (3) Financial Management of Health Services.**

This course teaches students the fundamental concepts and principles of financial medical services in health businesses. Topics include financial management systems, breakeven analysis, cost-benefit ratios, rate-setting, working capital, cash

flow, and asset-budget planning for financial control.

**HCA 470 (3) Healthcare Research and Evaluation.**

This is an introductory examination of the theories, methods and approaches in research and evaluation of healthcare problems. Students are taught how to design scientific investigations of problems affecting personal health status and the organizations providing health services. The classroom learning concludes with student applications of research designs and proposals to formulate selected health problems.

**HCA 480 (3) Applied Research/Management Project.**

Prerequisite: All other courses. Students conclude their curricular studies by independently designed and implementing either research or administrative projects that address positive advances for health service problems through scientific management solutions. The research option uses small-scale studies of specific organizational or personal health problems. The management project similarly expects students to design and complete an operational problem or change in some healthcare setting by applying administrative practices. Each project option requires a proposal and final report approved by the faculty advisors that students select for supervision.

**HCA 482 (3) Managed Care and Integrated Systems.**

This course offers students a descriptive survey and assessment of the trends, concepts, policies and practices in the managed care industry (MCO). Emphasis is on how administrative personnel fulfill the MCO mission and dynamic development. Students review the different models of these networks and organizations together with the impact of regulation, subscriber rights, risk management, physician relationships, and other challenges to manager care. National healthcare reform via private markets and MCO's versus public system interventions is also considered within the vexing dilemma of benchmark social change in American health policy.

**HCA 498 (3) Contemporary Issues in Health Care Administration.**

This course is designed to teach the participants ways to abstract research journals on

issues prevalent to the course. It focuses on areas of Healthcare Agencies that contribute to the Academic growth of the students. A variety of readings are required and oral presentation given to improve their communication skills. Visitations to these agencies are highly recommended.

**HCA 499 (3) Independent Study.** This course is intended to provide to students, especially

graduating seniors, the opportunity to acquire an in-depth and specialized knowledge of one or more of the myriad issues in the healthcare system. It calls for an individualized and independent investigation and study of a healthcare or public health issue or problem. Under the guidance of an instructor of similar interest in the issue problem, the student develops and implements a conceptual framework that undergirds the study. Pedagogy is expressed through the use and application of management science theories.

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## HEALTH

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### Department of Health, Physical Education and Recreation

OFFICE: T. B. Ellis Physical Education Complex

**HE 101 (3) Concepts of Health.** This course is designed to give students a basic knowledge in the areas of drugs, alcohol, sexually transmitted diseases, ecology, chronic diseases, nutrition and physical fitness enabling them to make wise decisions concerning their life and health. (F, S, Sum)

**HE 102 (3) Concepts of Health for Teachers.** This course is designed to give prospective health teachers a comprehensive body of knowledge in the areas of mental and emotional health, alcohol and drugs, nutrition, physical fitness, infectious diseases, chronic diseases, STD's and AIDS. (F, S, Sum)

**HE 113 (3) First Aid.** Designed to acquaint students with the skills needed to provide immediate aid to persons who suffer sudden injury or illness. This course also services as a preparatory course for certification as an instructor. (F, S, Sum)

**HE 122 (3) Foundations of Health.** This course is designed to provide an understanding of the historical background, principles, philosophy and contemporary problems in the field of health. (S)

**HE 206 (3) Organization and Administration of School and Community Health.** This course is designed to provide information on the organizational structures of the various community health and related agencies and the public school system. Emphasis is placed on the functions of each entity and how they coordinate activities with other agencies and the public schools. (F, S)

**HE 208 (3) Epidemiology of Diseases.** This course is a survey of selected communicable and non-

communicable diseases of man. An in-depth study of pathogenic and non-pathogenic disease theories will be examined as well as sign symptoms of these selected conditions. (F, S)

### **HE 311 (3) First Aid, Prevention, and Care of Injuries.**

This course provides for an integrated interpretation of the principles of anatomy, physiology and kinesiology as related to the prevention and care of injuries. (F, S)

### **HE 333 (3) Methods and Materials in Teaching Health.**

This course provides for instruction in the significant aspects related to integration and coordination of health methods, materials and techniques of teaching health. (F, S)

### **HE 399, 399H (Honors) (3) Human Sexuality.**

This course provides the student with a basic orientation to the varied dimensions of sexuality. This orientation includes information on historical perspectives on sexual customs and behavior, methods in sex research, anatomy and physiology of the reproductive systems, reproduction, birth control, STDs, and emphasis on sexual responsibility. (F, S)

### **HE 401 (3) Consumer Health and Safety** (A-

Elementary Schools, B-Secondary Schools). This course is designed to integrate the research of effective teaching and learning with theory and practice. Students will engage in micro-teaching and will be expected to demonstrate mastery of fourteen competencies measured by the Mississippi Teacher Assessment Instrument. Students will also be introduced to classroom management strategies for effective classroom discipline and teaching routines. The clinical practice will be a field based activity.

### **HE 402 (12) Clinical Internship in Student Training**

(A-Elementary Schools, B-Secondary Schools). This course is a continuation of the practical learning experiences engaged in during the 401 course, but in off-campus school and community situations for two twelve weeks where opportunity is given to the student teacher to test theories of teaching and learning, to initiate ideas with children. With guidance and supervision, the student teacher is also given the opportunity to develop the ability, initiative and responsibility for planning, guiding and evaluating the total program of the children with whom he/she is working.

**HE 404 (2) Family Living Education.** This course is designed to provide basic information in the physio-socio-cultural aspects of sex education and family

living. Critical issues in sex will be vied including sex as it affects the Black American. (F)

**HE 495 (3) Problems and Issues in Health.** This course is an investigation of special health problems with emphasis on possible prevention of such problems. Directed individual study of selected problems in drug abuse, alcoholism, venereal disease, cancer and heart disease will be conducted. (F)

**HE 498 (3) Introduction to Alcohol and Drug Education.** This course provides an overview of the world of drugs—drug abuse, drug dependence, drug-using behavior, and examining the use, effects, and potential for abuse of the major psychoactive drugs. (F, Sum)

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## HISTORY

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**Department of History and Philosophy**  
**OFFICE: Dollye M. E. Robinson Building**

**HIST 101 (3) History of Civilization I.** A global survey and study of the histories of major geographical regions and populations between humans' prehistory beginnings and their civilizational, societal, and cultural developments by the 15th century. Additionally, the course provides and promotes student learning outcomes that include content literacy about the human historical experience and the honing of specific skill sets—i.e., reading comprehension, critical, and analytical thinking as well as effective written and oral communication.

**HIST 102 (3) History of Civilization II.** A global survey and study of the histories of population groups, their regional geographics and their civilizational and cultural developments from the 15th and the 21st century. The course emphasizes both content literacy and enrichment as well as the honing of skill sets, especially students' reading comprehension, analytical and critical thinking, problem solving and effective oral and written communication.

**HIST 111 (3) History of Civilization I.** The course is specifically designed for freshmen history majors to begin their subject literacy in prehistory, early civilizational, ancient, and medieval history. Provided to majors as well is the opportunity to realize proficiency in the required academic skills of the discipline, especially the requisite competencies in research, critical and analytical thinking and effective written and verbal communication.

**HIST 112 (3) History of Civilization II.** A study of global regions, populations and cultures commencing with the 15th century technological advances in European maritime travel and reconnaissance, the resulting foreign exploration, colonization, revolutions, and rise in nation states, the emergent economic and military alliances, the world wars, the Cold War, the decolonization of Africa and Asia, and the emergence of the post-colonial world in the latter 20th and beginning of the 21st century. The designed course of study is for freshmen history majors affording them continued historical literacy and the further honing of the skill sets of research, proficient written, and verbal expression as well as critical, creative, and analytical thinking.

**HIST 201 (3) United States History I.** A survey of American society from the Colonial period to Reconstruction that emphasizes its political, cultural, social, and economic developments.

**HIST 202 (3) United States History II.** A survey of American society since Reconstruction that emphasizes its political, cultural, social, and economic developments.

**HIST 205 (3) Topics in History.** A study of historical problems and issues in American, African, Latin American, Asian, and European History using comparative analysis to promote intense topical reading, research, and critical writing exercises.

**HIST 211 (3) Survey of Europe I.** A study of the origins of European institutions and the rise of the nation state from the Middle Ages to 1715.

**HIST 212 (3) Survey of Europe II.** A study of European national cultures, conflicts, imperialism, and industrialization.

**HIST 300 (3) Oral History Methodology.** An introduction to the application of oral history techniques and methodology.

**HIST 301 (3) Advanced Projects in Oral History.** Prerequisite: HIST 300. Designed to engage students in field projects on and off campus while using the techniques, methodology, and machinery of oral history.

**HIST 302 (3) Local History.** Survey of techniques and methodology of researching and writing local history.

**HIST 308 (3) American Military History.** Survey of the American war experience from the colonial period to the Vietnam War.

**HIST 310X (3) The Twentieth Century World (Honors).** An honor's seminar examining the history of the world from 1900 to the present concentrating on imperialism and resistance to it.

**HIST 311 (3) Ancient History.** A study of the society of Greece, Rome, and the Middle East to 476 A.D.

**HIST 317 (3) History of England I.** A survey from the Celts to the Glorious Revolution concentrating on the evolution of English government from kingship to constitutional monarchy.

**HIST 318 (3) History of England II.** A survey from 1688 to the present, tracing development from an aristocratic to a democratic form of government.

**HIST 320 (3) colonial United States to 1763.** A detailed study of the colonial structure emphasizing the nature of government, politics, economics, and culture.

**HIST 321 (3) American Revolution and the Federalist Period.** A detailed study of the forces which produced the struggle for independence and the subsequent political, economic, social, cultural, and military structures in the United States.

**HIST 322 (3) The Age of Jefferson and Jackson.** A detailed study of society with emphasis on the awakening of American national life and the problems that accompanied it. Investigates the search for social order and justice focusing on the slavery controversy, reform movements, social experiments, etc.

**HIST 323 (3) Civil War and Reconstruction.** Provides for the study of America between 1861 and 1877 with emphasis on the cause(s) of the Civil War, the emancipation of slaves, their transition from slavery to freedom, and the interpretations of Reconstruction.

**HIST 325 (3) History of Mississippi.** A survey of the political, economic, social, and cultural development of Mississippi with special emphasis on late nineteenth and twentieth centuries.

**HIST 327 (3) History of Latin America I.** A study of the pre-Columbian natives, the Spanish and Portuguese colonial administration, its effect on the

native population, and the independence movement.

**HIST 328 (3) History of Latin America II.** A study of the independent Latin American countries with emphasis on culture, politics, and economic problems, particularly in contemporary society.

**HIST 329 (3) History of the Caribbean.** A study of the economic, political, social, and cultural life, of the people of the Caribbean area and their relationship with the United States.

**HIST 330 (3) Indians in North America.** An examination of the various Indian cultures of the United States, and the study of Indian-White relations.

**HIST 331 (3) Renaissance and Reformation.** The antecedents and development of the Renaissance in Italy, its spread into the rest of Europe, and the resultant revolution in religious and political thought.

**HIST 334 (3) Eighteenth Century Europe, 1715-1815.** A study of the social, political, economic, and ideological movements and their conflict during the French Revolution.

**HIST 335 (3) Nineteenth Century Europe.** A study of reaction, middle class revolution, industrialization and social adjustment to economic change and urbanization.

**HIST 344 (3) Historiography.** Designed to study the problems encountered in studying, interpreting and writing history. Majors will also be introduced to schools and theories of historical interpretation in American, Asian, European, and African historiography.

**HIST 345 (3) Seminar in Public Institutions: A Reflection of American Society.** Research and study at designated public or private institutions. Students must provide travel funds.

**HIST 346 (3) South Asia.** A general study of the history of South Asian countries to the present.

**HIST 352 (3) China I.** In-depth study of the history of some important Chinese dynasties to 1644.

**HIST 353 (3) China II.** In-depth study of China since the seventeenth century.

**HIST 354 (3) Southeast Asia.** A general description of the history of Southeast Asia to the present, then of the individual countries playing a role in world politics, including analysis of the Vietnam War.



**HIST 360 (3) Blacks in American History I.** An analysis and interpretation of the involvement of Black people in the economic, social, political, and cultural developments of the United States to 1877.

**HIST 361 (3) Blacks in American History II.** A continuation of HIST 360 from 1877 to the present.

**HIST 370 (3) Historical Archaeology.** Introduction to archaeology with an emphasis on historical and material culture.

**HIST 372 (3) Survey of Arts and Architecture.** Survey of American art and architecture with an emphasis on the evolution of the American house.

**HIST 380 (3) History of the Frontier.** Designed to study the westward movement of the United States. Emphasis will be placed on the relationship of the movement to political, economic, and land policies and on relations with the Native American population.

**HIST 381 (3) History of the Old South.** A survey of southern society from the Colonial period through the Civil War. The unique southern character and institutions are explored.

**HIST 382 (3) History of the New South.** A survey of the development of economic, cultural, political and social institutions in the South since Reconstruction. An analysis is made of the forces that have shaped the lives of southerners in the post-Reconstruction era.

**HIST 383 (3) Women in America.** Designed to examine the role of women in the development of America. Emphasis will be on reform, resistance to their movements, their role in politics and their impact on society.

**HIST 385 (3) Black Women in Southern Culture.** A seminar which examines the roles of Black women in the development of Southern and American Culture. Emphasis will be on problems encountered, reforms, roles in politics, the work force, religion and their general impact on society.

**HIST 402 (3) History of the Middle East.** The rise of Islam and its expansion to 1900.

**HIST 403 (3) Contemporary Middle East. 1900 to Present.** Dissolution of the Ottoman Empire, rise of Zionism and Arab Nationalism, the conflict of Palestine, the establishment of the state of Israel in 1948, the Egyptian Revolution.

**HIST 405 (3) African History I.** A critical study based on selected readings of North and West Africa from the earliest beginning to current times with primary emphasis on the impact of Islam and the Atlantic slave trade.

**HIST 406 (3) African History II.** A critical study based on selected reading of Southern Africa covering the land between the Congo and Zambezi Rivers to the southern tip of the continent. The course will emphasize the Bantu migration, the ethnic and cultural diversity of the region, the impact of European colonialism, and the current state of affairs in the region, especially the influences of the Republic of South Africa.

**HIST 407 (3) African History III.** A critical study based on selected readings of East Africa from Somalia to the Zambezi and all lands featuring the Great Rift Valley. The course will emphasize the birthplace of early man in this region, the ethnic and cultural diversity of the area, the Arab and European influence in East Africa, and post-independence developments in the region.

**HIST 410 (3) Constitutional History of the United States I.** A historical study of the origin and development of political parties as agencies of popular government, the growth of the judicial system, nationalism and states rights, leading constitutional problems to the Compromise of 1877.

**HIST 411 (3) Constitutional History of the United States II.** An analysis of major developments in American constitutional history from the Civil War to the present. Special attention is devoted to the expansion of national government powers.

**HIST 412 (3) European Imperialism.** An analysis and interpretation of the circumstances that enabled Europeans and their descendants to explore, settle, conquer, control, and dominate two-thirds of the world's peoples.

**HIST 414 (3) History of Russia I.** A survey of Russian history from her most ancient kingdoms through the imperial period of the early twentieth century.

**HIST 415 (3) History of Russia II.** A critical study of modern day Russia beginning with the Bolshevik Revolution and the formation of the Union of Soviet Socialist Republics. Emphasis is placed on the socialist model of revolution as a competitor of the democratic model in world politics.

**HIST 417 (3) Emergence of Modern America, 1875-1917.** An analysis of American society emphasizing

political, economic, and social changes between the end of Reconstruction and our entry into World War I.

**HIST 418 (3) War, Depression, and Recovery, 1917-1941.** An analysis of American history during World War I, the turbulent 1920's, the Great Depression, and the New Deal Years.

**HIST 419 (3) Contemporary United States, 1941 to the Present.** A study of the social, political, and economic history of the United States.

**HIST 420 (3) English Legal and Constitutional History.** A study of the origin and development of the common law and parliamentary government.

**HIST 424 (3) French Revolution and Napoleon.** A study of the causes, nature and course of the French Revolution and its impact on Europe.

**HIST 430 (3) Diplomatic History of the United States.** Survey of American foreign policy since the Colonial Period including a review of current issues.

**HIST 440 (3) The History of World War II.** The course will survey the events of the war from its origins in the policy of appeasement through the dropping of the atomic bomb. The resulting shifts in global power caused by the war will be addressed as well.

**HIST 441 (3) Twentieth Century Europe, 1900-1939.** A study of the world wars, the impact of the first world war, and the revolutionary movements which produced nazism, fascism and appeasement.

**HIST 442 (3) Twentieth Century Europe, 1939 to Present.** A study of the second world war, European recovery, the victory of socialist governments, and the development of the common market.

**HIST 447 (3) Research Seminar.** Prerequisite: HIST 344. For senior History majors with emphasis on completion of a major historical research paper.

**HIST 448 (1 - 6) Independent Study and/or Directed Readings.** Prerequisite: Consent of instructor. Intensive study in research materials or reading directed toward a specified topic or project.

**HIST 449 (3) Black Americans in the South.** A study of the development of the Black Southerners culturally and institutionally between the Civil War and 1915.

**HIST 450 (3) Black Political and Social History.** A seminar which critically analyzes black social

and political leaders, their philosophies, roles, and strategies employed to resolve societal problems facing African Americans.

**HIST 452 (3) Introduction to Public Historical Studies.** Introduction to the areas, issues, techniques, literature and current draft of public and applied history.

**HIST 460 (3) History of Science and Society I.** Study of scientific theories, experimentations, and personalities from an historical perspective with an emphasis on the influence of science on society and culture.

**HIST 460 (3) History of Science and Society II.** Study of scientific theories, experimentations, and personalities from an historical perspective with an emphasis on the influence of science on society and culture.

**HIST 470 (3) Restoration Technology.** Introduction to the techniques and methodology of historic restoration of material culture.

**HIST 473 (3) Introduction to Museums.** Survey of the history of American museums and principles of museum management.

**HIST 476 (3) Archives and Records Management.** Survey of the principles of archive and resource management with an emphasis on material culture.

**HIST 479 (3) Computer Science for History Programming.** Introduction to the use of computer programming and quantitative techniques in historical research.

**HIST 482 (3) Introduction to the History of City and Regional Planning.** History of selected features of the physical environment of urban America with an emphasis on the processes of design and change in cities and urban regions.

**HIST 498 (3) Historic Preservation Methodology.** Introduction to the principles of historic preservation with an emphasis on the preservation movement in the United States and some attention to preservation methodology.

**HIST 499 (3) History Internship.** History majors relate their academic education to on-the-job training situations in public and private programs, organizations, and agencies.

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## TECHNOLOGY

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**Department of Technology**  
**OFFICE: J. Y. Woodard Building**

### **IT 100 (1) Introduction to Industrial Technology.**

A survey of the technology field as it relates to the academic background and opportunities for industrial technology graduates. (F, S)

### **IT 300 (3) Internship/Industrial Experience.**

Prerequisite: Junior standing or approval of academic advisor. This course provides a supervised practical work experience with an approved industrial enterprise, coordinated by employer, faculty, and student. (F, S, Sum)

**IT 490 (3) Capstone Course.** Prerequisite: Senior standing. This course is designed to give student experience in real work applications through project in business and industry that will encompass all the different subject areas covered in an area related to the student's concentration. (F, S)

**ITC 205 (3) Materials, Construction Procedures, and Practices.** A study of the materials, building codes, techniques and procedures employed in building construction. (F, S, D)

**ITC 317 (3) Estimating and Scheduling.** Prerequisite: ITC 205. The methods of preparing labor and material quantity estimates. (F, S, D)

**ITC 319 (3) Structural Design.** Structural design procedures with concrete reinforced concrete and steel. (F, D)

**ITC 324 (3) Site Planning and Development.** The influence of climate, geography topography, and geology on the design of a building site and the different uses of the transit in squaring up forms. (F, D)

**ITC 400 (3) Technical Seminar.** Prerequisite: Senior standing. An inter-departmental course where application of technical and occupational skills and knowledge are emphasized. Experience in using a variety of techniques at various levels and areas of supervision both on and off campus. (F, S)

**ITC 410 (3) Contracts, Specifications and Law.** Prerequisite: ITC 205. The preparation of contract specifications and conditions which form the contractual relationship between owner and builder. (F, S)

**ITD 114 (3) Computer-Aided Drafting.** The fundamentals of planning and drawing, orthographic projections, graphical and technical analysis, visualization, delineation and communication of special problems. Computer-aided drafting (CAD) will be used as a tool to solve the various problems. (F, S)

**ITD 203 (3) Advanced Computer-Aided Drafting.** Prerequisite: ITD 114. Instruction includes drafting and design aids in AUTOCAD and MICROCAD with emphasis on architectural and engineering drafting. (S)

**ITD 204 (3) Architectural Design.** Prerequisite: ITD 114. The principles and practices of designing, planning, drawing residential plans, and writing Specifications. (F, S)

**ITD 316 (3) Electrical and Electronic Design.** Prerequisite: ITD 114. A study of the types of electrical and electronic drawings and their uses. Topics include: building, wiring diagrams, electronics wiring diagrams, pictorial drawings, graphs and charts. (F, S)

**ITD 319 (3) Graphical Analysis and Design.** Prerequisite: ITD 114. The analysis of graphical techniques, procedures and devices used for measurement and computation in the solution of mathematical problems and the presentations of facts for the design of consumer products. (S)

**ITD 326 (3) Descriptive Geometry.** Prerequisite: ITD 114. The fundamental theories underlying the description in geometrical terms of the shape, size, space, location and space relationship of geometrical magnitudes. (F, S, D)

**ITD 327 (3) Machine Drawing and Design.** Prerequisite: ITD 203. Pattern drafting, machine drawing and design tolerance and fabrication drawings. (F, S)

**ITD 335 (3) Architectural Detail Design.** Prerequisite: ITD 204. Research carried out by the student in major areas of drafting. Presentation of ideas in the form of drawings, models, and other media as needed. (F)

**ITD 356 (3) Structural Drafting.** Prerequisite: ITD 204. Instruction in basic principles and procedures of structural features such as building bridges, and highway construction, and structural steel. (F, S)

**ITD 405 (3) Building Control and Systems.** Basic skills and techniques of pie drafting, including pipe

fitting, valve, symbols, and schematic drawing problems. (F)

**ITD 409 (3) Map Drafting.** An introductory course to the techniques of map compilation and many usages. (S)

**ITD 411 (3) Engineering Drafting.** Prerequisite: ITD 114. A study of the engineering profession and specialized areas of engineering drafting. (F, D)

**ITE 111 (3) Basic Electronics.** Prerequisite: MATH 111. An introductory study of laws, theorems, concepts, and principles of electricity and electronics. (F, S)

**ITEL 111 (1) Freshman Lab I.** A laboratory course which covers the basic electric quantities, Ohms law, power, resistors, series and parallel circuits, current and voltage divider, voltage and current sources, power measurement, internal resistance and maximum power transfer. (F, S)

**ITE 112 (3) Intermediate Electronics.** Prerequisite: ITE 111. A study of DC/AC current, resistance, magnetism, inductance, capacitance, transformers, etc. (F, S)

**ITEL 112 (1) Intermediate Electronics Lab.** Prerequisite: ITEL 111. A laboratory course which covers network analysis, measurement of DC and AC current and voltage, power in AC circuits, resonance, RL circuits, RC circuits, and RLC circuits. (F, S)

**ITE 221 (3) Device and Circuits.** Prerequisite: ITE 111 & 112. Current flow in doped semiconductors, PN junctions, bipolar junction transistors, and single-staffed amplifiers. Emphasis is placed on current control with PN Junction, and on recognition of and characteristic of the three basic amplifier configurations. (F)

**ITEL 221 (1) Device and Circuits Lab.** Prerequisite: ITE 111 & 112. A laboratory course which studies oscilloscope operation, oscilloscope voltage calibration and frequency measurements, characteristics of an inductance, characteristics of a series RC circuits, RC time constants, characteristics of a capacitor, characteristics of a series RLC circuit, RF signal generator, parallel resonant circuit, diodes, and characteristics of amplifiers. (F)

**ITE 338 (3) Digital Logic.** Prerequisite: ITE 111 & 112. A study of single source transistor biasing, differential amplifier, diode-resistor gate, flip-flops, logic AND gate of AND & OR gates,, binary number encoders and decoders, R-s, T-D flip flops, ripple counters, programming a ripple counter, etc. (S)

**ITEL 338 (1) Digital Logic Lab.** Prerequisite: ITE 111 & 112. A laboratory course which covers logic OR gate, logic NOT, AND gate, integrated circuit gates, half-adder circuit full-adder circuit, colpitt: Oscillator, and Karnaugh map, and triggered monostable multivibrator. (S)

**ITE 438 (3) PROGRAMMABLE LOGIC CONTROLLER (PLC)** Prerequisite: ITE 338 or Instructor's Permission. This course provides practical experience on PLC's through its operation, programming, and uses in the control of production, manufacturing, industrial, and other processes. (F).

**ITE 449 (3) Network Theories.** Prerequisite: ITE 338. A study of electric networks and analysis of the behavior of networks in terms of natural modes, or the natural frequencies of response due to arbitrary excitation. (F, S)

**ITEL 449 (1) Network Lab.** Prerequisite: ITEL 338. This course provides practical instruction on the networks connection and trouble shooting. Students will be introduced to telecommunications cabling technology and learn the systems used for distribution of data, voice, and video communications. This course will cover identification and application of appropriate connectors, cable types, safety concerns, and testing of systems. (F, S)

**ITE 450 (3) Analog Communication System.** Prerequisites: ITE 221, MATH 221. Study of complete communications systems selected from broadcast radio, broadcast television, closed circuit television or radar, AM, FM and phase-shift modulation and demodulation techniques. (S)

**ITE 452 (3) Fiber Optics & Communication.** Prerequisites: ITE 221, 338 and MATH 221. This course prepares students to understand the principles of fiber optics, practical experience on the troubleshooting of the fiber-optic communication networks and systems, system components, applications of fiber optics in data and network communication systems. (F, S).

**ITE 465 (3) Microprocessor and Application.** Prerequisites: ITE 221, 338. Logical organization of single-chip microprocessors, their timing and interface requirements. Applications in the control of external devices. (F)

**ITE 466 (3) Microprocessor Troubleshooting.**

Prerequisites: ITE 221, 338. This course is designed for senior standing students to study professional techniques in microprocessor troubleshooting. Students will learn how to write sample programs for use in troubleshooting, troubleshoot bus, processor, and I/O failures by analyzing signals, and design testable microcomputer. (S)

**ITE 475 (3) Microprocessor Software/Hardware Interfacing.**

Prerequisites: ITE 221, 338. This course is designed for senior standing students with an overview of microcomputer systems in software, hardware and interface. Basic microcomputer hardware design at chip level, software programming at the machine language level, and interface to sensors, actuators, and external devices will be introduced. (S)

**ITE 476 (3) Real Time System Design.**

Prerequisites: ITE 221, ITE 338, ITE 465, CSC 215. The topics of this course include the general concepts of real-time systems, design and implementation techniques and specific examples. The instruction is divided into three parts. The first introduces the general concepts of real-time systems, the design and implementation process, with emphasis on the techniques useful for real-time applications. The third part is a detailed examination of specific system organization and their appropriate implementation techniques. (S)

**ITEM 301 (3) Principles of Emergency Management.**

The course introduces basic theory of emergency management. It identifies the roles of federal, state, local government and community in case of emergency. The course also discusses disaster prevention, mitigation, recovery, technology support, and litigation issues.

**ITEM 302 (3) Introduction to Incident Command System.**

This course covers the emergency management practices used by responders during an emergency situation. The structure and responsibilities of the Incident Command System, the management of facilities, and typing of resources are covered in this class. The National Incident Management System (NIMS) principles are also included in this course.

**ITEM 303 (3) Community Emergency Response Team.**

This course provides students with the skills required by Federal Emergency Management Agency (FEMA) to serve as a Community (Citizen)

Emergency Response Team (CERT) member within their society. Students will also be required to complete Community Emergency Response Team training, which will provide them with basic skills needed for immediate response in the aftermath of disasters. By working together, CERT members can assist in saving lives and protecting property by using the basic techniques learned from this course.

**ITEM 304 (3) Internship.**

Prerequisites: ITEM 301, 302, or approval by instructor. The internship is designed primarily for students who have had little exposure to the field of emergency management. Students will find their placement (with the assistance and approval of the instructor) at national laboratories or DHS's funded COE laboratories to gain hands-on practical experience with a public, private, or non-profit organization that has significant emergency management responsibilities.

**ITEM 401 (3) Application of Emergency Management**

Computer Technology. The purpose of this course is to develop an in-depth understanding and practical knowledge of the most frequently used software such as WISER, HAZUS, and CAMEO, which were designed by Federal Government agencies. This course will enable students to effectively use a computer in an emergency. The students can apply this skill to analyze, predict, and prevent an emergency incident.

**ITEM 402 (3) Basic GIS and Remote Sensing.**

This course introduces the theory and techniques of Geographic Information System (GIS) and remote sensing and their application to environmental analysis. Topics include the concepts of remote sensing, characteristics of spectromagnetic waves, types of remotely sensed data, sensor types, the theory of photogram metric techniques, and digital image analysis for acquisition of geographical information. Several lab activities involve the following learning the basics of ERDAS imagine, data acquisition through internet search for satellite images, importing datasets, band characteristics, and visual presentation.

**ITEM 403 (3) Disaster Management.**

The course explores important functions to be performed before, during, and after disaster strikes. It also identifies the strategies, tools, challenges, and concerns relevant to the emergency manager and others involved in disaster management. The theoretical basis of emergency management will be the central focus of the course, but practical knowledge, skills and

abilities relating to planning will also be addressed throughout the semester. Students are expected to think critically about controversial issues and policies pertaining to the emergency and disaster arenas.

**ITEM 404 (3) Special Project.** This course includes the following emergency management concepts: program planning and management, financial planning and management, managing information, managing people and time, personality types, leadership styles, followership styles, decision-making skills, team-building skills and group dynamics, community-building skills, intergovernmental relationships, negotiating skills, communication skills, emergency management ethics, and professionalism.

**ITHM 300 (3) Principles of Hazardous Materials Management.** Prerequisite: CHEM 141. An introductory survey course for the hazardous materials management program. Provides firm foundation on basic hazardous materials management principles. Topics include definitions of hazardous materials, regulatory overview, technology for storage and disposing hazardous materials, air and water quality Issues Industrial hygiene and hazardous waster management. (F)

**ITHM 301 (3). Regulatory Framework for Toxic and Hazardous Substances.** Prerequisites: ITHM 300, CHEM 141. A study of legislation and regulations surrounding hazardous materials and toxic waste. A study of major legislative/regulatory areas which include: RCRA, TSCA, OSHA, HMTA, CERCLA, and EPA. (S)

**ITHM 302 (3) Technologies for Storage, Treatment and Disposal of Hazardous Materials.** Prerequisites: ITHM 300, CHEM 141. A study of basic principles of hazardous waste management. Methods of treatment and disposal. A comprehensive look at the technologies and related issues in hazardous waste management. (S)

**ITHM 402 (3) Industrial Hygiene.** Prerequisites: ITHM 300, CHEM 141. An overview of occupational health hazards, their recognition, evaluation, and control. Emphasis on how industries are regulated and how occupational health standards are promulgated. (F, S)

**ITHM 405 (3) Risk Assessment in Hazardous Materials Management.** Prerequisites: ITHM 300, CHEM 141. Examines the risk assessment process and its application in various situations, ranging from setting hazardous facilities to regulation and control of toxic substances in the environment. Risk analysis methods and their interaction with social economic

and political factors. (F, S)

**ITMA 105 (3). Industrial Safety and Management.** Designed to emphasize the importance of safety in an industrial community. (F, S)

**ITMA 325 (3) Industrial Psychology.** Prerequisite: PSY 201. Designed to acquaint students with the study of human behavior as it relates to production of goods and services of our society. A study of psychology as it relates to the employees of American industries. (F, S)

**ITMA 328 (3) American Industry.** This course presents practical and successful strategies for implementing the new system, procedures, practices, and cultural attitudes essential for becoming world-class competitive. (S)

**ITMA 410 (3) First-Line Supervision and Foremanship.** A management development course for business, industrial, and institutional supervisors. The topics covered include motivation, leadership, decision-making and supervisory skills. (F, S)

**ITMA 411 (3) Production and Inventory Management.** Deals primarily with inventory classifications, inventory control, optimum inventory, and feature trends in inventory management. (F, S)

**ITMA 420 (3) Labor and Industrial Relations.** Prerequisite: ITMA 325. Discussions of who individuals, groups, and organizations in unions, management, and government act as they do in industrial relations with emphasis on psychological and sociological factors. (S)

**ITMA 423 (3) Motion and Time Study.** Prerequisite: MNGT 250 (school of business). Methods, materials, tools, and equipment of industry for purposes of improvement and standardization. (F)

**ITMA 424 (3) Quality Control.** Prerequisite: MNGT 250 (school of business). The problem associated with improving design, specifications, and control of product quality. (S)

**ITMA 425 (3). Plant Layout and Material Handling.** Prerequisite: ITD 114. The fundamental theories, practices, and methods for the design of manufacturing facilities; materials handling equipment and services. (S)

**ITMF 206 (3) Introduction to Manufacturing Processes.** An introductory study of manufacturing processes. It includes lectures, discussions, labs, and educational



tours to local manufacturing industries. (F)

**ITMF 339 (3) Materials Testing.** Prerequisite: ITMF 206. Principles of tensile, compressive, hardness and impact testing of metals and other engineering materials. (F)

**ITMF 340 (3) Hydraulics and Fluid Systems.** Prerequisites: ITMF 206 and 207. This course involves the study of the principles and applications of hydraulics and pneumatics in manufacturing, and the design, construction and maintenance of fluid power systems. (S)

**ITMF 410 (3) CNC-Robotics.** Prerequisites: ITD 114, 203. To study the basic principles of computer numerical control and robotics, and to develop competencies in the use of microcomputer hardware and software in programming for manufacturing applications. (F)

**ITMF 420 (3) Advanced Manufacturing Technology.** Prerequisites: ITD 114, 203, ITMF 340, 206. This course involves the study of the techniques used to control and program machines tools and robots, and the basic principles of computer aided design and computer aided manufacturing (CAD/CAM). (S)

**ITMF 425 (3) Robotics.** This course prepares students to understand the principles and techniques of control systems and programming languages related to robots, programmable controllers, and automated systems used for transportation control. Mechanical, electrical, and fluid control systems used for automated control will be emphasized. (F)

**ITMF 430 (3) Factory Automation.** Prerequisites: ITMF 410, ITE 438. This course prepares students to understand the principles and techniques in the application of automation and control technologies, manufacturing systems, and manufacturing support systems. (F, S, D)

**ITR 320 (3) Introduction to Robotics I.** Introductory material covering the construction of simple robotics mechanisms, building blocks of a robot, circuit diagrams for constructing a robot, relationship of sensors, actuators, and interfacing the robot, concepts of robots. Creating a vehicle that is computer controlled, entry-level robotics programs using the NXT-G language, VB, & RobotC.

**ITR 321 (3) Introduction to Robotics II.** Model the motion of robot, robot sensing techniques, and simple robot control functions. Interfacing various types of peripheral devices, basic mechanical, electrical and electronic components used for operating the

behavior of a robot. Troubleshoot a robot program for a successful maintenance program, design a machine to perform specific tasks.

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## LIBRARY SCIENCE

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**Department of Educational Leadership**  
**OFFICE: Joseph H. Jackson Building**

**LS 101 (1) Introduction to Library Resources.** An introduction to the organization and use of the University Library, and to the use of selected reference materials. (F)

**LS 231 (3) Utilization of Audio-Visual Materials.** This course includes the study of principles involved in the selection and utilization of major types of audio-visual materials. (F, S)

**LS 234 (3) Preparation of Inexpensive Instructional Materials.** The purpose of this course is to give the student experience in developing a basic pattern for the preparation of a wide variety of visual materials. (F, S)

**LS 301 (3) Literature for Children.** A survey of library media appropriate for children at the pre-school through the primary grades with emphasis on selection and use. (NOTE: LS 301 is the same as LA 301 and EDCI 308). (F, S)

**LS 404 (3) Principles of Media Selection.** Principles of material selection; policies governing the building and maintenance of collections; evaluation of selection media; reviews and other sources of information of the book trade; and problems of censorship. (F, D)

**LS 405 (3) Cataloging and Classification.** Basic principles of classification, and cataloging emphasizing the use of the Dewey Decimal Classification System. Sear's List of Subject Headings, and Anglo-American Cataloging Rules. (S, D)

**LS 407 (3) Literature for Adolescents.** Reading and appraisal of literature appropriate to the needs, interests and abilities, of adolescents. Includes the selection and evaluation of materials and methods for stimulating their use. (S)

**LS 408 (3) Basic Reference Sources.** An introduction to reference techniques, and to the basic reference works common to all types of libraries. (D)

**LS 409 (3) Multi-Media Resources.** A study of the functions and characteristics of non-book media including acquisitions, organizational procedures, and effective use. (D)

**LS 425 (3) Administration of School Media Centers.** Includes the study of administrative problems and procedures of the multi-media library in relation to modern philosophies and the prevailing standards of school media service. (D)

**LS 426 (3) Organization of School Media Center.** Emphasis is placed upon the organizational procedures and problems related to the selection, acquisition, preparation, use and maintenance of materials in the school media service. (D)

**LS 429 (3) Library Practice.** Upon completion of at least 18 semester hours in Library Science, students will spend three hours daily in an approved school media center or library to satisfy the practice component of the program. (D)

**LS 435 (3) Individualized Instructional Systems.** A survey of rationale, techniques, and the available software for individualized instructional programs, including an assessment of the effectiveness of individualized systems in achieving educational goals. (D)

**LS 460 (1 - 6) Special Topics in Library Science.** Special topics which may be treated more effectively in institutes, workshops, or mini-courses than as regular courses will be offered. For each different program offered, a distinguishing alphabet will be added to the number, e.g., LS 460-C. (NOTE: LS 231 and 234 are the same as EDFL 231 and 234. (D)

**LSED 423 (3) Computers in Education.** This course is designed to cover theory, techniques, and practices of using computers and computer-assisted instruction (CAI) in education. No previous background in computers and programming is assumed. (F, S, Sum)

**LSED 431 (3) Instructional Television and Film Production.** Introduction to the uses and limitations of instructional television, films, and video. Simple production practice; the integrated of video projects into school, library, and training applications. (D)

**LSED 460 (1 - 6) Special Topics in Educational Technology.** Special topics which may be treated more effectively in institutes, workshops, or mini-courses than as regular courses will be offered, a distinguishing alphabet will be added to the number, e.g., LSED 460-C. (D)

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## DEVELOPMENTAL MATH

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### Division of Undergraduate Studies

**OFFICE: Charles F. Moore Building, 1st Floor**

**MATH 001 (3) Developmental Mathematics.** This course is designed to improve the students' mastery of the fundamental operations of arithmetic, including whole numbers, fractions, decimals, mixed numbers and percentages. Emphasis is placed on number manipulation and applications relating to process.

**MATH 004 (3) Intermediate Algebra.** This course covers the Real Number system, linear equations and inequalities, graphing and linear systems, exponents and polynomials, factoring, rational expressions, roots and radicals, more quadratic equations, and all applications.

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## MATHEMATICS

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### Department of Mathematics

**OFFICE: Just Hall of Science Building**

**MATH 111 (3) College Algebra.** Prerequisite: MATH 004 with a grade of "C" or better or the equivalent and Test Standing. The function concepts, solving quadratic equations, graphing the quadratic function, inequalities, absolute value, absolute inequalities, Fundamentals theorem of Algebra, roots, factors, systems of equations and matrices, math induction and Binomial Theorem, arithmetic and geometric progressions, logarithms, complex numbers, partial fractions, and applications of all topics.

**MATH 112 (3) Plane Trigonometry.** Prerequisite: MATH 111 with a grade of "C" or better. Right and oblique triangular solutions, identities, trigonometric equations, systems of angular measurements, and applications.

**MATH 118 (5) College Algebra and Trigonometry.** Prerequisite: Test Standing, MATH 004 or equivalent. Polynomial equations, exponents and radicals, logarithms, quadratic equations, inequalities, complex numbers, permutations and combinations, probability, determinants, simultaneous linear equations, induction, binomial theorem, progressions and series, triangular solutions, identities, trigonometric equations, systems of angular measurement applications.

**MATH 215 (3) Mathematics of Finance.** Prerequisite: Department approval. Simple and compound interest, simple and compound discount, annuities, amortization, sinking funds, valuation of bonds, depreciation,

life annuities, life insurance and reserves.

**MATH 217 (3) Introduction Finite Mathematics (Education).** Prerequisite: MATH 111. Introductory ideas for students of education, compound statements, sets and subsets, partitions and counting, elementary probability theory.

**MATH 221 (3) Calculus Industrial or Business.** Prerequisite: MATH 111. Functions, limits, continuity, differentiation, applications, basic analytic geometry, algebraic, exponential and logarithmic functions, integration, applications, series and sequences, improper integral. Specific applications.

**MATH 226 (3) Concepts and Structures of Mathematics I.** Prerequisite: MATH 111 with a grade of "C" or better. Study of various numeration systems, rational and real numbers, fraction and decimal algorithms, ratios, percentages, consumer mathematics, introduction to problem-solving and logic, use of patterns and Venn diagrams.

**MATH 227 (3) Concepts and Structures of Mathematics II.** Prerequisite: MATH 226. Statistical graphs, measures of central tendencies, variations, odds and probability, conditional probabilities, expected values, use and abuse of statistics. Introduction to geometry and concepts of measurements.

**MATH 231 (4) Calculus I with Laboratory.** Prerequisite: MATH 112 or MATH 118. Functions, limits, continuity, differentiation, limiting forms, applications, properties of continuous functions, analytic geometry and integration. The Laboratory component is designed to reinforce the lecture component with activities requiring the use of technology in the form of computers with selective software and graphing utilities.

**MATH 232 (4) Calculus II with Laboratory.** Prerequisite: MATH 231. Applications of the definite integral, logarithmic exponential and inverse trigonometric functions. Techniques and further application of the definite integral, parametric equations and polar coordinates. The laboratory component is designed to reinforce the lecture component with activities requiring the use of technology in the form of computers with selective software and graphing utilities.

**MATH 233 (4) Calculus III with Laboratory.** Prerequisite: MATH 232. Infinite sequences and series, differential calculus of functions of several

variables, multiple integrals. The laboratory component is designed to reinforce the lecture component with activities requiring the use of technology in the form of computers with selective software and graphing utilities.

**MATH 234 (3) Proofs and Mathematical Writing.** Prerequisite: MATH 231. This course includes topics in introduction and basic terminology: statement, definition, theorem, lemma, corollary, argument, contraposition, hypothesis and conclusion of a theorem, some basic techniques used in proving a theorem of the form "A implies B", direct proof, proof by contraposition, special kinds of theorem: "if and only if" or equivalence theorems, counterexamples, mathematical induction, existence theorems, uniqueness theorems, equality of sets, non-equality of sets, introduction to elementary group theory, equality of numbers, composite statements, limits of functions, continuous functions, differentiability of functions of one variable (using epsilon definition).

**MATH 251 (3) Finite Mathematics.** Prerequisite: MATH 111 or Department approval. Compound statements, sets and functions, probability theory, elementary linear algebra, convex sets, finite Markov chains, continuous probability theory.

**MATH 271 (3) Elementary Statistics.** Prerequisite: MATH 112. Introduction, frequency distributions, location measures, variation, symmetry, skewness, peakedness, index numbers, probability, theoretical distributions, sampling, estimation, tests of hypotheses, non-parametric tests, linear regression, coefficient of correlation, time series analysts.

**MATH 301 (3) Elementary School Mathematics.** Prerequisite: MATH 111. Counting and numerical concepts, problem solving, equipment, achievement, examinations, present issues.

**MATH 302 (3) Junior High School Mathematics.** Prerequisite: Department approval. Aims and problems of teaching, techniques of teaching, arousing and maintaining interest, aids and trends, tests and measurements, organization and treatment of subject matter, organization and duties of teachers of junior high competence.

**MATH 303W (3) Introductory Set Theory and Logic.** Prerequisite: MATH 231, with a grade of "C" or better. Sets and relations, natural number sequence, extension of natural number to reals, logic, informal axiomatics, Boolean algebra, interval and set theory,

algebraic theories, first order theories.

**MATH 306 (3) Elementary Concepts of Geometry.**

Prerequisite: Department approval. Basic notions of lines, angles, triangles, circles and proofs. Stress is placed on synthetic methodology and reasoning.

**MATH 307 (3) Probability and Statistics for Engineers.**

Prerequisite: MATH 232. Introduction to concepts of probability and statistics required to solve problems in various disciplines; mathematical basis for probability and statistics includes axioms of probability, continuous sampling distributions, and discrete probability, hypothesis testing, confidence intervals, probability estimations for risk assessment, data processing and statistical inference, statistical techniques of data analysis, simple and multiple regression model development; stochastic processes, emphasis is on the application of probability, statistics and reliability to rational decision making, data analysis and model estimation in engineering context.

**MATH 311W (3) Abstract Algebra I.**

Prerequisite: MATH 303. Basic concepts of modern algebra, preliminaries, elementary ideas of groups, rings, integral domains and fields.

**MATH 315 (3) Senior High Mathematics.**

Prerequisite: Department approval. Aims and problems techniques, arousing and maintaining interest, aids and trends, tests and measurements, traditional and non-traditional courses, operations, number systems, professional duties, supervision and improvement of instruction, geometry.

**MATH 321W (3) Introduction to Modern Geometry.**

Prerequisite: MATH 232. Euclidean, non-Euclidean, projective and affine geometrics with emphasis on the appropriate postulates and the postulational method. Transformation theory.

**MATH 331 (3) Linear Algebra and Matrix Theory.**

Prerequisite: MATH 303. A theoretical study of equations, matrices, vector spaces, inner product spaces linear transformations bilinear and quadratic forms, and eigenvalues.

**MATH 332 (3) Linear Algebra and Matrix Theory with Applications.**

Prerequisite: MATH 331. Numerical methods of linear algebra, Fourier Series, vector and tensor analysis, orthogonality, unitary, normal, and Hermetian operators, applications to differential equations, physics and engineering, special theory and infinite dimensional linear spaces.

**MATH 335 (3) Logic.**

Prerequisite: MATH 303. Symbolic logic, statement calculus, monies, axiomatic treatments, predicate calculus, equality, relations and functions, cardinals and ordinals, counting, the axiom of choice.

**MATH 341 (3) Introduction to Number Theory.**

Prerequisite: MATH 233. Multiplicativity and divisibility, congruences, arithmetic functions, primes, quadratic residues, addibility, generating functions, partitions, geometric number theory, ruler and compass constructions, and special topics.

**MATH 351 (3) Advanced Calculus.**

Prerequisite: MATH 233. Sets and functions, continuity, integration, convergence, differentiation, and applications to geometry and analysis, differential geometry, and vector calculus.

**MATH 355 (3) Probability and Statistics I.**

Prerequisite: MATH 233. Random variables, conditional probability and stochastic independence, special distributions.

**MATH 356 (3) Probability and Statistics II.**

Prerequisite: MATH 355. Estimations, order statistics, limiting distributions, statistical hypotheses, variance, normal distribution theory, point and interval estimation, sampling, regression and correlation.

**MATH 368 (3) Ordinary Differential Equations.**

Prerequisite: MATH 233. Introduction to differential equations, first-order differential equations, higher-order differential equations, series solutions of linear equations, the Laplace transform and systems of linear first-order differential equations.

**MATH 369 (3) Introduction to Dynamical Systems.**

Prerequisite: MATH 368. Introduction, linear systems, fixed points, Lyapunov function, Lyapunov's method, periodicity and chaos, the Poincare-Bendixon theorem, the Hoph bifunction, fractals and Cantor set.

**MATH 371 (3) Vector and Tensor Analysis.**

Prerequisite: MATH 233. Algebra of vectors, differential vector calculus, differential geometry, integration, static and dynamic applications, tensor analysis. Riemannian geometry, applications of tensor analysis.

**MATH 381 (3) Projective Geometry.**

Prerequisite: MATH 233. Basic notions, triangles and quadrangles, duality principle, fundamental theorem and theorem of Pappus, Desarguesian figures, projectives, polarities, conics, finite planes, parallelism, coordinates. (A general

sequence of synthetic and analytic projective geometry.)

**MATH 385 (3) Numerical Analysis.** Prerequisite: MATH 233. Summation of series, evaluation of expressions, equation solvability, systems of linear equations, interpolation, numerical integration and differentiation, ordinary differential equations, matrix algebra, eigenvalues and eigenvectors, partial differential equations.

**MATH 401W (3) Methods of Teaching Math - Elem/Middle School.** Prerequisite: Departmental approval. A study of recent curricular changes of interest to the prospective teacher, special problems including lessons and teachable units will be emphasized in three major areas: teaching the number system, teaching algebraic principles, and teaching geometry in the grades.

**MATH 402W (3) Methods of Teaching Math - Secondary School.** Prerequisite: Department approval. Materials and sources of value to prospective teachers of high school, middle school and junior high school mathematics, reports, current articles, state-adopted textbooks, yearbooks and histories, special problems in teaching geometry and algebra.

**MATH 403S (3) Seminar in Mathematics.** Prerequisite: Department approval. The provisions to the student of an opportunity to discuss pertinent trends and ideas in mathematics, and to evaluate the experience he has had through study and practice during his previous years of training in mathematics.

**MATH 404 (3) Number Theory and Cryptography.** Prerequisite: MATH 331 or department approval. Topics in elementary number theory, finite fields, and quadratic residues. Cryptography public key, primality and factoring, elliptic curves.

**MATH 411 (3) Abstract Algebra II.** Prerequisite: MATH 311. Groups rings, integral domains, modules, vector spaces, fields, linear transformations, special topics in group, ring, and field theory.

**MATH 415 (3) Partial Differential Equations I.** Prerequisite: MATH 368. Heat equations, Laplace's equation, Fourier series, wave equation, Sturm-Liouville eigenvalue problems, nonhomogeneous problems, method of Green's functions, infinite domain problems and the methods of characteristics for wave equations.

**MATH 416 (3) Partial Differential Equations II.** Prerequisite: MATH 415. First order partial differential equations and applications, multidimensional partial differential equations, existence and uniqueness, methods of variations, finite difference and finite element numerical methods, use of MatLab in solving partial differential equations.

**MATH 421 (3) Modern Geometry III.** Prerequisite: MATH 321. Modern elementary geometry, transformations, constructions, projective geometry, non-Euclidean geometries, foundations, analyticity, groups, complex numbers and limit operations, differential geometry, combinatorial topology, n-dimensional geometry and abstract spaces.

**MATH 425 (3) Secondary Math Topics I.** Prerequisite: Department approval. Forces shaping today's mathematics programs, teaching for special outcomes, classroom applications.

**MATH 430 (3) Mathematical Modeling.** Prerequisite: MATH 221 or 231. Discrete models, graphs, digraphs, games, Markov chains, recursion, differential equations, probability and statistics, linear algebra, strange attractors, basic applications, computer graphics, optimization, experimental modeling, dimensional analysis and similitude, dynamic systems (chaotic), model fitting, control system, and applications using advanced mathematics.

**MATH 431 (3) Real Analysis I.** Prerequisite: MATH 233. Real number system, basics, numerical sequences and series, continuity, differentiation, Reimann-Stieltjes integral, sequences and series of functions, special series, functions of several variables, the Lebesgue theory.

**MATH 435 (3) The Teaching of Mathematics.** Prerequisite: Department approval. Theory of arithmetical meanings, learning and rational, applied meanings, current trends.

**MATH 437 (3) Fourier Series.** Prerequisite: MATH 368. Linear spaces, orthogonal functions. Fourier series. Legendre polynomials and Bessel functions, applications.

**MATH 441 (3) Complex Analysis I.** Prerequisite: MATH 233. Complex numbers and representations, point sets, sequences, functions, analytic functions of one complex variable, elementary functions, integration, power series, calculus of residues, conformal representation, applications.

**MATH 447 (3) Sampling Methods I.** Prerequisite: MATH 271 or MATH 356. Simple random sampling, sampling for proportions and percentages, estimation of sample size, stratified random sampling, ratio estimates.

**MATH 451 (3) General Topology I.** Prerequisite: MATH 303. Elementary set theory, ordinals and cardinals, topological spaces, cartesian products, connectedness, special topologies, separation and covering axioms, metric spaces, convergence, compactness, function spaces, complete spaces, elementary homotopy and homology theory.

**MATH 455 (3) Experimental Design I.** Prerequisite: MATH 447. Completely randomize design, randomize block designs, factorial experiments, split plot design, confounding.

**MATH 461 (3) Mathematical Statistics I.** Prerequisite: MATH 356. Random variables and probability distributions, statistical inference, estimation, testing of hypotheses, analysis of variance, least squares.

**MATH 466W (3) Operation Research.** Prerequisite: MATH 355. Learning programming, network analysis, PERT-CPM, dynamic programming, queuing theory and decision analysis.

**MATH 471 (3) Approximation and Interpolation I.** Prerequisite: MATH 385. Preliminaries, interpolation, remainder theory, convergence theorems, infinite interpolation, uniform, best and least square approximations, spaces, polynomials and functions, closure and completeness, expansion theorems, degree of approximation, approximation of linear functions.

**MATH 485 (3) Number Theory III.** Prerequisite: MATH 341. Congruencies, representation of numbers by decomposable forms, divisibility, local methods, analytic methods, algebraic topics.

**MATH 491 (3) History of Mathematics Education I.** Prerequisite: Department approval. Introduction, mathematics in schools, forces and issues related to Elementary and Early Childhood Education (K-6, 7-12), education of teachers of mathematics, school mathematics in Canada, future outlook.

**MATH 493 (3) History in Math Classroom I.** Prerequisite: Department approval. Historical development of numbers and numerals, computation, geometry, algebra, trigonometry, calculus, modern mathematics.

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## MASS COMMUNICATIONS

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**Department of Mass Communications**  
**OFFICE: 100 Mississippi e-Center**  
**1230 Raymond Road, Jackson, MS**

**W = Writing Intensive**  
**S = Service Learning Component**

**MC 150 (3) (S) Urban Media Literacy.** Designed to teach students to critically examine media industries and the messages they produce and disseminate. The course gives particular focus to media images of urban life. The course also explores the underlying power relationships in media, the construction of media messages, and the influences of those images on urban culture and media audiences.

**MC 200 (3) Introduction to Mass Communications.** Prerequisites: ENG 104, 105 or ENG 111, and 112. Survey of the development and operation of print and electronic media. An overview of the basic theoretical perspectives of the media and a synopsis of the various mass communications professions. This course also introduces to practitioners in the field of mass communications.

**MC 201 (3) (W) Introduction to Media Writing.** Prerequisites: ENG 104, 105 or 111, and 112, and MC 200 recommended. Acquaints students to the various forms of writing required in the journalism and mass communications professions. Students work in laboratory settings utilizing current computer systems and software.

**MC 301 (3) (W) Introduction to News Reporting.** Prerequisites: MC 200, and MC 201. Helps students learn how to develop meaningful new story ideas, conduct thorough interviews, report accurately, and write news stories that adhere to Associated Press style.

**MC 303 (3) (W) Radio-TV Newswriting.** Prerequisites: MC 200 and MC 201. Developing and writing scripts, rewriting wire service materials for broadcast journalism. Students will also use CNN news source video and scripts. The course is coordinated with closed-circuit campus channel JSU 22.

**MC 305 (3) (W) Copy Editing.** Prerequisites: MC 200, MC 201, and MC 301. Editing of stories, writing headlines, developing skills for the use of desktop publishing, and print media design and layout.



**MC 306 (3) (W) Advance Copy Editing.**

Prerequisites: MC 200, MC 201, MC 301, and MC 305.

An advanced, computer-assisted course in copy editing, page layout, and graphics for newspapers and magazines.

**MC 307 (3) Photojournalism.** Prerequisites: MC 200 and MC 201. Introduction to the principles and techniques of photojournalism. Course involves the study and practice of using still photography to cover news, feature stories, sports, and social and cultural issues for publication. Students will learn the fundamentals of photography, and will be introduced to digital imaging, photo editing, page layout design, and multimedia journalism. The course also covers the history of photojournalism and documentary photography, as well as the ethical and legal issues related to the field.

**MC 310 (3) Media Design and Production I.**

Prerequisites: MC 200 and MC 201. Introduction to the digital audio and video production techniques within studio and field environments. Skills to be covered include camera operation, audio and visual editing, set and message design, planning, directing and managing productions.

**MC 315 (3) Digital Editing.** Prerequisites: MC 200, MC 201, and MC 310. Students will develop skills in editing video and sound for multimedia productions. This is an advanced course emphasizing non-linear video editing, audio editing, motion graphics, and DVD development using the Final Cut Pro Suite, Adobe After Effects, DVD Studio Pro and/or other software.

**MC 320 (3) (W) Online Journalism.** Prerequisites: MC 200, MC 201, and MC 301. Students are exposed to the unique skill sets needed for online news storytelling that often integrate a rich repertoire of headlines, text, pictures, audio, video, slideshows, animation, and/or interactive features on a news website.

**MC 323 (3) (S) Media Design and Production II.**

Prerequisites: MC 200, MC 201, and MC 310. This course is a continuation of MC 310 whereby students study and gain hands-on experiences in the practical aspects of media design and production. Students write, design, direct, and produce quality productions. Students apply and refine skills in both multi-camera studio and field productions. The course is coordinated with JSU's TV 23 and its program productions.

**MC 330 (3) Introduction to Integrated Marketing Communications.**

Prerequisites: MC 200 and MC 201. An overview of integrated marketing communications (IMC) and the ways in which IMC is used in strategic marketing communication efforts. The course also explores: 1) concepts, theories, principles, and processes of IMC planning; 2) how all elements of the promotional mix (advertising, personal selling, public relations, direct marketing, and sales promotion) can work together to achieve overall marketing objectives; 3) how to use coordinated messages in convergent media and non-media platforms to build and sustain consumer interest and product message response, and the use of lectures and industry case studies to provide analytical and competency skills in the design and integration of theories, concepts and principles of IMC campaigns.

**MC 336 (3) Advertising Copy Layout and Design.**

Prerequisites: MC 200, MC 201, MC 330 or consent of instructor. An overview of the origin and development of advertising and public relations; how a firm or institution relates to its audience and develops campaigns. An overview of the skills and strategies involved in print, TV, and radio advertising with specific focus on visualizing layouts, conceiving radio and TV commercials, target marketing, conducting an ad campaign, and understanding legal and ethical constraints. The role of the advertising agencies and other marketing organizations, and changes in ethnic and minority advertising will also be examined.

**MC 400 (3) (W) Media Law.** Prerequisites: MC 200, MC 201, and three (3) courses in the concentration.

A study of the laws governing print and electronic media. The course explores the evolution of media laws in areas such as First Amendment rights and protection, slander, libel, and rights to privacy. The course will familiarize students with the function and rulings of the courts and of the Federal Communications Commission.

**MC 401 (3) (W) Research Methods in Mass**

**Communications.** Prerequisites: MC 200, MC 201 and three (3) concentration courses. Analysis of research in mass communications, including survey research, content analysis, basic statistics, rating research, and focus group methodology.

**MC 402 (3) (W) Advanced Reporting.** Prerequisites: MC 200, MC 201, and MC 301. An extensive course in news writing that emphasizes investigative reporting. Contemporary issues, events, and problems are given

major attention. Students will also access various databases.

**MC 404 (3) (W) Feature Writing.** Prerequisites: MC 200, MC 201, and MC 301. This course requires substantial research for the writing of feature length articles. The market for features is analyzed and selling strategies are pursued.

**MC 405 (3) (W) Media Ethics.** Prerequisites: MC 200, MC 201 and MC 400. Course examining the ethical aspects of communications media. It also explores various ethical theories and perspectives, while introducing students to models of moral reasoning for ethical decision-making. Students complete case studies in ethics.

**MC 406 (3) (W, S) Seminar in Urban Affairs Report.** Prerequisites: MC 200, MC 201, and MC 301. This course prepares the student to work the various beats of an urban affairs reporter.

**MC 409 (3) (W, S) Multimedia Reporting.** Prerequisites: MC 200, MC 201, MC 303, MC 310, and MC 320 suggested. Prepares students for the news work of multimedia newsgathering. Students enter the course with basic news writing and reporting skills and will apply “cross-platform” reporting techniques in developing story ideas that take advantage of the interactivity, non-linear, user-driven environment of the Internet.

**MC 411 (3) (W) Scriptwriting.** Prerequisites: MC 200 and MC 201. Course will emphasize writing fiction scripts and developing narrative-based media. It will provide a detailed study and application of scriptwriting for television dramas and narrative films. It will also provide skills in directing and producing narrative media for television and film.

**MC 423 (3) Advertising Media and Selection.** Prerequisites: MC 200, MC 201, MC 330 or consent of instructor. Acquaint students with advanced concepts in marketing strategies and marketing objectives with specific emphasis on the successful selection of the appropriate media to use when initiating an ad campaign, the use of market surveys to test the success of the add campaign, and application of these skills in the actual simulation of a model ad campaign.

**MC 425 (3) (W, S) Advertising and Marketing.** Prerequisites: MC 200, MC 201, MC 330, or consent of instructor. Acquaint the student with the

psychology of advertising sales along with the basic techniques and procedures involved in selling copy to the various media. Develops skills specifically related to actual sales. The student must learn the business aspects of planning the sale, processing the sale, and evaluating the effectiveness of the transaction in regard to the increase or decrease in sales of the said product.

**MC 426 (3) (W) Broadcast Documentary.** Prerequisites: MC 200, MC 201, MC 303, MC 310, MC 323, and MC 409 suggested. Writing, producing, and taping radio and television documentaries. Exposes students to a variety of documentaries that serve as style and content models for student projects.

**MC 430 (3) Management of New Technologies.** Prerequisites: MC 200, MC 201, and three (3) concentration courses. Examines the practical management of media properties with emphasis on new and emerging technologies. This course discusses management style and the evolution of those styles.

**MC 432 (3) International Journalism.** Prerequisites: MC 200, MC 201, and MC 402. A comparative study of print and electronic journalism in the world media; influence and government restraints upon media, and other international problems.

**MC 440 (3) Media Programming.** Prerequisites: MC 200, MC 201, and MC 310. This course introduces students to the fundamental concepts and strategies of media programming. This course will include discussions of radio, television, and cable programming methodology. It will emphasize the television stations as a business; exposing students to concerns of distribution, scheduling, designing formats, and targeting audiences. This course will be coordinated with the closed-circuit campus channel JSU 22.

**MC 450 (3) (S) Special Projects in Mass Communications.** Prerequisite: MC 200, MC 201 and two (2) courses in the concentration. Students develop and complete projects related to the concentration areas. This project may take the form of a research paper or a production.

**MC 452 (3) (W) Sales Promotions Management.** Prerequisites: MC 200, MC 201, and MC 330. This course introduces students to the concepts, theories, and principles of sales promotions. Major emphasis is on how to plan and use promotional techniques including joint promotions, price promotions, and on-the-shelf promotions; how to develop and implement

integrated marketing communication strategy; and how to achieve and maintain creative comparative advantage in sales promotions strategy and execution. The course also examines current trends in and redefining the role of sales promotions.

**MC 470 (3) (W, S) Writing for Public Relations.**

Prerequisites: MC 200, MC 201 and MC 330. Helps students learn how to write and develop a portfolio of specialized public relations material such as press releases, public service announcements, brochures, newsletters, letters, memos, reports, media kits, and speeches.

**MC 471 (3) (W, S) Public Relations Practice.**

Prerequisites: MC 200, MC 201, MC 330, and MC 470. Help students learn how to create a public relations campaign using the case-study approach.

**MC 472 (3) Corporate Communications.**

Prerequisites: MC 200, MC 201, MC 470, and MC 471. Emphasis is on the way in which corporations and business communicate with internal and external publics to transmit mediated messages.

**MC 473 (3) (W, S) Advertising Campaigns.**

Prerequisites: MC 200, MC 201, MC 330, and MC 423. Developing the IMC campaign from concept through development, production, and final evaluation.

**MC 475 (3) Special Topics: Public Relations strategy.**

Prerequisites: MC 200, MC 201, and two (2) courses in the concentration. This course will deal with various topics in Multimedia Journalism, Integrated Marketing Communications, and Media Production on a rotating basis. The course is designed to explore current, relevant topics in the field of mass communications.

**MC 486 (3) Practicum in Mass Communications.**

Prerequisite: MC 200, MC 201, and two (2) courses in the concentration. Students will apply skills and theories learned in the classroom and gain practical work experience at an on-campus media outlet.

**MC 489 (3) Internship in Mass Communications.**

Prerequisites: MC 200, MC 201, three (3) courses in the concentration, and a minimum 2.50 GPA. Students may also be eligible for an Internship based on the decision of the Internship Review Board. Internship is open to advanced students in each concentration on the basis of written application submitted one semester in advance. Students apply skills and theories learned in the classroom to gain real world on-the-job experience at an off-campus

site. Internships are with television and radio stations, newspaper, public relations, and advertising agencies, media and online organizations, and also with businesses, non-profit groups, and government agencies.

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**METEOROLOGY**

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**Department of Physics, Atmospheric and General Science**

**OFFICE: Just Hall of Science Building**

**MET 199-499 (4) Seminar in Atmospheric Science.**

Various topics will be discussed and presented by students, faculty, and visitors. All meteorology majors are expected to enroll in the appropriate course numbers as assigned by their advisors.

**MET 200 (3) Introduction to Meteorology.** Non-mathematical treatment of the fundamentals of meteorology, effects of weather and climate on man and his activities.

**MET 202 (3) Meteorological Measurements.**

Prerequisite: MET 200. Theory, techniques and use of conventional meteorological instruments.

**MET 209 (1) Introduction to Professional Meteorology.**

Pre- or Co-requisite: MET 200. A seminar course in which a variety of professional specialties within the area of the atmospheric sciences will be explored by the students. Wherever possible, visiting professionals will be invited to present materials about their specialty in the meteorology curriculum.

**MET 303 (3) Measurements and Observations.**

Prerequisite: MET 200. Practical experiences in weather observing, gathering and coding meteorological data.

**MET 311 (3) General Meteorology.** Pre- or Co-requisite: MATH 231. Terrestrial energy budget; general circulation; atmospheric motion, fronts and cyclones, mesoscale dynamics, application to weather forecasting and modifications.

**MET 321 (3) Atmospheric Thermodynamics.**

Prerequisite: MET 311. Thermodynamic properties of the atmosphere, hydrostatic equilibrium and stability.

**MET 341 (3) Dynamic Meteorology.** Prerequisites: MET 311, 321, and MATH 232. Physical and Mathematical models of atmospheric motion are developed from the basic equations of motion.

**MET 411 (3) Physical Meteorology.** Prerequisites: MET 311, and 321. Transmission of electromagnetic and sound waves in the atmosphere; the physics of clouds and precipitation; electrical properties of the atmosphere.

**MET 422 (3) Introduction to Synoptic Meteorology.** Prerequisites: MET 311, and 341. Composition of and physical processes in the atmosphere; weather elements and their spatial distribution; air masses, fronts, and weather forecasting.

**MET 423 (3) Synoptic Meteorology Laboratory.** Prerequisite: MET 422. Techniques of analyzing typical weather situations; practice weather forecasting. (F, S)

**MET 472 (1 - 3) Research Methods in Meteorology.** Prerequisite: Consent of department. Special problems in meteorology based on research or literature survey terminating with a comprehensive written report. (D)

**MET 487 (3) Physical and Dynamic Climatology.** Prerequisites: MET 341, and 411. Physical principles underlying the variations and changes in climate; climate controls—elements of microclimatology; interpretation of selected regional climates. (D)

**MET 492 (1 - 3) Seminar in Meteorology.** Prerequisite: Consent of department. Meetings for presentation and discussion of topics in meteorology by staff members and students of recent contributions published in current periodicals and of original research. (D)

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## MANAGEMENT

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**Department of Management and Marketing  
OFFICE: College of Business Building**

**MNGT 330 (3) Management to Organizations.** A foundation course in management focusing on the principle functions and practices of management. Course focuses on most of the sub-disciplines of management. (F, S, Sum)

**MNGT 333 (3) Quantitative Business Analysis.** Prerequisites: MNGT 330 and ECO 357. This course is designed to introduce students to the quantitative approaches to management. Use of management science techniques—forecasting, decision making, inventory management, linear programming, network models and simulation—is emphasized to solve

problems in all functional areas of business. (F, S)  
**MNGT 350 (3) Business Computer Applications.** An introduction to computers as a tool for information processing and hands-on experience with the PC utilizing business application of word processing and presentation software. Business Computer Applications will emphasize database management applications as well as the use of electronic spreadsheets as practical tools for solving problems. (F, S, Sum)

**MNGT 353 (3) Production and Operations Management.** Prerequisite: MNGT 333. This course introduces concepts related to production and operations management. Specifically, the course covers product and service design, location, planning, process selection and capacity planning, facilities layout, design of work systems, material requirement planning, just-in-time systems, scheduling, and product management. (S)

**MNGT 416 (3) Organizational Behavior.** Prerequisites: MNGT 330 and junior classification. Organization theory and investigation of the impact that individuals, groups, and structure have on behavior within organizations. (F)

**MNGT 452 (3) Human Resource/Personnel Management.** Prerequisites: MNGT 330 and junior classification. The administration of the human resource in organizations, including recruitment, selection, placement, training, motivation, performance appraisal, and compensation. Discussion of laws pertinent to managing personnel in organizations. (F)

**MNGT 458W (3) Strategic Management.** Prerequisites: ACC 212, MNGT 330, ECO 212, FNGB 320, MKT 351, and senior classification. Expressed and implied guides to behavior and action within the framework of the business organization including managerial implementation of policies and the appropriate enforcement of those guidelines. (F, S, Sum)

**MNGT 460 (3) Management Information Systems.** Prerequisite: MNGT 350. Covers the information system development life cycle. Use of data flow diagrams and structure charts; database design, and program development. Utilizes a relational database management system to illustrate system development techniques. (F)

**MNGT 462 (3) International Business.** Prerequisite: MNGT 330. A study of the problems facing business

organizations in the international setting. (S)

**MNGT 468 (3) Collective Bargaining.** Prerequisites: MNGT 330 and senior classification. The study of labor movements, strikes, and arbitration of strikes and labor disputes. An historical perspective tied in with contemporary labor issues. (S)

**MNGT 472 (3) Managerial Leadership.** Prerequisites: MNGT 330 and senior classification. This course focuses on the influencing function of management and draws heavily on behavioral science research and theories; how to motivate, help, guide, and coach employees for maximum performance; how to handle conflict situations; and how to effectively lead a multicultural workforce will be explored. (S)

**MNGT 482W (3) Business Ethics.** Prerequisites: MNGT 330, and FNGB 201. In-depth examination of the impact of business ethics on corporate decision making. The course will focus on the relationship between ethics and corporate governance. Students will examine ethical dilemmas in the workplace and the actions of corporations. (S)

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## MANAGEMENT INFORMATION SYSTEMS

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**Department of Management and Marketing**  
**OFFICE: College of Business Building**

**MIS 320 (3) Introduction to Software Design.** This course is designed to the concepts of modern software design. Students will develop skills in the design of algorithms. Based on common business information processing problems, students will learn to develop software using structured techniques. Real life problems will be used to enhance the student's ability to solve business problems. (F)

**MIS 325 (3) Introduction to Data Communication.** Prerequisites: MATH 111 and MIS 250C. This course covers the following topics in data communications: transmission sources, transmission receivers, and transmission mediums through which digitized data, voice, and images are transmitted within and between computer systems. The course will provide students with a detailed literacy overview of hardware, software, communication protocols, facilities, carriers, regulations and management information systems as related to the transfer of digitized information. Computer simulation projects will be conducted. (F)

**MIS 377 (3) Structured Programming (Visual Basic).**

Prerequisites: MATH 111, and MIS 320. Data validation, multilevel control break processing, sequential update, internal sort, and table handling are covered in detail. Programming development focuses on program structure, program logic, program style, and the programming process. One-level tables and multiple-level tables are covered extensively. Processing with sequential files and indexed sequential are covered extensively. Processing with sequential files and indexed files are discussed. Structured programming and modular programming techniques will be stressed to develop programming skills that will allow students to build workable business-oriented COBOL programs. (F)

**MIS 417 (3) Systems Simulation and Information Processing.** Prerequisites: MATH 111, 221, and MIS 320. The course objectives are to familiarize students with modeling and introduce simulation languages to support the models. Real-life examples and a considerable amount of business fundamentals will be discussed and explored. Simulation languages include GPSS, SIMSCRIPT, and GPLAN;

their use of these systems in business problem solving will be emphasized. Program development using simulation language is emphasized. (F)

**MIS 427 (3) System Analysis and Design.** Prerequisites: MATH 111, 221, MNGT 250C, and MIS 320. A systematic approach to problem formulation and solving, introduction of systems development life cycle, use of prototyping tools, and utilization of case tools emphasized. Students will gain experience in using data flow diagramming tools in the analysis phase. A practical dimension will be emphasized through real-world systems analysis and design project based upon business processes. (S)

**MIS 450 (3) Information Structures.** Prerequisites: MATH 111, 221, MNGT 250, and MIS 320. This course is designed to introduce students to the concepts of modern data structures. Students will develop skills in the design of data structures, using common business information processing problems. Students will learn to develop data types using software with structured techniques. Real life problems will be used to enhance the student's ability to solve business problems. Using Pascal or algol W, fundamental data structures and algorithms for manipulating data within them are discussed in class. (S)

**MIS 455 (3) Operating Systems.** Prerequisites: MATH 111, MIS 320 and 460. Introduction to components of operating systems and features of operating systems

(OS) used to implement information systems. Coverage includes nucleus, memory manager, file manager, I/O systems, bath subsystems, command line interpreter, and system generation. Several OS are considered. (S)

**MIS 460 (3) Management Information System.**

Prerequisite: MNGT 350. This course covers the information system development life cycle. Use of data flow diagrams and structure charts, database design, and program development. The course utilizes a relational database management system to illustrate system development techniques. (F)

**MIS 472W (3) Seminar in Management Information Systems.**

Prerequisites: MATH 111, 221, MIS 320 and 427. Investigation of topics of current interest in computer based management information systems. Artificial intelligence, decision support systems, and object oriented systems development are introduced. Seminar course with lectures, will explore the theoretical aspects of management information systems to develop understanding of these technologies. Theory will be reinforced with discussion of articles from literature and student analysis of cases. (S)

**MIS 477 (3) Advanced Structured Programming.**

Prerequisites: MATH 111, MIS 320, 377, and 450. Advanced structured ANSI COBOL subprogram, report writer, indexed sequential processing, and relative file processing are covered in this course. This course is a continuation of MIS 377-Structured COBOL Programming. The main objective is further development of programming and problem-solving skills with particular emphasis on some of the more advanced topics in business file processing. (S)

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## MARKETING

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**Department of Management and Marketing  
OFFICE: College of Business Building**

**MKT 351 (3) Marketing Management.** Prerequisite: ECO 211. Analytical survey of problems encountered by business people in distributing goods and services to markets. Takes a marketing-management approach in solving problems related to product planning, channels of distribution, pricing/advertising, and personal selling. Emphasizes role of consumers in the marketing process. (F, S, Sum)

**MKT 432 (3) Advertising.** Prerequisite: MKT 351. Advertising as a communications tool in marketing management. Develop an understanding of the role

of advertising under diverse marketing conditions. Emphasis will focus on problems of integrated advertising strategy in the firm's marketing program pertaining to media-selection, budgeting, production and layout, and measurement of effectiveness. Attention will also be given to the social and economic aspects of advertising. (F, S)

**MKT 436 (3) Retail Management.** Prerequisite: MKT 351. Profit planning and business control; buying, stock control, pricing, promotion; store location/layout organization, policies, systems; coordination of store activities. (F)

**MKT 438 (3) Marketing Research.** Prerequisites: MKT 351, ECO 357 and 358, or equivalent statistics courses. Study of the role of research in marketing decision-making, the research process, including research designs, measurements, data analysis and interpretation. (F)

**MKT 440 (3) Consumer Behavior.** Prerequisite: MKT 351. Survey of noteworthy contributions of the behavioral sciences to the understanding and prediction of consumer behavior. Contributions of various research techniques in the social sciences to the understanding of consumer purchasing and decision making processes, with particular attention to formal and informal influence patterns. Application of concepts to management of advertising, personal selling, pricing, and channels of distribution. (F)

**MKT 446 (3) Marketing to Organizations.**

Prerequisite: MKT 351. Major activities involved in marketing of industrial goods. Analysis of industrial market structures; habits and motives of industrial purchasers; types of industrial products; pricing problems; distribution channels. Problems in selling to agencies of government. (S)

**MKT 448 (3) Marketing Channels.** Prerequisite: MKT 351. This course deals with the development of channels / functional and behavioral dimensions, environmental forces, power, conflict, and communication within the channels. Current and future trends in the development and management of channels are also treated. (S)

**MKT 450 (3) Personal Selling.** Prerequisites: MKT 351 and senior classification. Personal Selling will recognize that today's salesperson faces a skeptical, well educated and sophisticated buyer, and that the professional sales person must be far more than a mere purveyor of goods and services. Professional selling will attempt to harmonize techniques and



strategies with personality development, so that sales students might move toward their full potential in selling. (F)

**MKT 462W (3) Marketing Policies and Strategies.**

Prerequisites: MKT 351 and nine (9) hours of additional marketing courses, and senior classification. Detailed consideration of process of formulating and implementing marketing policies. Major emphasis on markets, distribution channels, and product analysis. Problem approach utilized to develop student's analytical ability and to integrate all major areas of marketing. (S)

**MKT 466 (3) International Marketing.** Prerequisite: MKT 351. Institutions, functions, policies, and practices in international marketing. Relates marketing activities to market and marketing environment. (S)

**MKT 468 (3) Services Marketing.** Prerequisites: MKT 351, junior or senior classification. An analysis of the benefits offered to customers and the costs that they will incur in return. A study of the problems associated with the marketing of services and an exploration of alternative strategies to resolve the problems and improve service marketing effectiveness. (S)

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## MILITARY SCIENCE

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**Department of Military Science**  
**OFFICE: Old Faculty Apartment Building**

**MS 101 (1) Fundamentals of Leadership and Management I.** Co-requisite: MS 103. Introduction to officership with emphasis on military customs and traditions, time management, stress management, and physical fitness. Introduction to principles of leadership with emphasis on character and competence, values and ethics, and values of the U.S. Army.

**MS 102 (1) Fundamentals of Leadership and Management II.** Co-requisite: MS 104. Builds upon leadership principles emphasizing oral and written communications, the problem-solving process, goal setting, active listening, assertiveness skills, counseling methods and nutrition. Builds upon principles of officership with emphasis on life the U.S. Army.

**MS 103 (1) Leadership Lab.**

**MS 104 (1) Leadership Lab.**

**MS 201 (2) Individual Leadership Studies.** Co-requisite: MS 203. Building on leadership principles with emphasis on communication, personal development,

physical well-being, team building, problem solving, and reasoning. Introduction to the ROTC Distance Learning Enhancement Skills Training Program with special emphasis on math, English, and reading skills.

**MS 201 (3) Individual Leadership Studies**

(Compression Course). Co-requisite: MS 203. May substitute for MS 101 and 201 by compressing them together. Course is designed for sophomore student who have not had previous military science classes, basic training, or high school JROTC.

**MS 202 (2) Leadership and Teamwork.** Co-requisite: MS 204. Building of leadership principles with emphasis on communication, personal development, physical well-being, team building, problem solving, and reasoning. Continued development of oral and written communication skills.

**MS 202 (3) Leadership and Teamwork (Compression Course).** Co-requisite: MS 204. May substitute for MS 102 and 202 by compressing them together. Course is designed for sophomore student who have not had previous military science classes, basic training, or high school JROTC.

**MS 203 (1) Leadership Lab.**

**MS 204 (1) Leadership Lab.**

**MS 300 (2) Leadership Training Camp.** Prerequisites: Students must have minimum of 2 years of college remaining. ROTC Basic Camp is a six-week summer training and evaluation class conducted on an active Army base. Students learn fundamental military skills and develop the ability to lead others. Students earn approximately \$761 while learning fundamental leadership skills with hundreds of other college students from universities throughout the United States and Puerto Rico. This is a substitute course for MS 100 and 200 level courses. Qualifies students for MS 300 level courses.

**MS 301 (3) Advanced Leadership and Management I.** Co-requisite: MS 303. Introduction to the Leadership Development Program and Self Assessment. Builds upon leadership principles with emphasis on physical fitness, wellness, nutrition, and training a team. Develops officership focusing on tactics, the principles of war, and offensive and defensive operations utilizing tactical analysis case studies. Develops officership with emphasis on the problem solving process utilizing the Troop Leading Procedures, officer duties, the role and organization of the Army values, spiritual needs, consideration of others, and ethical decision making.

Qualified cadets may receive up to \$3,600 stipend annually. Course includes mandatory field training exercises.

**MS 303 (1) Leadership Lab.**

**MS 304 (1) Leadership Lab.**

**MS 400 (3) Leadership Development and Assessment Camp.** Prerequisites: MS 301 and 302. LDAC is a six-week summer training and evaluation class conducted on an Active Army base. Cadets must attend LDAC during the summer upon completion of MS 302. Students are placed in leadership positions and evaluated on their ability to plan, direct, and execute tasks while operating in challenging and stressful environments. Student will earn approximately \$800 for attendance at LDAC.

**MS 401 (3) Seminar in Leadership and Management I.** Co-requisite: MS 403. Prepares cadet for commissioning as Second Lieutenant in the U.S. Army by focusing on career choices, life in the Army, training the force, mission-essential task list development, training execution and assessment, active listening and feedback, personal and developmental counseling, stress management, social exchange theory, expectancy theory, organizational systems and culture, and organizational change culminating in a leadership simulation practical exercise. Qualified cadets may receive up to \$4,000 stipend annually. Course includes mandatory field training exercises.

**MS 402 (3) Seminar in Leadership and Management II.** Co-requisite: MS 404. Comprehensive senior leadership project that focuses on values and ethics emphasizing assessment, establishment, and improvement of the ethical climate, the foundation, regulations, and codes of military law, and the law of war, the tactical, operational, and strategic levels of war, military operations other than war, personnel administration, maintenance and supply management, financial planning, counseling practicum, leadership lessons and developing a Leadership Vision. Qualified cadets may receive up to \$4,000 stipend annually. Course includes mandatory field training exercises.

**MS 403 (1) Leadership Lab.**

**MS 404 (1) Leadership Lab.**

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## MUSIC

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**Department of Music**

**OFFICE: Frederick D. Hall Music Center**

**Music Theory:**

**MUS 011 (2) Introduction to Music Theory.** Special study for students who plan to major in music and do not meet standards for MUS 111. Designed to strengthen basic musicianship areas as needed.

**MUS 111 (2) Music Theory.** Prerequisite: Theory Placement Examination. Functional study of basic music theory including notation, rhythm, scales, modes, intervals, sightsinging, diction, partwriting, composition and performance style practices, and development of basic aural skills. Laboratory experience required.

**MUSY 111 (1) Sight Singing and Ear Training.** Development of basic skills in music reading and aural perception. Laboratory experience required.

**MUSY 112 (1) Sight Singing and Ear Training.** Prerequisite: MUSY 111. Continuation of the development of basic skills in music reading and aural perception. Laboratory experience required.

**MUS 112 (2) Music Theory.** Prerequisite: MUS 111. Continuation of MUS 111 with emphasis on the application of common elements of music to rhythmic, melodic and harmonic diction, three and four part writing, aural and visual analysis. Laboratory experience required.

**MUS 113 (2) Music Theory.** Prerequisite: MUS 112. Elective course in basic musicianship designed to provide additional study in stylistic analysis of diatonic structures and experimentation with four voice homophonic writing.

**MUS 201 (3) Fundamentals of Music.** Study of the basic elements of music needed by Elementary and Special Education majors as a prerequisite to MUS 203. Elective for other non-music majors.

**MUS 211 (2) Music Theory.** Prerequisite: MUS 112. More advanced study in basic musicianship including altered chords, modulation to near-related keys, partwriting, development of aural skills, stylistic analysis and compositional techniques. Laboratory experience required.

**MUSY 211 (1) Sight Singing and Ear Training.** Prerequisite: MUS 112. More advanced studies in the

development of music reading and aural perception skills. Laboratory experience required.

**MUSY 212 (1) Sight Singing and Ear Training.**

Prerequisite: MUS 211. More advanced studies in the development of music reading and aural perception skills. Laboratory experience required.

**MUS 212 (2) Music Theory.** Prerequisite: MUS 211. Advanced study in basic musicianship including ninth, eleventh and thirteenth chords, modulation to distant keys, and continued development of aural skills, stylistic analysis and compositional techniques. Laboratory experience required.

**MUS 213 (2) Music Theory.** Prerequisite: MUS 212. Elective with emphasis on twentieth century techniques.

**MUS 226 (3) Introduction to Music Technology.**

A survey of computer hardware, software, and other electronic devices as they relate to computer generated music. Topics include computer basics, MIDI sequencing, music notation, database building, and internet resources for musicians.

**MUS 311 (3) Form and Analysis.** Prerequisite: MUS 212. Analysis of forms and styles representative of works from the Renaissance period to the present.

**MUS 411 (2) Vocal Arranging.** Prerequisite: MUS 311 or equivalent. Arranging and adapting scores for small and unusual groups of vocal combinations.

**MUSY 411 (2) Instrumental Arranging.** Prerequisites: MUS 311, and 331-332. Fundamental techniques of arranging and transcribing music for varied instrumental ensembles.

**MUS 412 (3) Orchestration.** Prerequisites: MUS 311, 332, and 222. Practical study in the art of scoring for various sections of the orchestra, singly and in combination. Elective.

**MUS 437 (3) Seminar in Church Music.** The course will enable participants (1) to become aware of how to intelligently use instruments in the worship service; (2) to understand and be able to plan a comprehensive church music program; (3) to understand when to use the hymn, anthem, spiritual, response or gospel selection in worship; and (4) to become cognizant of appropriate materials and techniques for use in developing choirs of varying age groups.

**MUS 451 (3) Counterpoint.** Prerequisite: MUS 311. Study of model, eighteenth century and contemporary counterpoint with experiences in writing. Required for Bachelor of Music students, elective for others.

**MUS 452, 453 (3) (3) Composition I and II.** Prerequisite: MUS 311. Exploration and understanding methods by which music is composed, study of traditional musical styles, experiences in improvisation and manipulating common elements in traditional and nontraditional ways. Original compositions required. Elective.

**MUS 461 (2) Special Studies in Theory I.** Prerequisite: Consent of instructor. Creative or research projects in music theory on an individual basis. Elective.

**MUS 462 (3) Special Studies in Theory II.**

Prerequisite: Consent of instructor. More advanced creative or research projects in music theory on an individual basis. Elective.

**Music History and Literature:**

**MUS 205 (3) Music Appreciation.** Study of music designed to provide the general student with knowledge and understanding of the history, structure, and style of various types of music literature and development of listening skills.

**MUS 206 (3) Elementary School Music**

**Appreciation.** Prerequisite: Mus 203. Student of classical, romantic, and contemporary music with emphasis on its use in elementary schools. For Elementary and Special Education majors concentrating in music, elective for others.

**MUS 217 (1) Jazz History.** Study of the development of jazz from its African origins to its present status as an organized art form, contributions of selected jazz.

**MUS 219 (1) Jazz Vocal Techniques II.** Student of organ literature, style analysis, historical and practical organ design. Comparison of electronic, computerized and pipe organs.

**MUS 319 (3) Chamber Music.** Prerequisite: MUS 322. Study of the historical background, literature, media, forms and styles of ensemble music, including small group rehearsals for instrumentalists, vocalists, and pianists.

**MUS 321 (3) Music History.** Prerequisite: MUS 112. A chronological and comparative study of the historical development of musical practices, forms and styles from Antiquity to the Baroque era.

**MUS 322 (3) Music History.** Prerequisite: MUS 321. Continuation of MUS 321 with emphasis on the literature, forms, styles and practices of music in the Baroque era to the present time.

**MUS 323 (3) Music History.** Elective course designed to study the various forms, styles, media and techniques utilized in music on the present time.

**MUS 350 (3) Roots of Music Springing from Africa.** The study of music from its beginning with emphasis on African cultures that contributed to its development. Elective, may be substituted for MUS 205.

**MUS 351 (3) Contributions of Black Americans to Western Music: The Influence of Africa.** The influence of Africa on American music and the contributions of Black Americans to its development. Elective, may be substituted for MUS 205.

**MUS 352 (3) Folk Music of Black People in the United States, Latin America, South America and the Caribbean.** The contribution of Black People to the development of Folk Music. Elective.

**MUS 431 (3) Symphonic Literature.** Prerequisite: MUS 322. Study of symphonic literature of various periods with emphasis on listening, score reading, style and analysis, historical practices and procedures, and technical problems of performance.

**MUS 432 (3) Keyboard Literature I.** Prerequisite: MUS 322. Study of literature for keyboard instruments from earliest periods to the present. Performance, listening sessions and discussion of aesthetic value, structure and style.

**MUS 433 (3) Song Literature.** Prerequisite: MUS 322. A chronological survey of song literature with emphasis on principal types, forms, composers, stylistic features, trends and influences in representative style periods.

**MUS 434 (3) Keyboard Literature II.** Prerequisite: MUS 432. Concentrated study of selected topics in keyboard literature. Correlation of art, music and literature; performance, listening and discussion of aesthetic values, structure and style.

**MUS 435 (3) Song Literature II.** Prerequisite: MUSV 433. An advanced survey of literature for solo voice(s) from the English Lutenists to literature of the 21st century. A study of interpretation both practical and within historical context and program

building are included, along with a review of song study techniques.

#### **Music Education:**

**MUS 104, 105 (1) (1) Voice Class.** Artistic singing, diction, phrasing, breath support and control, methods and materials applicable to elementary school students in grade 1 - 6. Elementary and Special Education majors only.

MUS 117 (1) Voice Class. Essential elements of artistic singing, including effective methods of breath control, formation and color of vowels, resonance, phrasing, diction, and development of effective singing techniques.

**MUS 118 (1) Voice Class.** Voice diagnosis; consideration of the fundamentals of vocal production as related to each individual; study of breath control, resonance and diction; application of fundamentals to song material. Elective.

**MUS 203 (3) Music for Children.** Prerequisite: MUS 201. Study of philosophy, aims, appropriate musical experiences, materials and methods; application of skills and techniques of teaching music to elementary school children. For prospective elementary school teachers.

**MUS 221, 222 (1) (1) String Class.** The study of application of fundamentals of playing and teaching string instruments including correct tone production, bowing techniques and care of the instruments. Laboratory experience required.

**MUS 223 (1) String Class.** Prerequisite: MUS 222 or equivalent. More advanced study and application of essential playing and teaching techniques for string instruments. Elective.

**MUS 230, 231 (1) (1) Jazz/Commercial Keyboard Skills.** Prerequisite: MUSD 115. Basic jazz keyboard skills. Keyboard realization of jazz harmony with typical idiomatic voicing.

**MUS 301 (3) Music in the Elementary School.** Prerequisites: MUS 201 and 203. Historical, philosophical, psychological, social and aesthetic foundations of music for children. Emphasis on effective organization and implementation of musical experiences for children.

**MUS 302 (3) Music in the Elementary School.** Prerequisites: MUS 212, and PRAXIS I. Philosophy, aims, and principles of music teaching and learning;

content, methods and materials for music teaching; creative approaches to the development of musical concepts in elementary school children.

**MUS 303 (3) Music in the Secondary School.**

Prerequisite: MUS 302. Philosophy, basic concepts and principles of music teaching and learning in the secondary school. Emphasis on content, techniques and materials for effective program building and implementation.

**MUS 304 (3) Recreation Music.** An introduction to innovative ways in which music may be applied to recreation and leisure. For Elementary and Special Education majors concentrating in music. Elective for others.

**MUS 333 (2) Conducting.** Prerequisite: Junior standing or consent of instructor. Elements and techniques of conducting; stylistic interpretation; choral, band and orchestral score reading; rehearsal techniques, individual practice in conducting performance groups.

**MUS 334 (2) Conducting.** Prerequisite: MUS 333. More advanced study in the fundamentals of conducting both choral and instrumental groups. Elective.

**MUS 337 (1) Brasswind Class.** Prerequisite: Junior standing or consent of instructor. Study of the origin and development of brasswind instruments and development of fundamental performance proficiency on one or more brass instruments.

**MUS 338 (1) Woodwind Class.** Study of the origin and development of woodwind instruments and development of fundamental proficiency on one or more woodwind instruments.

**MUS 339 (1) Percussion Class.** Study of the origin and development of percussion instruments and development of fundamental performance proficiency on basic percussion instruments.

**MUS 341 (3) Advanced String Class.** Prerequisite: MUS 222 or consent of instructor. More advanced study of the content, methods, techniques and materials useful for effective teaching of string instruments in schools, individually and in groups. Elective.

**MUS 407 (3) Instrumental Pedagogy.** Prerequisite: MUS 315. Students will master objectives, methods

and materials applied to instrumental teaching. This course is designed to teach the student skills for studio instruction from various stages for the beginning, intermediate, and advanced student.

**MUS 410 (3) Advanced Band Instrument Class.**

Prerequisite: MUS 332 or equivalent. More advanced study of the content, methods, techniques and materials useful for effective teaching of band instruments in schools, individually or in groups. Elective.

**MUS 420 (3) Jazz Pedagogy/Methods.** Prerequisite: MUS 311. Techniques for the effective organization, administration and implementation of the jazz studies program in the school and private studio.

**MUS 421 (3) Piano Methods and Materials.** Prerequisite: MUS 315. Techniques needed to understand teaching private piano and piano classes; pedagogical methods, content and literature. This course combines historical, theoretical and educational strategies into an effective teaching method in compliance with music education standards.

**MUSQ 421 (3) Choral Methods and Materials.**

Prerequisites: MUS 303 and 315. Techniques of organizing and developing choral groups in schools; study and evaluation of choral methods, content and literature.

**MUSM 421 (3) Instrumental Methods and Materials.**

Prerequisites: MUS 315. Techniques of organizing and developing instrumental groups; musical content, pedagogical practices, procedures, methods and materials for developing bands, orchestras, ensembles and solo performances.

**MUS 422 (3) Church Music.** Basic objectives, organizational procedures, administration, and literature of modern liturgical music. Elective.

**MUS 423 (3) Art of Accompanying.**

Prerequisite: MUS 215. Practical training for music majors in coaching and playing choral, vocal, dance and instrumental accompaniments. Elective.

**MUS 425 (3) Administration of School Music.**

Study of administrative considerations basic to essential facets of school music programs, K-12, including objectives, organization, staffing, financing, equipment, facilities, scheduling, public relations and instruction. Elective.

**MUS 426 (3) Voice Pedagogy.** Prerequisite: MUS 215 or 225. Objectives, methods and materials applied to vocal teaching. Procedures in voice production, respiration, phonation, articulation, resonance; voice classification, quality, diction, support and control. Elective.

**MUS 427 (3) Music Seminar.** Prerequisite: Senior standing. Integrative analysis, review and assimilation of basic concepts in the development of musicianship as related to contemporary needs and uses. Elective.

**MUS 428 (3) Applied Piano Recital.** This course studies the development of hymnology from the early church to the present. Additional attention is given to the historical performance practice unique to the respective periods.

**MUS 429 (3) The Church and Music Education.** A comprehensive program constructed to enable the church musician to study materials, methods, and activities and to present programs specifically designed to educate the taste of various congregations.

**MUS 436 (2) Church Music Workshop.** Prerequisite: MUS 212. Rehearsal procedures, reviewing literature of the past and present, philosophies of church music, as well as liturgies will be studied. Planning of a church music program that is flexible and dynamic, as well as contemporary; contemporary trends will be covered.

#### **Supportive Music Courses:**

**MUS 100 (2) Careers in Music.** A study of alternative careers to teaching in the field of music. Current needs, future trends, economic considerations, preparation of courses of study, geographical advantages, special characteristics and preparation required.

**MUS 207 (3) Keyboard Skill.** Prerequisite: MUS 212. Applied experience for music communication skills: sight-reading scores, improvisation, accompanying, transposing and ensemble playing. Additional master class laboratory required.

**MUS 408 (3) Piano Pedagogy I.** Prerequisite: MUS 325. Designed to teach the student technical skills needed for piano studio instruction and to examine teaching materials from various periods for the beginning, intermediate and advanced piano student.

**MUS 409 (3) Piano Pedagogy II.** Prerequisite: MUS 408. Practical teaching of beginning intermediate and advanced pupils in piano. Application of

technical skills and materials studied in MUS 408 and 409 to instruction of piano students.

**MUS 498 (2) Independent Study.** Prerequisites: MUS 315 or 325. Intensive study of a subject selected in accordance with student needs, under the direction of the faculty. Written report required.

**MUS 499 (2) Independent Study.** Prerequisite: Senior standing. Individual program of study in major area of interest, under the direction of the faculty. Opportunities to broaden knowledge and develop further skills in special areas of music.

#### **Basic Applied:**

**MUS 001, 002 (1) (1) Basic Applied.** Private instruction in the basic concepts of piano, vocal, or instrumental performance. For students who need to be strengthened in the fundamental principles and techniques of their applied major.

#### **Piano:**

**MUS 101, 102 (1) (1) Basic Keyboard.** Beginning class piano instruction. Principal chords in all keys; ear training, rhythm, harmonization and transposition of melodies suitable for grades K - 6.

**MUS 114, 115 (2) (2) Applied Piano.** Prerequisite: Freshman standing on piano auditions. All major and minor scales and arpeggios, technical exercises, selections from Mikrokosmos and selected repertoire from Baroque, Classical, Romantic and Contemporary periods.

**MUSD 114, 115 (1) (1) Applied Secondary Piano.** For all vocal and instrumental students. Emphasis on scales, chords, sight-reading, improvised accompaniments to melodies and transposition. Must be enrolled in MUS 111.

**MUSD 116 (1) Applied Secondary Piano.** Continued development of basic keyboard skills in scales, techniques, sight-reading, and easy ensemble compositions. Elective.

**MUS 214, 215 (2) (2) Applied Piano.** Prerequisite: MUS 115. All scales, 3rds, 6ths, 10ths, dominant 7th and diminished 7th arpeggios; advanced studies including Mikrokosmos; advanced repertoire including suites, sonatas and preludes from all major historical periods.

**MUSD 214, 215 (1) (1) Applied Secondary Piano.** Prerequisite: MUSD 115. For vocal and instrumental students. Sight-reading and performance and



materials suitable for school and community use. Harmonizations, transpositions, accompaniments and moderately easy compositions. Piano proficiency required in MUS 215.

**MUSD 216 (1) Applied Secondary Piano.**

Prerequisite: MUSD 215 or consent of instructor. Continuation of development of basic keyboard skills including sight-reading, harmonization and transposition of simple melodies. Elective.

**MUS 314, 315 (1) (2) Applied Piano.** Prerequisite: MUS 215. Advanced technical studies; detailed study of Bach or Handel Suites, compositions by Schubert, Chopin, Brahms, Mendelssohn or Liszt and representative 20th century repertoire. Junior recital at 315B level.

**MUSD 314 (1) Applied Secondary Piano.**

Development of piano skills to enable students to sight-read moderately easy compositions including jazz idioms, emphasis on community songs and choral accompaniments. Elective.

**MUSD 315 (1) Applied Secondary Piano.**

Continuation of MUSD 314 with the same types of materials on a moderately difficult level. Elective.

**MUSD 316 (1) Applied Secondary Piano.**

Continuation of MUSD 315 with emphasis on piano literature of a more difficult level. Elective.

**MUS 414 (2) Applied Piano.** Prerequisite: MUS 315. Preparation for and presentation of senior recital. Selection of compositions from Baroque to Twentieth Century forming a well-balanced program.

**MUS 415 (3) Applied Piano.** Prerequisite: MUS 414. Advanced piano study beyond the senior recital level. Elective.

**Organ:**

**MUSO 114, 115 (2) (2) Applied Organ.** Prerequisite: Audition and consent of instructor. Easy to moderately difficult literature of all periods and natural schools. Selected materials; The Church Organist by Andrews and Riddle, J. S. Bach's Eight Preludes and Fugues. The Little Organ Book, hymn playing.

**MUSO 214, 215 (2) (2) Applied Organ.** Prerequisite: MUSO 115. Continuation of MUSO 115. More advanced literature of all periods and further instruction in hymn playing.

**MUSO 314, 315 (2) (2) Applied Organ.** Prerequisite:

MUSO 215. Advanced literature including specific types of accompaniments. Reduction of orchestral accompaniments to choral works.

**Voice:**

**MUSV 114, 115 (2) (2) Applied Voice.** Prerequisite: Freshman standing on voice audition. Vocalization for development of tone quality, diction, range, breathing and correct singing posture. Individualized basic musicianship and technical studies. Repertoire Requirements; Eight songs. Four songs per semester. Four Italian and Four English songs from the 17th and 18th centuries. At least three songs are to be memorized per semester.

**MUSL 114, 115 (1) (1) Applied Secondary Voice.**

Prerequisite: Audition. For students other than voice majors. Emphasis on the essentials and elements of artistic singing and reading skills. Songs in English and Italian.

**MUSL 116 (1) Applied Secondary Voice.** For students other than voice majors. Emphasis on the essentials and elements of artistic singing and music reading skills. Repertoire requirements; One song in English and One song in Italian. Both songs are to be memorized.

**MUSV 214, 215 (2) (2) Applied Voice. Prerequisite:**

MUSV 115. A continuation of basic musicianship and technical studies. Repertoire requirements. Five songs per semester; two selected from the Oratorio repertoire, Two French chanson, Two German lieder, Two American art songs or sacred songs, Two Operatic arias. At least four are to be memorized per semester.

**MUSL 214, 215 (1) (1) Applied Secondary Voice.**

Prerequisite: MUSL 115. Continuation of voice 115. Development of sufficient vocal skills to assure effective use of the voice in demonstrations. Experience in solo vocal performance. Songs in English and Italian.

**MUSL 216 (1) Applied Secondary Voice.**

Prerequisite: MUSL 116 or consent of constructor. More advanced elective course with emphasis on development of increased technical and technical skills. Repertoire requirements: Two American art songs or sacred songs and one Italian art song. At least two songs are to be memorized.

**MUSL 314, 315 (1) (1) Applied Secondary Voice.**

Prerequisite: Audition. Elective courses for continued development of musicianship with the emphasis on stylistic interpretation through the use of vocal literature and technical studies. Songs in English,

Italian, Spanish or French.

**MUSV 314, 315 (2) (2) Applied Voice.** Prerequisite: MUSV 215. Continuation of technical studies with more emphasis on musical style, interpretation and performance practice. Repertoire requirements: Twelve new songs. Six new songs each semester. Three American art songs, Three German lieder, Three French chanson, Two oratorio or cantata arias, and one operatic aria. At least five are to be memorized per semester. Junior Recital at the 315 level.

**MUSL 316 (1) Applied Secondary Voice.** Prerequisite: MUSL 216 or consent of instructor. Continuation of vocal technique and interpretive skills. More advanced repertoire. Repertoire Requirements: Four songs. Two American art songs or sacred songs, one operatic aria and one oratorio or cantata aria. At least three songs are to be memorized.

**MUSV 414 (2) Applied Voice.** Prerequisite: MUSV 315. Advanced vocal technique and literature. Greater emphasis on performance practice and communicative skills. Repertoire requirements: Twelve new songs. Six new songs per semester. One song cycle or chamber work. Three French chanson, Three German lieder, Three American art songs or sacred songs. At least five songs are to be memorized per semester. Preparation and presentation of senior recital.

#### **Violin:**

**MUSN 114, 115 (2) (2) Applied Violin.** Prerequisite: Freshman standing on violin audition. Private instruction on developing fundamental techniques of violin playing. Scales, arpeggios, sight-reading, technical studies, solo and ensemble literature.

**MUSN 214, 215 (2) (2) Applied Violin.** Prerequisite: MUSN 115. Application of technique to performance. Elements of position, tone production, bow management, finger placement covering entire and tonal range in all positions. Standard orchestral bowings, technical studies, solo and ensemble literature.

**MUSN 314, 315 (2) (2) Applied Violin.** Prerequisite: MUSN 215. Continuation of technical studies, expansion of repertoire and development of performance skills. Junior recital at 315 level.

**MUSN 316 (2) Applied Violin.** Prerequisite: Consent of instructor. Elective course in more advanced development of technique, repertory and performance skills.

**MUSN 414 (2) Applied Violin.** Prerequisite: MUSN 315. Advanced technical study, continued development of repertoire, stylistic interpretation and performance skills. Preparation and presentation of senior recital.

#### **Viola:**

**MUSA 114, 115 (2) (2) Applied Viola.** Prerequisite: Freshman standing on viola audition. Private instruction on developing fundamental techniques of viola playing. Scales, arpeggios, sight-reading, technical studies, solo and ensemble literature.

**MUSA 214, 215 (2) (2) Applied Viola.** Prerequisite: MUSA 115. Application of technique to performance up to fifth position with standard orchestral bowings; harmonics, double stops and chords in first three positions. Scales, arpeggios, technical studies; solo, ensemble, orchestral literature.

**MUSA 314, 315 (2) (2) Applied Viola.** Prerequisite: MUSA 215. Continuation of technical study, development of basic musicianship applied to performance skills. Stylistic interpretation, repertory development; selected literature in preparation for junior recital at 315 level.

**MUSA 316 (2) Applied Viola.** Prerequisite: MUSA 315 or equivalent. Elective course in more advanced development of techniques, repertory and performance skills.

**MUSA 414 (2) Applied Viola.** Prerequisite: MUSA 315 or equivalent. Advanced technical study; continued development of repertoire, stylistic interpretation, understanding and application of musical concept to performance skills. Preparation and presentation of senior recital.

#### **Violoncello:**

**MUSI 114, 115 (2) (2) Applied Violoncello.**

Prerequisite: Freshman standing on violoncello auditions. Study and review of basic left and right hand techniques, playing postures and sound production. Two octave scales, arpeggios, double-stops. Selected studies, etudes and solo pieces.

**MUSI 214, 215 (2) (2) Applied Violoncello.**

Prerequisite: MUSI 115. Continuation of principles studied previous year with emphasis on bowings, thumb position, scales and arpeggios in three octaves. Concentration on more challenging studies, etudes, ensemble and solo materials.

**MUSI 314, 315 (2) (2) Applied Violoncello.**

Prerequisite: MUSI 215. Continuation of principles and materials studied previous year. Scales and arpeggios, four octaves; double-stops, three octaves; advanced technical etudes, problematical studies; selected standard solo-repertoire. Junior recital, 315 level.

**MUSI 316 (2) Applied Violoncello.** Prerequisite: MUSI 315. Advanced technical study, continued development of repertoire, stylistic interpretation and application of musical concepts to performance skills. Elective.

**MUSI 414 (2) Applied Violoncello.** Prerequisite: MUSI 315. Advanced technical study, continued development of repertoire, stylistic interpretation and application of musical concepts to performance skills. Preparation and presentation of senior recital.

**String Bass:****MUSS 114, 115 (2) (2) Applied String Bass.**

Prerequisite: Freshman standing on string bass audition. Study and review of basic left and right hand techniques, playing postures and tone production. Scales and arpeggios in two octaves. Selected studies, etudes and short solo pieces.

**MUSS 214, 215 (2) (2) Applied String Bass.**

Prerequisite: MUS 115. Continuation of principles studied previous year, emphasis on bowings and thumb position. Scales and arpeggios in three octaves; more progressive etudes, studies, and selected short solo materials.

**MUSS 314, 315 (2) (2) Applied String Bass.**

Prerequisite: MUS 215. Continuation of principles and materials studied previous year. Advanced etudes, problematic exercises, passages from standard orchestral studies, selected solo works. Junior recital at 315 level.

**MUSS 316 (2) Applied String Bass.** Prerequisite: MUS 315 or equivalent. Elective course in more advanced development of musicianship, technique, repertoire and performance skills.

**MUSS 414 (2) Applied String Bass.** Prerequisite: MUS 315. Advanced technical study, continued development of repertoire, stylistic interpretation and application of musical concepts to performance skills. Preparation and presentation of senior recital.

**Bassoon:**

**MUSB 114, 115 (2) (2) Applied Bassoon.** Prerequisite: Freshman standing on bassoon audition. Basic musicianship and technical studies including major, minor and chromatic scales and arpeggios. Embouchure development, tone production, reed making. Selected technical and solo material.

**MUSB 214, 215 (2) (2) Applied Bassoon.**

Prerequisite: MUS 115. Continuation of principles and techniques studied previous year including all scales, intervals, arpeggios, characteristics tone production, articulations, rhythms, sight-reading, standard technical, solo and ensemble material, making and adjusting reeds.

**MUSB 314, 315 (1) (2) Applied Bassoon.**

Prerequisite: MUS 215. More advanced technical study and repertoire development. Scales in thirds, fourths, and fifths, extended arpeggios, articulatory studies, range and dynamics development. Representation solo, ensemble and orchestral literature. Junior recital, 315 level.

**MUSB 414 (3) Applied Bassoon.** Prerequisite: MUS 315. Intensive study of bassoon literature, advanced technique, stylistic interpretation, and application of musical concepts to performance skills. Preparation and presentation of senior recital.

**Clarinet:**

**MUSC 114, 115 (2) (2) Applied Clarinet.** Prerequisite: Freshman standing on clarinet audition. Study of tone production, proper breath support, embouchure development, articulations, major and minor scales and arpeggios. Basic musicianship development; technical studies and selected solo literature.

**MUSC 214, 215 (2) (2) Applied Clarinet.** Prerequisite: MUSC 115. Continuation of basic musicianship principles and techniques. Major, minor and chromatic scales in third, skill in adjusting clarinet reeds, sight-reading and transposition and various articulations. Selected solo and ensemble material.

**MUSC 314, 315 (2) (2) Applied Clarinet.**

Prerequisite: MUSC 215. Continuation of technical study and repertoire development. More advanced performance of scales, arpeggios, articulations, embellishments, sight-reading and transposition. Representative solo, ensemble and orchestral literature. Junior recital, 315 level.

**MUSC 414 (2) Applied Clarinet.** Prerequisite: MUSC 315. Advanced technical and repertory study. Emphasis on stylistic interpretation of solo, ensemble and orchestral literature from principal historical periods. Preparation and presentation of senior recital.

**Saxophone:**

**MUSX 114, 115 (2) (2) Applied Saxophone.**

Prerequisite: Freshman standing on saxophone audition. Study of correct tone production, embouchure development, breath support and elements of basic musicianship. Major, minor and chromatic scales and arpeggios, articulations, technical studies and selected solo materials.

**MUSX 214, 215 (2) (2) Applied Saxophone.**

Prerequisite: MUSX 115. Continuation of basic musicianship, techniques and repertoire development. Scales, arpeggios, intervals, tonguing studies, sight-reading, transposition studies. Representative solo, ensemble and orchestral literature. Junior recital, 315 level.

**MUSX 314, 315 (2) (2) Applied Saxophone.**

Prerequisite: MUSX 215. Advanced technical study, stylistic interpretation and repertory development. More advanced scale, arpeggios, articulatory, sight-reading and transposition studies. Representative solo, ensemble and orchestral literature. Junior recital, 315 level.

**MUSX 414 (2) Applied Saxophone.** Prerequisite: MUSX 315. Advanced technical study. Intensive study of saxophone literature, original and transcribed, with emphasis on the stylistic interpretation of standard solo, ensemble and orchestral materials. Preparation and presentation of senior recital.

**Flute:**

**MUSF 114, 115 (2) (2) Applied Flute.** Prerequisite: Freshman standing on flute audition. Two octave major and minor scales and arpeggios; development of embouchure and tone quality, breath control and varying articulation with emphasis on basic musicianship. Selected technical studies and solo materials.

**MUSF 214, 215 (2) (2) Applied Flute.** Prerequisite: MUSF 115. Continued stress on basic musicianship, tone quality, technical development and repertory. All major, minor and chromatic scales, arpeggios and embellishments. Standard solo, ensemble and technical material progressing in difficulty.

**MUSF 314, 315 (2) (2) Applied Flute.** Prerequisite: MUSF 215. Continued technical study, development of repertoire, stylistic interpretation and performance skills. Selected solo, ensemble and orchestral material from standard repertoire. Junior recital at 315 level.

**MUSF 414 (2) Applied Flute.** Prerequisite: MUSF 315. Advanced technical study. Special exercises with emphasis on stylistic interpretation of a well-balanced repertoire. Preparation and presentation of senior recital.

**Oboe:**

**MUSZ 114, 115 (2) (2) Applied Oboe.** Prerequisite: Freshman standing on auditions. Study of basic musicianship including scales and arpeggios in major and minor keys, embouchure development, tone production articulation, making and adjusting reeds. Selected technical and solo materials.

**MUSZ 214, 215 (2) (2) Applied Oboe.** Prerequisite: MUSZ 115. Continuation of basic musicianship principles and technical studies. Application of technique to performance skills, scales; intervals, arpeggios, articulations, technical studies, solo ensemble materials.

**MUSZ 314, 315 (2) (2) Applied Oboe.** Prerequisite: MUSZ 215. Continuation of technical studies, extension of repertoire and development of stylistic interpretation. Selected solo, ensemble and orchestral literature from standard repertoire of principal periods. Junior recital at 315 level.

**MUSZ 414 (2) Applied Oboe.** Prerequisite: MUSZ 315. Advanced technical study and development of performance skills with on stylistic interpretation of balanced repertoire from the principal historical periods. Preparation and presentation of senior recital.

**Trumpet:**

**MUST 114, 115 (2) (2) Applied Trumpet.** Prerequisite: Freshman standing on trumpet audition. Methods pertinent to development of good tone production, proper breath usage, embouchure formation, articulation and musical interpretation in correlation with basic elements of musicianship. Selected technical and solo materials.

**MUST 214, 215 (2) (2) Applied Trumpet.** Prerequisite: MUST 115. Continuation of the study of basic musicianship, embouchure development, intervals, scales and study of arpeggios. Articulations,

transposition and selected technical studies. Standard orchestral, solo and ensemble literature.

**MUST 314, 315 (2) (2) Applied Trumpet.** Prerequisite: MUST 215. Continuation of previous studies. More intensive study of stylistic interpretation, technique, transposition, and standard solo, ensemble and orchestral literature for trumpet from principal historical periods. Junior recital, 315 level.

**MUST 414 (2) Applied Trumpet.** Prerequisite: MUST 315. Advanced technical study and repertoire development. Representative literature from principal historical periods. Preparation and presentation of senior recital.

#### **French Horn:**

##### **MUSH 114, 115 (2) (2) Applied French Horn.**

Prerequisite: Freshman standing on French Horn audition. Methods pertinent to development of good tone production, proper breath techniques, articulation and musical interpretation in correlation with music fundamentals. Selected technical and solo materials.

##### **MUSH 214, 215 (2) (2) Applied French Horn.**

Prerequisite: MUSH 115. Continuation on tone quality, breath control, two octave major and minor scales and arpeggios, register expansion, embouchure building and lip flexibility. Study of transposition, technical exercises, solo and ensemble materials.

##### **MUSH 314, 315 (2) (2) Applied French Horn.**

Prerequisite: MUSH 215. Continuation of previous studies with emphasis on embouchure building, range and muting studies, trilling exercises, other technical considerations; transposition, stylistic interpretation and repertoire development. Junior recital, 315 level.

**MUSH 414 (2) Applied French Horn.** Prerequisite: MUSH 315. Advanced technical and repertoire development. Standard solo, ensemble and orchestral literature from principal historical periods. Preparation and presentation of senior recital.

#### **Trombone:**

##### **MUSR 114, 115 (2) (2) Applied Trombone.**

Prerequisite: Freshman level on trombone auditions. Study of tone production, breath support, embouchure development, one octave major and minor scales and arpeggios and elements of basic musicianship. Selected technical studies and solo material.

##### **MUSR 214, 215 (2) (2) Applied Trombone.**

Prerequisite: MUSR 115. Concentration on basic musicianship, technical studies, stylistic interpretation. Lip flexibility studies within one and a half octaves, increased tone, velocity and dynamic range. Selected technical, solo and ensemble literature.

##### **MUSR 314, 315 (2) (2) Applied Trombone.**

Prerequisite: MUSR 215. Continuation of previous studies; emphasis on stylistic interpretation, rhythmic fluency, advanced lip and wrist flexibility exercises, phrasing and articulation, clef studies and repertoire development. Junior recital, 315 level.

##### **MUSR 414 (2) Applied Trombone.** Prerequisite:

MUSR 315. Advanced technical study and extended repertoire development. Intensive study of trombone solo, ensemble, and technical materials. Preparation and presentation of senior recital.

#### **Euphonium:**

##### **MUSE 114, 115 (2) (2) Applied Euphonium.**

Prerequisite: Freshman level on applied audition. Study of tone production, breath support, embouchure development, and elements of musicianship. Major, minor scales and arpeggios, clef studies, and lip flexibility exercises. Selected technical studies and solo materials.

##### **MUSE 214, 215 (2) (2) Applied Euphonium.**

Prerequisite: MUS 115. Continuation of previous studies with emphasis on basic musicianship, repertoire, and technical development. Major, minor, chromatic scales, arpeggios, sight-reading, transposition; technical exercises, solo and ensemble materials and stylistic interpretation.

##### **MUSE 314, 315 (2) (2) Applied Euphonium.**

Prerequisite: MUS 215. Advanced technical study and repertoire development. Representative literature for solo and ensemble performance. Junior recital preparation and presentation at 315 level.

##### **MUSE 414 (2) Applied Euphonium.** Prerequisite:

MUS 315. Continuation of advanced technical study and repertoire development. Intensive study of selected literature for Euphonium. Preparation and presentation of senior recital.

#### **Tuba:**

##### **MUSU 114, 115 (2) (2) Applied Tuba.** Prerequisite:

Freshman level on applied audition. Fundamentals of good tone production, embouchure development, playing position, breath support and articulation.

One octave major scales and arpeggios. Basic elements of musicianship and technical exercises. Selected studies and solos.

**MUSU 214, 215 (2) (2) Applied Tuba.** Prerequisite: MUS 115. Continuation of basic musicianship, technical development, and solo studies. Lip flexibility, articulation and rhythmic studies. Major, minor and chromatic scales, arpeggios, sight-reading, transposition, selected solo and technical material.

**MUSU 314, 315 (2) (2) Applied Tuba.** Prerequisite: MUS 215. Advanced technical study, repertoire development. Velocity and extended range studies; two octave major, minor, chromatic scales, stylistic interpretation; orchestral solo passages, solo and ensemble materials. Junior recital, 315 level.

**MUSU 414 (2) Applied Tuba.** Prerequisite: MUS 315. Advanced technical study, stylistic interpretation and repertoire development. Intensive study of representative literature for the tuba. Preparation and presentation of senior recital.

#### **Percussion:**

##### **MUSP 114, 115 (2) (2) Applied Percussion.**

Prerequisite: Freshman level on applied audition. Snare drum and timpani technique. Basic elements of musicianship applied to tone production, rhythm, dynamics, sight-reading, tuning, pedaling, intonation, sticking, rudiments and control. Standard technical studies and solos.

##### **MUSP 214, 215 (2) (2) Applied Percussion.**

Prerequisite: MUS 115. Continuation of snare drum, timpani and basic musicianship studies. Study of xylophone, marimba, bass drum, cymbals, traps and other mallet instruments. Selected technical solo and ensemble literature.

##### **MUSP 314, 315 (2) (2) Applied Percussion.**

Prerequisite: MUS 215. Continuation and expansion of prior technical studies, solos and ensemble literature to include more advanced studies, multi-percussion techniques and new notational system. Junior recital, 315 level.

**MUSP 414 (2) Applied Percussion.** Prerequisite: MUS 315. Continued development of technique and musicianship with application to expanded repertoire, stylistic interpretation, preparation and presentation of senior recital.

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## **MUSIC PERFORMANCE**

### **Piano Performance Concentration:**

**MUS 124, 125 (3) (3) Applied Major Piano.** In-depth study of piano performance techniques, including all major/minor scales, arpeggios, chord progressions, and selected etudes. Detailed study of representative keyboard works all periods. Two one-hour lessons and nine hours minimum practice weekly. Audition required.

### **MUS 224, 225 (3) (3) Applied Major Piano.**

Prerequisite: MUS 125. Continued in-depth study of piano performance technique including all major/minor scales in various rhythms and touches, diminished 7th and dominant 7th arpeggios, chord progressions and selected Etudes. Continued detailed study of representative keyboard works of all periods. Two one-hour lessons and nine hours minimum practice weekly. Proficiency examination at end of Sophomore year.

**MUS 324, 325 (3) (3) Applied Major Piano.** Prerequisite: MUS 225. Advanced in-depth study of piano performance techniques and advanced Etudes. Continued detailed study of representative works of all periods and preparation for a Junior Recital. Two one-hour lessons and nine hours minimum practice weekly.

**MUS 424 (3) Applied Major Piano.** Prerequisite: MUS 325. Advanced piano literature of varying forms, styles, idioms and techniques.

**MUS 428 (3) Applied Piano-Recital.** Prerequisite: MUS 424. Advanced keyboard techniques, study of advanced Etudes and preparation of selected repertoire for the Senior Recital. Public presentation of a Senior Recital.

### **Voice Performance Concentration:**

#### **MUSV 124, 125 (3) (3) Applied Major Voice.**

Prerequisite: Freshman standing on voice audition. Vocalization for development of tone quality, diction, range, breath management, and poetic interpretation and correct singing posture. Individualized technical studies. Repertoire requirement; Five songs per semester; Four English and Four Italian songs of the 17th and 18th centuries; and Two Twentieth Century American art songs. At least Four memorized per semester.

**MUSV 208 (3) Diction for Singers.** Prerequisite: Music majors only. This course is an introduction to the phonetic analysis, diction, and pronunciation skills for Italian, German, French, and English.



**MUSV 224, 225 (3) (3) Applied Major Voice.**

Prerequisite: MUSV 125. Continuation of basic musicianship and technical studies. Interpretation and Character analysis. Repertoire Requirements; Six songs per semester; Three French songs; Three German songs; and Three Twentieth Century American art songs. Two Oratorio arias and One Operatic aria. At least Five memorized per semester. Satisfactory on the Sophomore Proficiency is required.

**MUSV 324, 325 (3) (3) Applied Major Voice.**

Prerequisite: MUS 225. Continuation of vocal technique with more emphasis on musical style and interpretation. Repertoire requirement; Eight songs per semester; Four French songs; Four German songs; Four American art songs; Two Oratorio or Cantata arias; and Two Operatic arias. At least Six memorized per semester. Preparation for junior recital. Junior Recital required at level 325.

**MUSV 424, 428 (3) (3) Applied Major Voice.**

Prerequisite: MUSV 325. Advanced vocal technique and vocal literature. Greater emphasis on musical style, interpretation and performance practice. Repertoire Requirements: Eight songs per semester; (Must include one complete song cycle); Two Oratorio or Cantata Arias; Two Operatic arias; Three American art songs; Three French songs; Three German songs. At least Six memorized per semester. Preparation for senior recital. Senior recital performance required at level 428.

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**Supportive Courses:**


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**Opera Workshop:**

**MUSV 121, 122 (1) (1) Opera Workshop I.** Prerequisite: Sophomore voice major or minor. Offers talented singers the opportunity to perform a variety of opera and operetta music. Students will have the opportunity to perform in staged opera scenes. Proper vocal technique, musical styles and acting are the focal points that will provide young singers with the essential musical, artistic and vocal skills needed to begin a career in opera.

**MUSV 131, 132 (1) (1) Opera Workshop II.**

Prerequisite: Junior voice major or minor.

**MUSV 141, 142 (1) (1) Opera Workshop III.**

Prerequisite: Senior voice major or minor.

**Bassoon Performance:**

**MUSB 124 (3) Applied Major Bassoon.** Entrance by Audition. In-depth study of bassoon performance

techniques, including all major/minor scales, arpeggios, and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUSB 125 (3) Applied Major Bassoon.** Prerequisite: MUSB 124. Continuation of MUS 124. Recital performance required.

**MUSB 225 (3) Applied Major Bassoon.** Prerequisite: MUSB 224. Continuation of MUS 224. Recital performance required. Sophomore Proficiency required.

**MUSB 324 (3) Applied Major Bassoon.** Prerequisite: MUSB 225. Advanced in-depth study of bassoon performance techniques, technical studies, etudes, the standard repertoire, and the introduction to reed making and adjustment. Detailed study of representative works of all historical periods. Recital performance required.

**MUSB 325 (3) Applied Major Bassoon.** Prerequisite: MUSB 324. Continuation of MUS 324. Junior Recital performance required.

**MUSB 424 (3) Applied Major Bassoon.** Prerequisite: MUSB 325. Advanced study in 20th century bassoon literature and bassoon techniques, various forms and idioms. Recital performance required.

**MUSB 428 (3) Applied Major Bassoon.** Prerequisite: MUSB 424. Continued advanced study in 20th century bassoon literature and Bassoon techniques, various forms and idioms. Preparation of selected repertory for the Senior Recital. Senior Recital performance required.

**Clarinet Performance:**

**MUSC 124 (3) Applied Major Clarinet.** Entrance by Audition. In-depth study of clarinet performance techniques, including all major/minor scales, arpeggios, and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUSC 125 (3) Applied Major Clarinet.** Prerequisite: MUSC 124. Continuation of MUS 124. Recital performance required.

**MUSC 224 (3) Applied Major Clarinet.** Prerequisite: MUSC 125. Continued in-depth study of clarinet performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, technical studies, etudes and the standard repertoire. Recital performance required.

**MUSC 225 (3) Applied Major Clarinet.** Prerequisite: MUSC 224. Continuation of MUS 224. Recital performance required. Sophomore Proficiency required.

**MUSC 324 (3) Applied Major Clarinet.** Prerequisite: MUSC 225. Advanced in-depth study of clarinet performance techniques, technical studies, etudes and the standard repertoire. Detailed study of representative works of all historical periods. Recital performance required.

**MUSC 325 (3) Applied Major Clarinet.** Prerequisite: MUSC 324. Continuation of MUS 324. Junior Recital performance required.

**MUSC 424 (3) Applied Major Clarinet.** Prerequisite: MUSC 325. Advanced study in 20th century clarinet literature and clarinet techniques, clarinet in A, various forms and idioms. Recital performance required.

**MUSC 428 (3) Applied Major Clarinet.** Prerequisite: MUSC 424. Continued advanced study in 20th century clarinet literature and clarinet techniques, clarinet in A, various forms and idioms. Preparation of selected repertory for the Senior Recital. Senior Recital performance required.

#### **Euphonium Performance:**

**MUSE 124 (3) Applied Major Euphonium.** Entrance by Audition. In-depth study of euphonium performance techniques, including all major/minor scales, arpeggios, and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUSE 125 (3) Applied Major Euphonium.** Prerequisite: MUSE 124. Continuation of MUS 124. Recital performance required.

**MUSE 224 (3) Applied Major Euphonium.** Prerequisite: MUSE 125. Continued in-depth study of euphonium performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, transposition, multiple tonguing, technical studies, etudes and the standard repertoire. Recital performance required.

**MUSE 225 (3) Applied Major Euphonium.** Prerequisite: MUSE 224. Continuation of MUSE 224. Recital performance required. Sophomore Proficiency required.

**MUSE 324 (3) Applied Major Euphonium.** Prerequisite: MUSE 225. Advanced in-depth study of euphonium performance techniques, technical

studies, etudes and the standard repertoire. Detailed study of representative works of all historical periods. Recital performance required.

**MUSE 325 (3) Applied Major Euphonium.** Prerequisite: MUSE 324. Continuation of MUS 324. Junior Recital performance required.

**MUSE 424 (3) Applied Major Euphonium.** Prerequisite: MUSE 325. Advanced study in 20th century euphonium literature and euphonium techniques, various forms and idioms. Recital performance required.

**MUSE 428 (3) Applied Major Euphonium.** Prerequisite: MUSE 424. Continued advanced study in 20th century euphonium literature and euphonium techniques, various forms and idioms. Preparation of selected repertory for the Senior Recital. Senior Recital performance required.

#### **Flute Performance:**

**MUSF 124 (3) Applied Flute Major.** Entrance by Audition. In-depth study of flute performance techniques, including all major/minor scales, arpeggios, and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUSF 125 (3) Applied Major Flute.** Prerequisite: MUSF 124. Continuation of MUSF 124. Recital performance required.

**MUSF 224 (3) Applied Major Flute.** Prerequisite: MUSF 125. Continued in-depth study of flute performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, technical studies, etudes and the standard repertoire. Recital performance required.

**MUSF 225 (3) Applied Major Flute.** Prerequisite: MUSF 224. Continuation of MUSF 224. Recital performance required. Sophomore Proficiency required.

**MUSF 324 (3) Applied Major Flute.** Prerequisite: MUSF 225. Advanced in-depth study of flute performance techniques, technical studies, etudes and the standard repertoire. Detailed study of representative works of all historical periods. Recital performance required.

**MUSF 325 (3) Applied Major Flute.** Prerequisite: MUSF 324. Continuation of MUS 324. Junior Recital performance required.

**MUSF 424 (3) Applied Major Flute.** Prerequisite: MUSF 325. Advanced study in 20th century flute

literature and flute techniques, various forms and idioms. Recital performance required.

**MUSF 428 (3) Applied Major Flute.** Prerequisite: MUSF 424. Continued advanced study in 20th century flute literature and flute techniques, various forms and idioms. Preparation of selected repertory for the Senior Recital. Senior Recital performance required.

**French Horn Performance:**

**MUSH 124 (3) Applied Major French Horn.** Entrance by Audition. In-depth study of French horn performance techniques, including all major/minor scales, arpeggios, and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUSH 125 (3) Applied Major French Horn.** Prerequisite: MUSH 124. Continuation of MUS 124. Recital performance required.

**MUSH 224 (3) Applied Major French Horn.** Prerequisite: MUSH 125. Continued in-depth study of French horn performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, transposition, multiple tonguing, technical studies, etudes and the standard repertoire. Recital performance required.

**MUSH 225 (3) Applied Major French Horn.** Prerequisite: MUSH 224. Continuation of MUS 224. Recital performance required. Sophomore Proficiency required.

**MUSH 324 (3) Applied Major French Horn.** Prerequisite: MUSH 225. Advanced in-depth study of French horn performance techniques, technical studies, etudes and the standard repertoire. Detailed study of representative works of all historical periods. Recital performance required.

**MUSH 325 (3) Applied Major French Horn.** Prerequisite: MUSH 324. Continuation of MUS 324. Junior Recital performance required.

**MUSH 424 (3) Applied Major French Horn.** Prerequisite: MUSH 325. Advanced study in 20th century French horn literature and French horn techniques, various forms and idioms. Recital performance required.

**MUSH 428 (3) Applied Major French Horn.** Prerequisite: MUSH 424. Continued advanced study in 20th century French horn literature and French horn techniques, various forms and idioms.

Preparation of selected repertory for the Senior Recital. Senior Recital performance required.

**Oboe Performance:**

**MUSZ 124 (3) Applied Major Oboe.** Entrance by Audition. In-depth study of oboe performance techniques, including all major/minor scales, arpeggios, and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUSZ 125 (3) Applied Major Oboe.** Prerequisite: MUSZ 124. Continuation of MUS 124. Recital performance required.

**MUSZ 224 (3) Applied Major Oboe.** Prerequisite: MUSZ 125. Continued in-depth study of oboe performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, technical studies, etudes and the standard repertoire. Recital performance required.

**MUSZ 225 (3) Applied Major Oboe.** Prerequisite: MUSZ 224. Continuation of MUSZ 224. Recital performance required. Sophomore Proficiency required.

**MUSZ 324 (3) Applied Major Oboe.** Prerequisite: MUSZ 225. Advanced in-depth study of oboe performance techniques, technical studies, etudes, the standard repertoire, and the introduction to reed making and adjustment. Detailed study of representative works of all historical periods. Recital performance required.

**MUSZ 325 (3) Applied Major Oboe.** Prerequisite: MUSZ 324. Continuation of MUSZ 324. Junior Recital performance required.

**MUSZ 424 (3) Applied Major Oboe.** Prerequisite: MUSZ 325. Advanced study in 20th century oboe literature and oboe techniques, various forms and idioms. Recital performance required.

**MUSZ 428 (3) Applied Major Oboe.** Prerequisite: MUSZ 424. Continued advanced study in 20th century oboe literature and oboe techniques, various forms and idioms. Preparation of selected repertory for the Senior Recital. Senior Recital performance required

**Percussion Performance:**

**MUSP 124 (3) Applied Percussion Major.** Entrance by Audition. Snare drum, xylophone, and timpani techniques. In-depth study of percussion performance techniques, including all major/minor scales, tone production, rhythm, dynamics, sight-reading, tuning, pedaling, intonation, sticking, rudiments, arpeggios,

and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUSP 125 (3) Applied Major Percussion.** Prerequisite: MUSP 124. Continuation of MUS 124. Recital performance required.

**MUSP 224 (3) Applied Major Percussion.** Prerequisite: MUSP 125. Study of xylophone, marimba, bass drum, cymbals, traps and other mallet instruments. Continued in-depth study of percussion performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, technical studies, etudes and the standard repertoire. Recital performance required.

**MUSP 225 (3) Applied Major Percussion.** Prerequisite: MUSP 224. Continuation of MUS 224. Recital performance required. Sophomore Proficiency required.

**MUSP 324 (3) Applied Major Percussion.** Prerequisite: MUSP 225. Continuation of prior percussion instruments studied with the addition of multi-percussion techniques and new notational system. Advanced in-depth study of percussion performance techniques, technical studies, etudes and the standard repertoire. Detailed study of representative works of all historical periods. Recital performance required.

**MUSP 325 (3) Applied Major Percussion.** Prerequisite: MUSP 324. Continuation of MUSP 324. Junior Recital performance required.

**MUSP 424 (3) Applied Major Percussion.** Prerequisite: MUSP 325. Advanced study in 20th century percussion literature and percussion techniques, various forms and idioms. Recital performance required.

**MUSP 428 (3) Applied Major Percussion.** Prerequisite: MUSP 424. Continued advanced study in 20th century percussion literature and percussion techniques, various forms and idioms. Preparation of selected repertory for the Senior Recital. Senior Recital performance required.

#### **String Bass Performance:**

**MUSS 124, 125 (3) (3) Applied Major String Bass.** Entrance by audition. In-depth study of string bass performance techniques, including all major/minor scales and arpeggios, selected technical studies, clef studies, etudes and standard repertoire. Chamber ensemble and recital performance required.

**MUSS 224, 225 (3) (3) Applied Major String Bass.** Prerequisite: MUSS 125. Continued in-depth study of string bass performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, advanced clef studies, multiple tonguing, technical studies, etudes and standard repertoire. Chamber ensemble and recital performance required. Sophomore Proficiency required.

**MUSS 324, 325 (3) (3) Applied Major String Bass.** Prerequisite: MUSS 225 and passing score on the Sophomore Proficiency. Advanced in-depth study of string bass performance techniques, technical studies, etudes and standard repertoire. Detailed study of representative works from all historical periods. MUSS 325 Junior Recital performance required.

**MUSS 424 (3) Applied Major String Bass.** Prerequisite: MUSS 325. Advanced study in contemporary string bass literature and cello techniques. Chamber ensemble and recital performance required.

**MUSS 428 (3) Applied Major String Bass.** Prerequisite: MUSS 424. Advanced study in contemporary string bass literature and string bass techniques. Preparation of selected repertory for the Senior Recital. MUS 425 Senior Recital performance required.

#### **Trombone Performance:**

**MUSR 124, 125 (3) (3) Applied Major Trombone.** Entrance by audition. In-depth study of trombone performance techniques, including all major/minor scales and arpeggios, selected technical studies, clef studies, etudes and standard repertoire. Chamber ensemble and recital performance required.

**MUSR 224, 225 (3) (3) Applied Major Trombone.** Prerequisite: MUSR 125. Continued in-depth study of trombone performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, advanced clef studies, multiple tonguing, technical studies, etudes and standard repertoire. Chamber ensemble and recital performance required. Sophomore Proficiency required.

**MUSR 324, 325 (3) (3) Applied Major Trombone.** Prerequisite: MUSR 225 and passing score on the Sophomore Proficiency. Advanced in-depth study of trombone performance techniques, technical studies, etudes and standard repertoire. Detailed study of representative works from all historical periods. MUSR 325 Junior Recital performance required.

**MUSR 424 (3) Applied Major Trombone.** Prerequisite: MUSR 325. Advanced study in

contemporary trombone literature and trombone techniques, including; alto trombone, improvisation, and computer assisted performance. Chamber ensemble and recital performance required.

**MUSR 428 (3) Applied Major Trombone.**

Prerequisite: MUSR 424. Advanced study in contemporary trombone literature and trombone techniques, including; alto trombone, improvisation, and computer assisted performance. Preparation of selected repertory for the Senior Recital. MUS 425 Senior Recital performance required.

**Trumpet Performance:**

**MUST 124 (3) Applied Major Trumpet.** Entrance by Audition. In-depth study of trumpet performance techniques, including all major/minor scales, arpeggios, and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUST 125 (3) Applied Major Trumpet.** Prerequisite: MUST 124. Continuation of MUST 124. Recital performance required.

**MUST 224 (3) Applied Major Trumpet.** Prerequisite: MUST 125. Continued in-depth study of trumpet performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, transposition, multiple tonguing, technical studies, etudes and the standard repertoire. Recital performance required

**MUST 225 (3) Applied Major Trumpet.** Prerequisite: MUST 224. Continuation of MUST 224. Recital performance required. Sophomore Proficiency required.

**MUST 324 (3) Applied Major Trumpet.** Prerequisite: MUST 225. Advanced in-depth study of trumpet performance techniques, technical studies, etudes and the standard repertoire. Detailed study of representative works of all historical periods. Recital performance required.

**MUST 325 (3) Applied Major Trumpet.** Prerequisite: MUST 324. Continuation of MUST 324. Junior Recital performance required.

**MUST 424 (3) Applied Major Trumpet.** Prerequisite: MUST 325. Advanced study in 20th century trumpet literature and trumpet techniques, trumpet in C, various forms and idioms. Recital performance required

**MUST 428 (3) Applied Major Trumpet.** Prerequisite: MUST 424. Continued advanced study in 20th century trumpet literature and trumpet techniques, trumpet in C, piccolo trumpet, various forms and idioms. Preparation of selected repertory for the Senior Recital. Senior Recital performance required.

**Tuba Performance:**

**MUSU 124 (3) Applied Major Tuba.** Entrance by Audition. In-depth study of tuba performance techniques, including all major/minor scales, arpeggios, and thirds, selected technical studies, etudes and standard repertoire. Recital performance required.

**MUSU 125 (3) Applied Major Tuba.** Prerequisite: MUSU 124. Continuation of MUSU 124. Recital performance required.

**MUSU 224 (3) Applied Major Tuba.** Prerequisite: MUSU 125. Continued in-depth study of tuba performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, transposition, multiple tonguing, technical studies, etudes and the standard repertoire. Recital performance required.

**MUSU 225 (3) Applied Major Tuba.** Prerequisite: MUSU 224. Continuation of MUSU 224. Recital performance required. Sophomore Proficiency required.

**MUSU 324 (3) Applied Major Tuba.** Prerequisite: MUSU 225. Advanced in-depth study of tuba performance techniques, technical studies, etudes and the standard repertoire. Detailed study of representative works of all historical periods. Recital performance required

**MUSU 325 (3) Applied Major Tuba.** Prerequisite: MUSU 324. Continuation of MUSU 324. Junior Recital performance required.

**MUSU 424 (3) Applied Major Tuba.** Prerequisite: MUSU 325. Advanced study in 20th century tuba literature and tuba techniques, various forms and idioms. Recital performance required.

**MUSU 428 (3) Applied Major Tuba.** Prerequisite: MUSU 424. Continued advanced study in 20th century tuba literature and tuba techniques, various forms and idioms. Preparation of selected repertory for the Senior Recital. Senior Recital performance required

**Violin Performance:****MUSN 124, 125 (3) (3) Applied Major Violin.**

Entrance by audition. In-depth study of Violin - Viola performance techniques, including all major/minor scales and arpeggios, selected technical studies, etudes and standard repertoire. Chamber ensemble and recital performance required.

**MUSN 224, 225 (3) (3) Applied Major Violin.**

Prerequisite: MUSN 125. Continued in-depth study of Violin - Viola performance techniques, including all major/minor scales, major and minor 3 and 4 octave scales and arpeggios, technical studies, etudes and standard repertoire. Chamber ensemble and recital performance required. Sophomore Proficiency required.

**MUSN 324, 325 (3) (3) Applied Major Violin.**

Prerequisite: MUSN 225 and passing score on the Sophomore Proficiency. Advanced in-depth study of Violin - Viola performance techniques, technical studies, etudes and standard repertoire. Detailed study of representative works from all historical periods. MUSN 325 Junior Recital performance required.

**MUSN 424 (3) Applied Major Violin.** Prerequisite: MUSN 325. Advanced study in contemporary Violin - Viola literature and Violin - Viola techniques. Chamber ensemble and recital performance required.

**MUSN 428 (3) Applied Major Violin.** Prerequisite: MUSN 424. Advanced study in contemporary Violin - Viola literature and Violin - Viola techniques. Preparation of selected repertory for the Senior Recital. MUSN 425 Senior Recital performance required.

**Viola Performance:****MUSA 124, 125 (3) (3) Applied Major Viola.**

Entrance by audition. In-depth study of Violin - Viola performance techniques, including all major/minor scales and arpeggios, selected technical studies, etudes and standard repertoire. Chamber ensemble and recital performance required.

**MUSA 224, 225 (3) (3) Applied Major Viola.**

Prerequisite: MUSA 125. Continued in-depth study of Violin - Viola performance techniques, including all major/minor scales, major and minor 3 and 4 octave scales and arpeggios, technical studies, etudes and standard repertoire. Chamber ensemble and recital performance required. Sophomore Proficiency required.

**MUSA 324, 325 (3) (3) Applied Major Viola.**

Prerequisite: MUSA 225 and passing score on the Sophomore Proficiency. Advanced in-depth study

of Violin - Viola performance techniques, technical studies, etudes and standard repertoire. Detailed study of representative works from all historical periods. MUSA 325 Junior Recital performance required.

**MUSA 424 (3) Applied Major Viola.** Prerequisite: MUSA 325. Advanced study in contemporary Violin - Viola literature and Violin - Viola techniques. Chamber ensemble and recital performance required.

**MUSA 428 (3) Applied Major Viola.** Prerequisite: MUSA 424. Advanced study in contemporary Violin - Viola literature and Violin - Viola techniques. Preparation of selected repertory for the Senior Recital. MUSA 425 Senior Recital performance required.

**Violoncello Performance:****MUSI 124, 125 (3) (3) Applied Major Violoncello.**

Entrance by audition. In-depth study of cello performance techniques, including all major/minor scales and arpeggios, selected technical studies, clef studies, etudes and standard repertoire. Chamber ensemble and recital performance required.

**MUSI 224, 225 (3) (3) Applied Major Violoncello.**

Prerequisite: MUSI 125. Continued in-depth study of cello performance techniques, including all major/minor scales, diminished 7th and dominant 7th chords, advanced clef studies, multiple tonguing, technical studies, etudes and standard repertoire. Chamber ensemble and recital performance required. Sophomore Proficiency required.

**MUSI 324, 325 (3) (3) Applied Major Violoncello.**

Prerequisite: MUSI 225 and passing score on the Sophomore Proficiency. Advanced in-depth study of cello performance techniques, technical studies, etudes and standard repertoire. Detailed study of representative works from all historical periods. MUSI 325 Junior Recital performance required.

**MUSI 424 (3) Applied Major Violoncello.** Prerequisite: MUSI 325. Advanced study in contemporary cello literature and cello techniques. Chamber ensemble and recital performance required.

**MUSI 428 (3) Applied Major Violoncello.** Prerequisite: MUSI 424. Advanced study in contemporary cello literature and cello techniques. Preparation of selected repertory for the Senior Recital. MUSI 425 Senior Recital performance required.

**Jazz Studies Concentration:****MUS 440 (3) Jazz Composition/Arrangement I.**



Prerequisite: MUS 312 or permission of instructor. A study of jazz arranging and composition dealing with the basic and intermediate tools for creative writing in the jazz idiom as applied to small jazz ensembles (instrumental and vocal), 4-part writing, harmonics practices, philosophies, music preparation and computer notation.

**MUS 441 (3) Jazz Composition/Arrangement II.**

Prerequisite: MUS 440 or permission of instructor. A study in jazz arranging and composition dealing with the tools for creative writing in the jazz idiom as applied to large jazz ensembles (instrumental and vocal), harmonics practices, music preparation and computer notation.

**MUS 190, MUS 191 (.5, .5) Jazz Combo I:**

A performance group class for the novice to the advanced jazz improviser. This class explores the repertoire for the jazz combo with emphasis placed on Jazz Standards. Jazz concepts studies include fundamentals, and the development of improvised melodies. Students are expected to have at least an intermediate level of skill on their instruments at the time they begin this course sequence. All combo assignments are made based on the student's level of proficiency, specifically the ability to improvise.

**MUS 415 (3) Senior Recital (Jazz).** Prerequisite: MUS 414. Continued development of jazz technique and musicianship with application to expended jazz repertoire and jazz stylistic interpretations. Preparation and presentation of jazz senior recital.

**MUS 292 (2) Jazz Improvisation I.** Prerequisite: MUS 112 or permission by the instructor. The study of basic theoretical improvisation elements and concepts of jazz improvisation. This will include the study of basic jazz scales and chords, jazz musical forms, jazz ear training, standard jazz literature that will enable the student to create an improvised solo based on chord changes in selected jazz literature.

**MUS 293 (2) Jazz Improvisation II.** Prerequisite: MUS 292 or permission of instructor. The study of jazz chord progressions, including the "blues," rhythm changes and jazz standards incorporating basic jazz voice leading techniques, non-harmonic tones, a jazz chord to scale applications, advanced jazz ear training and an introduction to transcribing jazz improvisational solos.

**MUS 392 (2) Jazz Improvisation III.** Prerequisite: MUS 293 or permission of instructor. The study of jazz improvisational techniques, concepts

and practice methods used by jazz artists to gain improvisational skills techniques and how to apply these skills to performance on selected jazz repertoire. Also, develop advanced skills in transcribing jazz solos.

**MUS 393 (2) Jazz Improvisation IV.** Prerequisite: MUS 392 or permission of instructor. The study of advanced improvisational methods, jazz dramatic melodic devices and techniques, developing transposition skills, improvising in odd meters, performing free jazz and to acquire a basic repertoire of contemporary jazz standards.

**MUS 119 (1) Jazz Vocal Techniques I.** This course is dedicated to exploring the basic elements of vocal jazz techniques. This exploration will include correct vocal techniques, jazz standards in the vocal jazz repertory, jazz scatting and basic concepts of vocal jazz improvisation.

**MUS 219 (1) Jazz Vocal Techniques II.** Prerequisite: MUS 119 or permission of instructor. This course is a continuation of Jazz Vocal Techniques I dedicated to further exploring the advanced vocal jazz techniques. This exploration will include the study of vocal physiology, jazz diction, advanced jazz vocal productions, jazz scales, advanced jazz scat singing, advanced jazz repertoire and vocal jazz dramatic devices.

**Music Technology Concentration:**

**MUS 280 (3) MIDI Basics.** Prerequisites: Ability to read music, instrumental keyboard competency. Study of the essential components of MIDI (Musical Instrument Digital Interface) technology; synthesizer and sequencer capabilities; sequence recording and editing.

**MUS 281 (3) Introduction to Music Sequencing.**

Prerequisites: MUS 280, ability to read music; instrumental keyboard competency. Study of the basic components of MIDI (Musical Instrument Digital Interface) sequencing technology; synthesizer and sequencer capabilities; sequence recording and editing.

**MUS 282 (3) Introduction to Music Notation.**

Prerequisites: MUS 280, ability to read music; instrumental keyboard competency. Introduction of the basic concepts of music notation using computer software focusing on the FINALE application from CODA Music Technology.

**MUS 381 (3) Advanced Music Sequencing.**

Prerequisites: MUS 226, 280, 281, and 282. This course will center around the development of advanced sequencing projects using CAKEWALK'S

SONOR and similar sequencing software programs. Projects will be based on knowledge learned in the Introduction to Music Sequencing course and will be major in scope.

**MUS 382 (3) Advanced Music Notation.** Prerequisite: MUS 282. This course is a practical study of music notation with an emphasis on the application of recent computer technology to traditional notational practice. Advanced concepts of music notation and

using computer software will be explored in detail using FINALE and SIBELIUS notation software programs.

**MUS 383 (3) Digital Audio and Video.** Prerequisites: MUS 281 and 381. A comprehensive introduction to the techniques of generating and manipulating electronic imagery (video) by means of digital instrumentation. Study also includes digital video format standards, the principles of videotape recording, replay and editing, in addition to basics of sound including stereo and digital audio, and the synchronization of audio and video files.

**MUS 480 (3) Introduction to Digital Media.** Prerequisite: MUS 383. In this course students will learn the skills necessary to effectively create presentations in Multimedia formats such as Microsoft's Powerpoint. Students will learn how to create and edit bullet slides, use drawing tools, incorporate clip art and WordArt, create and enhance organizational charts, and create and edit charts using Microsoft Graph.

**MUS 481 (3) Computer Applications in the Music Industry.** Prerequisite: MUS 480. Students will understand how the Internet can be used as an indispensable tool in many areas of the music industry with a focus on music merchandising, recording studio operation and artist promotion.

**MUS 482 (3) Studio Recording Techniques.** Prerequisite: MUS 480. This course is an examination of the art of audio recording. The curriculum will cover signal flow of the mixing console as it applied to both recording and sound reinforcement; microphones and techniques of application; use of sonic effects; recording devices (analog, digital, and hard disk); synchronization formats and wiring.

**MUS 483 (3) Digital Senior Recital.** Prerequisite: MUS 383. The digital senior recital represents the culmination of the student's tenure as a music technology major. The recital is a presentation

of original works, a display of general knowledge related to the development of music technology, and the production of music using digital compositional tools available to today's musician.

**MUS 484 (12) Music Technology Internship.** Prerequisite: MUS 482. The Music Technology Internship program is designed to provide practical experience for advanced students in a professional recording industry setting. Student will develop professionalism in the field, reasoning ability, critical thinking, resourcefulness, and self-reliance. Students will establish contacts within the industry that may lead to entry level employment.

#### **Performance Ensembles:**

##### **MUBE 171-472 (.5) Brasswind Ensemble I.**

Prerequisite: Music Major. This course is designed to develop technical and musical skills through the rehearsal and performance of traditional and contemporary brass quintet music.

**MUSG 101-142 (.5) Choir.** The course is designed to provide the student with knowledge and understanding of various styles of choral literature and development of listening skills with a large group. The University Choir performs on and off campus, and throughout the United States.

**MUCH 171-472 (.5) Chorale.** Prerequisite: By audition only. The Chorale is comprised of 40-50 students whose objective is to provide opportunities for music majors and other students to perform chorale music that includes the Renaissance through Contemporary periods. The Chorale is designed to achieve exemplary artistic levels while performing on and off campus at special events, touring, and interfacing with other professional organizations.

**MUJE 171-472 (.5) Jazz Ensemble I.** This is a music performance course. The purpose of this course is to provide a comprehensive experience with regard to the common qualities of jazz, dances, and show band playing styles. Emphasis will be placed on the performance of various styles of jazz music for the large ensemble.

**MUJE 171-472 (.5) Jazz Ensemble II.** This is a music performance course. The purpose of this course is to provide a comprehensive experience with regard to the common qualities of jazz, dances, and show band playing styles. Emphasis will be placed on the performance of various styles of jazz music for the

large ensemble.

**MUSK 101-142 (.5) Marching Band.** Prerequisite: Audition required. This course covers the fundamentals of marching technique, performing while moving, discipline, physical conditioning, school pride, commitment, as well as learning how to work as a group. The Marching Band performs at all football games, selected marching band festivals, and may be called upon to provide entertainment at various school and community functions. Attendance at rehearsals and performances is required. This course may be repeated for credit, but not for a grade change.

**MUSK 101-142 (.5) Symphonic Wind Ensemble.** Prerequisite: Audition required. This ensemble is the university's premier instrumental ensemble. Repertoire for the ensemble is chosen from the entire spectrum of wind ensemble and concert band literature and includes everything from new commissions to traditional literature to music of other cultures. The ensemble keeps an active rehearsal and travel schedule both regionally and nationally. Membership is by audition.

**MUSK 101-142 (.5) Concert Band.** Prerequisite: Audition required. The University Concert Band performs literature from the concert band repertoire. Membership is open to all students, and adult community members. The group performs on-campus concerts.

**MUPE 171-472 (.5) Percussion Ensemble.** The student will study the classics of percussion literature, and contemporary percussion music through performance. Percussion Ensemble is a requirement of all Music Education percussion majors and those who are on scholarship with the band program.

**MUTE 171-472 (.5) String Ensemble.** The student will acquire a broad knowledge of technique and literature related to the performance and teaching of the String/Chamber Ensemble. Musical awareness and perceptions will be developed through the use of theoretical knowledge and skills while performing string ensemble literature.

**MUJE 171-472 (.5) Vocal Jazz Ensemble.** This course is designed to provide the student with the knowledge and understanding of various styles of vocal jazz literature and the development of listening and performance skills within a vocal jazz ensemble. The Vocal Jazz Ensemble performs on and off

campus, and throughout the United States.

**MUWE 171-472 (.5) Woodwind Ensemble.** The student will study the classics of woodwind ensemble literature, and contemporary woodwind ensemble music through performance. Woodwind Ensemble is a requirement of all those who are on scholarship with the band program.

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## PHYSICAL EDUCATION

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### Department of Health, Physical Education and Recreation

**OFFICE: T. B. Ellis Physical Education Complex**  
**PE 101 (1) Archery and Golf.** Emphasis is given to the fundamentals of archery and golf. The student is taught how to select, purchase, and maintain equipment. Development of fundamental skills in archery and golf is the basic concern of this course. The student will be given experiences in the use of the various clubs. The course includes actual course play generally culminating in a tournament. (F, S)

**PE 102 (1) Badminton and Tennis.** Emphasis is given to the fundamentals of badminton and tennis. This includes the basic strokes, serves, and court movements. The student will also receive instruction on selection, purchase and maintenance of equipment. (F, S)

**PE 104 (1) Bowling.** This course is designed for the beginner bowler. The main emphasis of this course is to acquaint the student with the fundamentals of bowling. (F, S)

**PE 109 (1) Beginning Swimming.** This course gives basic skills of swimming, including the adjustment to the water, breathing, floating, propulsion through the water by use of the elementary stroke, backstroke, front crawl, finning, sculling, and safety. (F, S, Sum)

**PE 113 (1) Beginning Modern Dance.** This course is designed to give the student a background in Modern Dance and its pioneers. It is designed to develop a movement vocabulary and instruction in organization of dance moves into finished compositions. (F)

**PE 122 (1) Freshman Seminar in Physical Education.** This is an orientation course that is designed to familiarize prospective PE Majors with the fundamental components of the department, the school, the community, and the discipline. Students will be given the opportunity to observe classes in

physical education taught by master teachers. They will also be given a Physical Fitness Test battery to familiarize themselves with the components of Physical Fitness. (F)

**PE 150 (1) Basketball and Volleyball.** This course is designed to give the students richer background in the game of basketball and volleyball. Fundamentals and game strategies will be stressed. (F, S)

**PE 208 (1) Elementary and Secondary Modern Dance and Rhythms.** This course is designed for the development of a vocabulary of movement, and the application of movements as a means of expression. (F)

**PE 209 (1) Square and Social Dance.** This course gives instruction in the fundamentals of social and American square dancing, emphasizing the execution of basic movements, analyses and timing of movements. Emphasis will also be put on skills and techniques for dances suggested by students. (F, S)

**PE 210 (1) Modern Composition and Jazz Dance.** This course offers instruction in the organization of dance movements into finished and unfinished compositions including modern jazz techniques with the application of these techniques to composition. Students will have opportunities to analyze compositions originated in the classroom. (F, S)

**PE 215 (2) Tumbling and Apparatus.** This course covers basic knowledge, techniques and practice of fundamental skills of stunts, tumbling and apparatus work. (F, S)

**PE 222 (3) Introduction to Physical Education.** Prerequisite: PE 122. This course is a study of the purpose, history, requirements, and opportunities for a career in physical education. (S)

**PE 231 (1) Intermediate Swimming.** Prerequisite: PE 109 or Deep Water Proficiency. In this course emphasis is placed on improving skills in the standard swimming strokes particularly the American Crawl, side stroke, breast stroke, back crawl, and elementary backstroke. (F, S, Sum)

**PE 250 (1) Archery and Golf.** In this course emphasis is given to developing fundamentals for archery and golf. The student is taught how to select, purchase, maintain, and properly care for equipment and facilities involved in each activity. (F, S, Sum)

**PE 253 (1) Body Mechanics and Weight Control.**

The basic intent of this course is to improve body carriage, posture, physical condition, and structure. The student will be exposed to a variety of exercises, weights, and machines. (F)

**PE 254 (1) Bowling.** This course is designed for the advanced bowler. The major concern of this course is to afford students opportunities to participate in tournaments and learn methods and techniques of teaching bowling. (F)

**PE 258 (1) Badminton and Tennis.** In this course emphasis is given to the fundamentals of tennis and badminton. This includes the basic strokes, serves, and court movements. The student is also taught rules, strategies, and skills of double and single matches. (F, S, Sum)

**PE 259 (1) Advanced Swimming.** Prerequisite: PE 231. In this course emphasis is placed on techniques of advanced strokes; spring board diving, and preparation for competition. (S, Sum)

**PE 270 (1) Basketball and Volleyball.** This course is designed to give the student a richer background in the games of basketball and volleyball. Fundamentals, skills, game strategy, and knowledge of rules will be emphasized. (F, S)

**PE 272 (1) Soccer and Touch Football.** The main purpose of this course is to acquaint the student with fundamentals, rules and regulations, and game strategy relative to the game of touch football and soccer. (F)

**PE 276 (1) Track and Field and Softball.** This course emphasizes advanced fundamentals of these activities as well as methods and techniques of teaching them. (S)

**PE 300 (1) Apprenticeship in Physical Education and Sports.** Prerequisite: PE 222. This is a field-based experience course designed to provide the junior level students with opportunities to observe and work under a master teacher. (F, S, Sum)

**PE 309 (1) Elementary and Secondary Folk and Ethnic and Rhythm Dance.** This course gives instruction in dances of a specific people, including related cultural readings. Emphasis will be placed on dances of American and Afro-American people. (F, S)

**PE 319W (3) Kinesiology.** Prerequisite: BIO 234 and BIOL 234. This course is a study of the mechanics of

body movement including form and style in athletic performance, and an analysis of muscle coordination in sports, gymnastics and ordinary activities of daily life. (F)

**PE 320 (3) Adapted Physical Education.** This course is a study of procedures and practices for programs that meet the needs of those students who have various disabling conditions. (F, S)

**PE 322 (2) Motor Development and Movement Education.** Prerequisite: Anatomy and PE 319-Kinesiology. This course is designed to give students a broad and comprehensive view of the field of motor development and movement education. Students will study prenatal to neonatal development, early motor sequence, perceptual motor area, and competition and the pre-adolescent child. (S)

**PE 323 (3) Organization and Administration of Physical Education.** Prerequisite: PE 222. This course is a study of the physical education and athletic program including staffing, teaching load, time schedule, finance, public relations, school plant operation, legal implications, and maintenance. (F, S)

**PE 350 (2) Measurement, Evaluation, and Statistics in Physical Education.** This course is a study of the theory and methods of test administration, evaluation and interpretation of measurement data. The development of basic competencies in use of descriptive statistics and correlation and the evaluation and grading in the physical education program are emphasized. (F, S)

**PE 360 (3) Physiology of Muscular Activity.** Prerequisite: BIO 234, BIOL 234, and PE 319. This course is a study of the nature of body variation during and resulting from physical exertion. Laboratory experiences deal with physical work capacity, reaction time, cardiovascular stress and anthropometric measures and evaluation. (S)

**PE 401 (3) Research, Classroom Management, and Clinical Practice (A-Elementary Schools, B-Secondary Schools).** This course is designed to integrate the research on effective teaching and learning with theory and practice. Students will engage in micro-teaching and will be expected to demonstrate mastery of fourteen competencies measured by the Mississippi Teacher Assessment Instrument. Students will also be introduced to classroom management strategies for effective classroom discipline and teaching routines. The clinical practice will be a field based activity.

**PE 402 (12) Clinical Internship in Student Training (A-Elementary Schools, B-Secondary Schools).**

This course is a continuation of the practical learning experiences engaged in during the 401 course, but in off-campus school and community situations for twelve weeks where opportunity is given to the student teacher to test theories of teaching and learning, to initiate ideas with children. With guidance and supervision, the student teacher is also given the opportunity to develop the ability, initiative and responsibility for planning, guiding and evaluating the total program of the children with whom he/she is working.

**PE 406 (1) Aerobic Dance.** This course is designed to enable participants to understand and develop skills necessary to improve cardiovascular fitness.

**PE 411 (3) Method and Practice in Physical Education.** This course in leadership, practices, and teaching physical education activities with adaptations to different age groups. Teaching methods are discussed in the classroom and provision is made for practice in classroom situations. (F, S)

**PE 412 (1) Techniques and Skills in Physical Education.** Prerequisite: PE 215. This course is designed to develop techniques of teaching skills for activities on mats, floors, uneven parallel bars, horizontal bar, side horse, long horse, vaulting box, trampoline, and still rings. (F, S, Sum)

**PE 415 (2) Individual and Team Sports.** In this course emphasis is given to teaching students the progressive skills involved in a variety of individual, dual and team sports. Selection of equipment, tournament planning as well as facilities are discussed. This course is also designed to give students the opportunity to participate and develop competencies in individual and team sports. It is further a purpose of this course that students learn teaching methodology in specific sports activities for elementary and secondary schools. (F)

**PE 416W (3) International Ballet Workshop.** A workshop designed to give enrichment experiences in ballet with leading ballet teachers of the world. Emphasis on American, Bournonville, Russian Technique. (Sum)

**PE 417 (3) Advanced Modern Dance Workshop.** The course is designed to enable participants to understand and be able to plan a comprehensive modern dance program, develop a knowledge of movement terminology, space and time principles, fundamentals of choreography, history of and personalities in modern dance; gain experience in

roles of leader and follower, and develop enjoyment of life-time activity with tremendous carry-over value in all three domains: cognitive, psychomotor, and affective. (Sum)

**PE 430 (1) Coaching and Officiating.** Prerequisite: PE 415. This course is a study of theory, principles, and techniques of coaching and officiating sports. Sports reviewed are selected by students and instructors. Actual practice on the field/floor is required. (F, S, Sum)

**PE 444 (2) Physical Education in the Elementary School.** Prerequisite: PE 300. This course is a study of trends which have the greatest influence on programs, methods, and practices in physical education. The student will conduct an independent study on some aspect of physical education that interests him/her. (F, S, Sum)

**PE 445 (3) Physical Education in the Elementary School.** In this course emphasis is placed on methods and materials used in effective teaching of physical education in the elementary school. Consideration is given to the integration of physical education with other subject matter areas. (F, S, Sum)

**PE 489 (2) Principles and Problems of Coaching.** This course is designed to deal with the recognition, discussion, and systematic analysis of controversial issues and problems in coaching and athletics. Topics studied are: psychological sociological implications of athletics, crowd control, profiles of coaches, women and athletics, financial crisis in athletics, personality traits, structure of athletics, interscholastic athletics, competition below high school level, recruitment of minority athletes and financial aid. (Sum)

**PE 490 (2) Theory and Practice of Coaching Football.** Designed to give the student experiences in dealing with the football program from a scientific standpoint. The student will be exposed to experiences relative to the application of mechanical, physiological, and kinesiological laws to the football program. The student will complete the psychology of coaching as well as review some of the problems that are specifically related to football programs such as recruiting, theories of the game, organizing practice, sideline coaching, and the rules and regulations of various governing bodies. (S)

**PE 491 (2) Theory and Practice of Coaching Basketball.** Designed to give the student experiences in dealing with the basketball program from a scientific stand-

point. The student will be exposed to experiences relative to the application of mechanical, physiological, and kinesiological laws to the basketball program. The student will explore the psychology of coaching as well as review some of the problems that are specifically related to the basketball program such as recruiting, theories of the game, organizing practice, sideline coaching, and the rules and regulations of various governing bodies. (S, Sum)

**PE 492 (2) Theory and Practice of Coaching Baseball.** Designed to give the student experiences in dealing with the basketball program from a scientific standpoint. The student will be exposed to experiences relative to the application of mechanical, physiological, and kinesiological laws to the baseball program. The student will explore the psychology of coaching as well as review some of the problems that are specifically related to the baseball program such as recruiting, theories of the game, organizing practice, sideline coaching, and the rules and regulations of various governing bodies. (F, Sum)

**PE 493 (2) Theory and Practice of Coaching Track and Field.** Designed to give the student experiences in dealing with the track program from a scientific point of view. The student will be exposed to experiences relative to the application of mechanical, physiological, and kinesiological laws to the track program. The student will explore the psychology of coaching track as well as review some of the problems that are specifically related to the track program such as recruiting, organizing practice, and the rules of the governing bodies. (Sum)

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## PHILOSOPHY

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**Department of History and Philosophy**  
**OFFICE: Dollye M.E. Robinson Building**

**PHIL 205 (3) Old Testament and Its World.** Development of literary and doctrinal statements from primitive oral tradition of narrative and religious experience. Covenant election and views of history. Non-Hebraic influences on Old Testament doctrine and belief.

**PHIL 207 (3) New Testament and Its World.** Development of literary and doctrinal formulations from private oral tradition to current forms of gospel, epistle, and apocalypse. Influences of classical thought and literary styles.

**PHIL 301 (3) Introduction to Philosophy.** Four principal types: metaphysics, epistemology, logic,



ethics. Illustrated from classical, medieval and modern philosophic systems.

**PHIL 308 (3) Aesthetics.** Nature of artistic perception. Major theorists from Greece to modern period. Socio-economic influences from larger cultural settings. Place of artist in society.

**PHIL 309 (3) Ethics.** Representative thinkers from the pre-Axial Age up to the modern period focusing on capacities for analysis and critical thinking.

**PHIL 416 (3) Logic.** Development of normative mental act in classical deductive and inductive forms, up to the syllogism. Relation of logical structure to effective communication.

**PHIL 432 (3) Philosophy of Religion.** Philosophical critique of representative religious experience and doctrine. Representative thinkers from various periods.

**PHIL 433 (3) Far Eastern Religious.** Islam, India, China, Japan. Major doctrinal developments. Influence of Western thought upon normative systems.

**PHIL 434 (3) African Religions.** Major deity-formulations as related to nature. Religious foundation of social structures. Influence of Western religions and socio-economic systems on African urban centers.

**PHIL 436 (3) Black Church and Black Theology.** Influence of slavery period on African religious origins and presentation of Christianity. Post Civil War growth of belief and institutions. Modern religious movement related to social change. "Liberation Theology."

**PHIL 437 (3) History of Modern Philosophy.** Philosophy from Renaissance to modern period. Related to contemporary cultural movement.

**PHIL 438 (3) Ancient Philosophies.** Philosophy from Egypt to Rome and/or India and China.

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## PHYSICS

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**Department of Physics, Atmospheric Sciences, and General Science**

**OFFICE: Just Hall of Science Building**

**PHY 151 (3) Introduction to Physics.** An introduction to some of the basic concepts of physics, intended both for non-science majors seeking scientific literacy

and also for students who desire some experience in physics before taking PHY 201 or 11. This course satisfies the Core II physical science requirement.

**PHY 198, 199, 298, 299, 398, 399, 498, 499 (.5 each) Physics Seminar.** Presentation and discussion of current physics topics and research by students, faculty and visiting speakers. All physics majors are expected to participate.

**PHY 201 (3) Basic Physics I.** Prerequisites: MATH 111 and 112, or MATH 118. Introduction to mechanics, wave motion, sound, and heat, for science majors whose curricula may not include calculus.

**PHYL 201 (1) Basic Physics Laboratory I.** Corequisite: PHY 201. Weekly laboratory experiments in the areas covered in PHY 201.

**PHY 202 (3) Basic Physics II.** Prerequisite: PHY 201. A continuation of PHY 201. Introduction to electricity, magnetism, optics, and modern physics.

**PHYL 202 (1) Basic Physics Laboratory II.** Prerequisite: PHYL 201. Corequisite: PHY 202. Weekly laboratory experiments in the areas covered in PHY 202.

**PHY 211 (4) General Physics I.** Prerequisite: MATH 231. Introduction to mechanics, wave motion, sound, and heat. Calculus-based and more intensive than PHY 201.

**PHYL 211 (1) General Physics Laboratory I.** Corequisite: PHY 211. Weekly laboratory experiments in the areas covered in PHY 211.

**PHY 212 (4) General Physics II.** Prerequisites: PHY 211, MATH 232. A calculus-based continuation of PHY 211. Introduction to electricity, magnetism, optics, and modern physics.

**PHYL 212 (1) General Physics Laboratory II.** Prerequisite: PHYL 211. Corequisite: PHY 212. Weekly laboratory experiments in the areas covered in PHY 212.

**PHY 216 (3) Modern Physics.** Prerequisite: PHY 212. An introduction to relativity and quantum effects including atomic structure and spectra, nuclear structure and reactions, and high-energy physics.

**PHY 241 (4) Introduction to Astronomy.** An introductory survey of the solar system, stars, nebulae, and galaxies, with discussion of cosmology,

life in the universe, and the space program. Includes weekly observatory sessions. This course satisfies the Core II physical science requirement.

**PHY 242 (4) Life in the Universe.** An examination of the conditions necessary for the existence of life in the universe and of the possibilities for the detection of such life and for communication with intelligent life. Relevant basic astronomy is included.

**PHY 251 (4) Cosmology for Non-Scientists.** A study of the structure, origin, and evolution of the universe. Includes relevant basic astronomy and discussion of fundamental observations.

**PHY 261 (2) Atrophotography.** An introduction to photographic principles and basic observational techniques in astronomy. Emphasis is on information for the amateur, but professional observations are also discussed.

**PHY 311 (3) Theoretical Mechanics I.** Prerequisites: PHY 211, and MATH 232. A modern treatment of classical mechanics including single-particle dynamics, oscillations, gravitation, the calculus of variations. Lagrangian and Hamiltonian dynamics, and central-force motion.

**PHY 312 (3) Theoretical Mechanics II.** Prerequisite: PHY 311. A continuation of PHY 311 including study of systems of particles, noninertial reference frames, rigid-body dynamics, coupled oscillations, continuous systems, the wave equation, and the special theory of relativity.

**PHY 328 (4) Electronics for Scientists I.** Prerequisite: PHY 212. An introduction to digital electronics and microcomputers including digital logic, programming and interfacing microcomputers, and applications of microcomputers to projects of interest to the physical scientist.

**PHY 329 (4) Electronics for Scientists II.** Prerequisite: PHY 212. An introduction to analog electronics including DC and AC circuit analysis, source transformations, semiconductor devices, mathematical models of semiconductor devices, and a survey of the use of modern linear integrated circuits in applications of interest to the advanced physical science student.

**PHY 330W (3) Methods of Experimental Physics I.** Prerequisite or Corequisite: PHY 216. Primarily a laboratory course, comprised of lectures and

advanced experiments in electronics, optics, modern physics, and astronomy. Satisfies writing across the curriculum requirements.

**PHY 342 (3) Optics Spectra and Lasers.** Prerequisite: PHY 216. A lecture course in modern optics covering geometrical, wave, and quantum optics, and modern optical technology, with applications to atomic spectroscopy and lasers.

**PHY 351 (3) Thermodynamics and Statistical Physics.** Prerequisite: PHY 212. A study of equations of state, the laws of thermodynamics, thermodynamic potentials, statistical thermodynamics, kinetic theory, and elementary statistical mechanics.

**PHY 361 (3) Mathematical Methods of Physics and Chemistry I.** Prerequisite: PHY 212. An introduction to advanced techniques of applied mathematics used in physics and chemistry, including applied linear algebra, ordinary differential equations, and Laplace's equation.

**PHY 362 (3) Mathematical Methods of Physics and Chemistry II.** Prerequisite: PHY 361. A continuation of PHY 361, including vector calculus, Fourier series and orthogonal expansions, Fourier integrals, complex variables and conformal mappings, complex integration, and the heat and wave equations.

**PHY 381 (1-6) Independent Study.** Prerequisite: Approval of instructor. Investigation of a topic selected by the student in consultation with the faculty, this course may be repeated for credit.

**PHY 401S (3) Physics for Secondary Teachers.** Prerequisite: PHY 212. Examination of various text and laboratory materials which are available for high school physics courses. Discussion of the goals of the high school physics course and consideration of some of the difficulties which are likely to be encountered.

**PHY 410 (3) History of Physics.** Prerequisite: PHY 216. Survey of the historical development of physics based on the study of classical papers and scholarly works.

**PHY 411 (3) Electromagnetic Theory I.** Prerequisite: PHY 362. A study of static electric and magnetic fields including Gauss' Law, Ampere's Law, and the solution of Laplace's equation.

**PHY 412 (3) Electromagnetic Theory II.** Prerequisite: PHY 411. A continuation of PHY 411 including study of time-dependent fields, Maxwell's equations,

electromagnetic wave and radiation.

**PHY 422 (3) Quantum Mechanics.** Prerequisites: PHY 216 and 362. An introduction to quantum mechanics wave functions, and the Schrodinger equation, including solution of the Schrodinger equation for a box, barrier, square well, harmonic oscillator, and the hydrogen atom.

**PHY 430W (3) Methods of Experimental Physics II.** Prerequisite: PHY 330. A continuation of PHY 330. Selected advance experiments in electronics, optics, modern physical and astronomy. Satisfies writing across the curriculum requirement.

**PHY 431 (3) Atomic and Nuclear Physics.** Prerequisite: PHY 422. A lecture course comprising a study of the properties of atoms and nuclei, and review of classic experiments, and an investigation of related applications of quantum mechanics.

**PHY 433 (3) Solid State Physics.** Prerequisites: PHY 216 and 422. An introduction to solid state physics including crystal structures, electron and mechanical waves in crystals, semiconductors, electric and magnetic properties of solids, and point defects in crystals.

**PHY 441 (4) Solar System Astronomy.** Prerequisite: PHY 212. An introduction to the solar system intended for mathematics and science majors and including the physics and chemistry of the sun, planets, moons, comets, and the interplanetary medium, life on other planets and artificial satellites.

**PHY 442 (4) Stellar and Galactic Astronomy.** Prerequisite: PHY 212. An introduction to stellar and galactic astronomy intended for mathematics and science major and including the physics and chemistry of the stars and the interstellar medium, star and galaxy formation, and basic cosmology.

**PHY 449 (3) Special Topics in Physics.** Prerequisite: Approval of instructor. Advanced specialized topic courses selected on the basis of faculty and student interest. This course may be repeated for credit.

**PHY 461 (3) Computational Physics.** Prerequisite: PHY 362. A study of numerical and computational techniques for solving physical problems including using analytical and physical theory to simplify and approximate, writing algorithms and programs, and using commercial and other available software.

**PHY 480 (1-6) Research Project.** Prerequisite: Approval of instructor. Supervised original research by the individual student on a problem selected in consultation with the faculty. This course may be repeated for credit.

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## POLITICAL SCIENCE

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### Department of Political Science

**OFFICE: Dollye M.E. Robinson Building, 3rd Floor**

**PS 134 (3) Introduction to Political Science.** An introduction to the discipline of political science, its concepts and methods of analysis.

**PS 135 (3) American Government.** Prerequisite: PS 134. Survey of the constitutional basis, organization, and functioning of the American national government; the principles underlying constitutional government, citizenship, civil rights, and political institutions.

**PS 136 (3) State and Local Government.** Prerequisite: PS 134. The role of the state and local governments in the federal system: political institutions, elections, the organization, functions, and problems of state and local government, with special emphasis on Mississippi Government.

**PS 236 (3) Political Statistics.** An examination of a set of techniques for describing groups of data and for making decisions related to the allocation of political resources.

**PS 238 (3) Introduction to Comparative Politics.** Prerequisite: PS 134. An introduction to the basic concepts and approaches in comparative politics and the application of these concepts and approaches to major regions of the world.

**PS 320 (3) Legal Research and Writing.** Introduction to the basic research and writing techniques in law. Special emphasis will be placed upon the use of legal reference materials such as reporters, legal encyclopedias, digests and Periodicals, and lexis.

**PS 332 (3) Asian Governments.** Prerequisite: PS 238. A study of the Asian political system with special emphasis on China and Japan.

**PS 337 (3) American Political Theory.** Prerequisite: PS 135. A background analysis of political ideas stemming from various intellectuals who have contributed toward the development of American political ideas prior to the American Revolution through the American Civil War Period.

**PS 338 (3) American Political Theory.** Prerequisites: PS 134 and 135. An analysis of political ideas stemming from various intellectuals who have contributed toward the development of American political ideas from the Civil War to the present.

**PS 339 (3) Black Political Thought.** Prerequisite: PS 135. An analysis of Black political ideas in America on justice, freedom, equality, individuality, electoral politics, and other values and means utilized to strengthen Black political power in the United States.

**PS 340 (3) Comparative Government.** Prerequisite: PS 238. A critical analysis and evaluation of the institutions, functions and techniques with which modern governments face the social and economic problems of the contemporary period.

**PS 341 (3) Blacks and the American Political System.** Prerequisite: PS 135. A study of the role of black people in American political process. Consideration will be given to the impact of American institutions upon black people in America and the diaspora.

**PS 342 (3) Political Philosophy.** Prerequisite: PS 135. An introductory analysis of the major works in political thought from Plato to John Locke with special attention placed on relevance of the political tracts in examining recent political problems. Open to juniors and seniors only.

**PS 343 (3) Political Philosophy.** Prerequisite: PS 135. An introductory analysis of the major works in political thought from Montesquieu to Mao tse-tung, with special attention placed on the relevance of the political tracts in examining recent political problems. Open to juniors and seniors only.

**PS 346 (3) Civil Rights and Liberties.** Prerequisite: PS 135. A study of development in the field of civil rights under the Bill of Rights and the Fourteenth Amendment to the United States Constitution, and under federal and state legislation.

**PS 347 (3) Judicial Process.** Prerequisite: PS 135. An analysis of the structure and functions of judicial systems emphasizing the organization, administration and politics of judicial bureaucracies and roles of judges, juries, counsel, litigants, and interest groups in the adjudication process.

**PS 348 (3) Minority Group Politics.** Prerequisite: PS 135. Analysis of the directions, concerns, problems, and progress of African-Americans, Mexican-

Americans, Oriental Americans, native Americans, and the rights of women; also analyzes the various methods and strategies employed by these groups to solve their problems.

**PS 349 (3) Chinese Political Theory in 20<sup>th</sup> Century.** To examine the foreign and economic relations of major Asian countries vis-a-vis the western industrialized countries and global community developments.

**PS 350 (3) American Political Parties and Pressure Groups.** Prerequisite: PS 135. The nature and functions of political parties; nominations; elections and the role of interest groups in the political process.

**PS 351 (3) The American Presidency.** Prerequisite: PS 135. A consideration of the nature, powers, and functions of the American Presidency with emphasis on executive congressional relations and presidential leadership in foreign and domestic affairs.

**PS 352 (3) Modernization and Political Change.** Prerequisite: PS 238. An analysis of political and social problems associated with modernization in the non-western world. Empirical focus is placed on two or more developing regions.

**PS 353 (3) Government and Politics in Latin America.** Prerequisite: PS 238. An analysis of the political systems of contemporary Latin America, and an examination of the relationship of the political process to social structure and national diversity.

**PS 354 (3) Government and Politics in East Europe.** Prerequisite: PS 238. An examination of the critical roles of ethnicity and ideology in the politics of the new governments of Eastern European Countries since the collapse of the Soviet Union. The examination of their political process, constitution, and economic arrangements.

**PS 355 (3) Contemporary Eastern Europe.** Prerequisite: PS 135. Comparative analysis of the governments of Russia and the Eastern European Countries since the collapse of the Soviet Union. The examination of their political process, constitution, and economic arrangements.

**PS 362 (3) Soviet Foreign Policy.** Prerequisite: PS 235. An analysis of the major trends in Russian policy vis a vis the western industrialized nations, the democratization of the political and economic system.

**PS 363 (3) United States-Soviet Relations.** An examination of the origins of the cold war, the struggle for influence in the Third World, efforts toward arms reduction, perestroika and the post cold war.

**PS 366 (3) Principles of Public Administration.**

Prerequisite: PS 135. Theory and practice involved in executing and administering governmental policy of the different levels of American government with special emphasis on the federal level.

**PS 368 (3) Public Personnel Administration.**

Prerequisite: PS 371. The process of formulating and administering public personnel policies; concepts and principles utilized in selected governmental personnel systems.

**PS 369 (3) Personnel and Human Relations.**

Prerequisite: PS 366. An analysis of the policies, processes, organizations, and interrelationships involved in administration of public service.

**PS 370 (3) Public Planning, Programming and Budgeting.**

Prerequisite: PS 371. A survey of governmental financial procedures, including processes of current and capital budgeting, the administration of public borrowing, the techniques of public purchasing, and the machinery of control through pre audit and post audit.

**PS 371 (3) Introduction to Public Administration.**

Prerequisite: PS 135. An analysis of the basic principles and practices of public administration in the United States. Problems of structure and organization, administrative powers, authority, status and leadership. Identification of major factors in the struggle to control the bureaucracy.

**PS 372 (3) State Administrative Systems.**

Prerequisite: PS 371. An analysis of state administrative systems, their local sub-systems and their outputs.

**PS 373 (3) Municipal Administration.** Prerequisite: PS 366. Municipal administration in the United States; administrative organization, personnel problems, financial problems, financial problems, city planning and housing.

**PS 374 (3) Administration and National and International Agencies.**

Prerequisite: PS 371. An examination of the administrative patterns and practices of the United Nations, agencies and overseas department programs, including distinctive

characteristics of organization and management selection of personnel and methods of financing.

**PS 375 (1-3) Seminar in Practical Politics.**

An analytical approach to the study of practical versus theoretical perspectives of politics emphasizing seminars on current issues and practical involvement in political activities.

**PS 376 (3) LSAT Survey.** An analysis and survey of the mechanics, techniques and content of the Law School Admissions Test.

**PS 390 (3) Internship in Political Science.**

Prerequisite: PS 330. Supervised field work with public related agencies. Students receive three (3) semester hours for halftime work for one semester. No student may receive more than a total of fifteen (15) semester hours in political science from the internship program.

**PS 400 (3) General Seminar in Urban Problems.**

Prerequisite: PS 135. An analysis of the major problems confronting urban centers including housing, crime, drugs, education, health, poverty and transportation.

**PS 403 (3) Contemporary Middle East 1900.** The Arab-Israeli conflict, the peace process and the U.S. role, the gulf war, Islamism and oil politics in the global system.

**PS 409 (3) Public Opinion and Voting Behavior.**

Prerequisites: PS 135. This course will study attitude and opinion formation and the socialization processes in the American Electoral System.

**PS 410 (3) Political Socialization.** Prerequisite: PS 135. Description and analysis of laws and court decisions relating to social, economic and legal problems of the poor in American society; examines strategies for helping the poor to overcome poverty.

**PS 411 (3) Politics and Education.** Prerequisite: PS 135. This course will explicitly attempt to analyze the educational issues being debated within the framework of the American political system.

**PS 415 (2) Consumer Law.** Prerequisite: PS 431. A study of the law as it affects the rights of creditors and debtors with special emphasis on the problems of the poor.

**PS 423 (3) Constitutional Law I.** This is the first of a two semester course which will examine the

philosophy and constitutional growth of Supreme Court decisions. Emphasis in this portion is on the limitations imposed upon governmental interferences with individual rights.

**PS 424 (3) Constitutional Law II.** This is the second part of a two semester course which examines the limitations placed upon the federal and state government.

**PS 425 (3) Environmental Law.** Prerequisite: PS 432. Primary emphasis upon the regulation of air and water pollution at the national, state, and regional levels and the political, social and economic considerations behind these laws.

**PS 426 (3) Contemporary Topics.** Prerequisites: PS 134 and 337. An in-depth examination of current topics in either law, politics, ethics and/or public policy.

**PS 428 (3) Foreign Policy.** Prerequisite: PS 135. The examination of the Foreign Policy of the major powers in the International Political System. The focus will be on the foreign policy of the United States, Russia, China, Japan, and the major countries in Europe.

**PS 429 (3) African Governments and Politics.** Prerequisite: PS 238. This is a survey course. It will analyze African traditional political institutions, the causes of the demise of those institutions, colonialism, independence, and the past independent governments and politics of African countries.

**PS 430 (3) African Political Thought.** Prerequisite: PS 429. The role of African intellectuals and leaders in the movement for independence and in the politics and ideology of African states.

**PS 431 (3) African Internet Relations.** This course is designed to study and analyze the role of African countries and organizations in the global political system.

**PS 432 (3) Introduction to Law I.** Prerequisite: PS 135. This is the first part of a two-semester courses which examines the role of law in society. Emphasis is on the nature of law and the variety of legal mechanisms that exist in society.

**PS 433 (3) Introduction to Law II.** Prerequisite: PS 135. This is the second part of a two-semester course which examines the processes of how law functions to meet the political, social and economic needs of society.

**PS 437 (3) International Relations.** Prerequisite: PS 428.

Nature of international relations, problems of national power, the state system, diplomacy, war and peace.

**PS 438 (3) International Organization.** Prerequisite: PS 437. Growth of international organization and administration, analysis of the United Nations, with major emphasis on the latter.

**PS 440 (3) International Law.** Prerequisite: PS 437. Course covers: (1) fundamentals of international law relating to international organizations and international political process; (2) character and rule of international law in the world community, concept of international public interest as it relates to the international law.

**PS 444 (3) Politics in Southern Africa.** Prerequisite: PS 429. This course is designed to examine the post apartheid South Africa and the role of South Africa's race relations after apartheid. South Africa's relations with the neighboring states, other African countries, the United States and the global community will be analyzed.

**PS 446 (3) Scope and Methods.** Prerequisite: PS 236. This course is designed to introduce students of political science to critical epistemological and methodological issues, to the philosophy of science and to the scientific and intellectual issues that characterize major trends in the discipline.

**PS 447 (3) Senior Research Seminar in Political Science.** Prerequisite: PS 446. This course is designed for students of Political Science. It is an attempt to integrate research methods with the substance of politics. Statistical techniques and illustrative application of the computer will be utilized focusing on political research.

**PS 449 (3) Mississippi Legislative Internship Program.** Prerequisites: PS 134 and 136. Students become acquainted with legislative functions by working as interns for a legislator during a regular legislative session. Students will observe, participate in the writing of bills, and perform other tasks germane to the operation of the legislature.

**PS 450 (3) Urban Politics.** This course will examine the concept of community and the political process in a variety of American localities. An examination of the black community with special emphasis upon political problems will be examined.

**PS 451 (3) Administrative Law.** Prerequisites: PS 423 and 424. This course is designed to examine the law



governing the organization, powers, and procedures of administrative bodies. Emphasis is on state and municipal administrative agencies.

**PS 453 (3) Independent Study and/or Directed Readings.** Prerequisites: Senior standing, 2.00 grade point average in major courses, and consent of instructor (a specialist in the area of study).

**PS 455 (3) Community Politics.** Prerequisite: PS 400. A study of community politics and theories underlying effective delivery of community services for human welfare, neighborhood organizations and the principle involved in organizing active community groups.

**PS 456 (3) Seminar on China.** Prerequisite: PS 332. The current political situation in China will be the area of study in an effort to determine the views of the leadership and future probabilities following the change of command and assertion of new leadership.

**PS 467 (3) Administration of Health Agencies.** Prerequisite: PS 366. Administrative problems associated with the operation of health institutions and the administrator's relations with lay-boards, health specialists, and clientele in public and non-profit institutions.

**PS 470 (3) Comparative Public Administration.** Prerequisite: PS 371. An introduction to the study of governmental administrative systems viewed from the standpoint of comparative topologies and theoretical schemes useful in cross-national comparisons and empirical studies of the politics of the administrative process in several nations.

**PS 472 (3) Political Socialization.** Prerequisites: PS 135 and 446. Study of the primary and secondary socialization of children and adults into political attitudes and roles; examines the hierarchical distribution of authority and channels of recruitment as a means of refining politics and of understanding social change.

**PS 473 (3) The American Legislative Process.** Prerequisites: PS 135 and 409. Analytical treatment of the law-making functions of the national and state legislatures and their place in the political system.

Emphasis on such areas as patterns of recruitment, internal leadership structure and the role of parties.

**PS 484 (3) Intergovernmental Relations.** Prerequisite: PS 371. Evolution of the American Federal System; consideration of inter-unit cooperation and conflict; review of administrative issues like revenue sharing, federal grants and regulations.

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## PSYCHOLOGY

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### Department of Psychology

**OFFICE: Dollye M. E. Robinson Building**

**PSY 111 (3) Introduction to Psychology.** Fundamental topics and methodology in the scientific study of behavior.

**PSY 112 (3) Introduction to Psychology.** Prerequisite: PSY 111 or equivalent. A continuation of PSY 111.

**PSY 201 (3) General Psychology.** A broad survey of the traditional topics in psychology. (Not for psychology majors.)

**PSY 211 (3) Statistics I.** Prerequisites: PSY 111 or equivalent, 112, and MATH 111 or equivalent. Collection and organization of data; central tendency, variability and correlation; elementary probability theory; basic inferential procedures, including large and small sample tests of differences between two groups and an introduction to the analysis of variance.

**PSY 212 (3) Statistics II.** Prerequisite: PSY 211. Analysis of variance; non-parametric techniques, selected advanced topics.

**PSY 214 (3) Developmental Psychology.** Prerequisite: PSY 111 or equivalent, and 112. Genetic background, prenatal development, infancy and childhood, early experience and personality development; adolescence and adulthood; conflicts, roles and adjustment mechanisms.

**PSY 216 (3) Abnormal Psychology.** Prerequisites: PSY 111 or equivalent, 112, and 214. Historical overview of abnormal psychology; criteria of abnormal behavior; symptomatology and dynamics of psychological disorders; therapeutic considerations.

**PSY 304 (3) Child Psychology.** Prerequisite: PSY 201 or equivalent. The systematic study of the development and behavior of the human from conception to puberty. (Not for psychology majors.)

**PSY 305 (3) Adolescent Psychology.** Prerequisite: PSY 201 or equivalent. Influence on development and behavior of the human from puberty to adulthood. (Not for psychology majors.)

**PSY 306 (3) Educational Psychology.** Prerequisites: PSY 111 or equivalent, and 112. Application of psychological principles of student learning and achievement, teaching methods, and performance assessment.

**PSY 307 (3) Measurement and Evaluation.**

Prerequisites: PSY 111 or equivalent, 112, and MATH 111 or equivalent. An introduction to classroom uses of statistical and testing methods, concentrating on the preparation of educational objectives and the construction and evaluation of teacher-made tests.

**PSY 310W (3) Personality.** Prerequisites: PSY 111 or equivalent, 112, 214, and junior standing. Biological, learning, social and psychometric-trait approaches with emphasis on methodology and the relation of research findings to theoretical perspectives.

**PSY 312 (3) Psychology of Adjustment.** Prerequisite: PSY 111 or equivalent, and 112. Socioemotional adjustment and personality; interpersonal and intrapersonal relationships; normal personality development and mechanisms of adjustment.

**PSY 314W (3) Social Psychology.** Prerequisites: PSY 111 or equivalent, 112, 214, and junior standing. A detailed examination of social behavior from various theoretical viewpoints, with an emphasis on possible causes of and solutions to contemporary social problems.

**PSY 315 (3) Physiological Psychology I.**

Prerequisites: PSY 111 or equivalent, 112, 214; BIO 111, 112, or equivalent; BIOL 111, 112, or equivalent; and junior standing. Physiological mechanisms mediating behavior. The neural and endocrine systems in man and other animals are emphasized.

**PSY 320 (3) Behavior Modification.** Prerequisites: PSY 111 and 112. An in-depth analysis of principles and procedures use in modifying and controlling behavior.

**PSY 411 (3) Learning.** Prerequisites: PSY 111 or equivalent, 112, 214, and 315. Classical and instrumental conditioning: aversive control; discrimination and attention; cognitive processes; selected behavioral and neurophysiological models; recent theoretical developments.

**PSY 415 (4) Experimental Psychology.** Prerequisites: PSY 111 or equivalent, 112, 211, 212 and 214. An overview of experimental psychology emphasizing experimental design, methodology and the use of statistical software for data analysis. Lecture and laboratory.

**PSY 416 (3) History and Systems.** Prerequisites: PSY 111 or equivalent, 112, 214, and junior standing. A survey of the historical development of psychology, with emphasis on the major contemporary systems of psychology.

**PSY 418 (3) Seminar.** Prerequisite: Senior standing. Contemporary topics in psychology.

**PSY 498 (3) Readings and Research.** Prerequisites: PSY 211, 212, and 415C. A research project and/or intensive reading in an area of interest will be undertaken with the consent and supervision of the instructor. A written report will be required.

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**DEVELOPMENTAL READING**

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**Division of Undergraduate Studies**

**OFFICE: Charles F. Moore Building, First Floor**

**RE 001 (3) Developmental Reading** An individualized course for meeting reading needs of students whose entrance scores indicate likelihood of difficulty in doing college work.

**RE 002 (3) Intermediate Reading.** An individualized course designed for any student deserving to increase speed of reading and to improve study skills.

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**READING**

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**Department of Elementary and Early Childhood Education**

**OFFICE: Joseph H. Jackson Building**

**RE 100 (1) Developmental Reading I.** An individualized course for meeting reading needs of students whose entrance score indicate likelihood of difficulty in doing college work. (D)

**RE 102 (2) Developmental Reading II.** An individualized course designed for any student desiring to increase speed of reading and to improve study skills. (D)

**RE 200 (2) Analytical Reading.** Techniques for reading in the scientific areas with emphasis on data interpretation. (D)

**RE 201 (1) Basic Speed Reading.** An individualized course designed for students who desire to increase their speed of reading.

**RE 204 (3) Pre-Reading Skills for Preschoolers and Early Primary Grades.** Students will participate in situations involving reading readiness skills, oral language, concept development, early experiences with children's literature-creative storytelling and the study of management systems. (D)

**RE 207 (3) Basic Skills in Reading.** Designed as an indepth study of the major reading skills. It focuses on the techniques and activities essential in the teaching of these skills. (D)

**RE 209 (3) Introduction to Reading.** This course is designed to introduce factors related to word attack, word recognition, vocabulary development, comprehension skills, study skills and reading speed. Emphasis is placed on terminology that is basic to the understanding of the reading process. (D)

**RE 210 (3) Preparing Children for Formal Reading.** A study of language and cognitive development of the learner from K-grade three and identification of activities that will assist this development in preparing them for formal reading instruction. (F, S)

**RE 211 (3) Techniques and Strategies for Teaching Reading for Paraprofessionals.** Emphasis is placed on routine classroom tasks in the teaching, learning process, and readiness procedures for the elementary and secondary levels. (D)

**RE 212 (3) Using Literature to Teach Reading Skills.** A thorough study integrating the teaching of reading skills through literary selections. Special emphasis will be placed on vocabulary and comprehension skills and concepts that are applicable to the teaching and learning of literary content. (D)

**RE 310 (3) Teaching Reading in Content Areas.** A thorough study of techniques for promoting reading growth through teaching content materials. (F, S, Sum)

**RE 311 (3) Strategies and Techniques for Teaching Reading in the Elementary School.** This course is designed to introduce strategies and techniques for teaching reading in the elementary school, and to provide theoretical knowledge and principles appropriate to the teaching of reading. Special emphasis will be placed on suitable materials and equipment for enhancing reading skills. Focus will also be given to assessment, exceptionality and multi-cultural education relative to the teaching of reading.

**RE 402 (3) Workshop: Current Problems and Issues in Reading Instructions.** Designed to meet the needs of teachers, students, administrators, and community leaders who have special interests in selected areas of reading. Content developed around needs of specific groups. (D)

**RE 455 (3) Diagnostic Reading Instruction in the Secondary School.** This course is designed to assist students in utilizing a diagnostic/prescriptive model in determining the unique needs of students' specific teaching strategies and techniques, approaches, and materials useful in acquiring and/or maintaining essential reading skills needed for concept attainment in content areas in the secondary school classroom.

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## RECREATION

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### Department of Health, Physical Education and Recreation

**OFFICE: T.B. Ellis Physical Education Complex**

**REC 104 (3) Introduction to Recreation.** This course presents an orientation to the field of organized recreation in terms of its history, philosophy, and development, and the contribution of organized recreation to the leisure and play movement, to the school and community. (F)

**REC 205 (3) Cultural and Recreation Program Planning.** The course is designed to provide students a variety of experiences in the development of cultural and recreational opportunities and events for a multicultural society. (F)

**REC 218 (3) History and Philosophy of Recreation.** This course provides a thorough investigation of the philosophical basis for recreation, history, events, landmark legislation and the formation of the profession.

**REC 225 (1) Practicum in Recreation Administration.** Recreation administration experiences will be obtained for students during the fall semester at local recreation administration agencies institutions. Students will have opportunities to gain experience as an observer in program planning principles and procedures. (F)

**REC 305 (3) Facilities, Design and Maintenance.** This course provides various learning experiences in facility, equipment, and areas designed uniquely for recreation. Consideration will be given to new trends in building and park designs. Equipment purchase and development will also be discussed. (S)

**REC 307 (3) Recreation Leadership.** The content of the course is designed to teach various methods and techniques utilized in developing competent recreation leaders. Students will have experiences in conducting recreational programs for all ages. (F)

**REC 308 (3) Camp Counseling and Programming.**

The course is designed to offer experiences in organized camping techniques; individual and group counseling skills as well as programming procedures which include out-door cookery, camp, crafts, dramatics, nature study, and other camping activities. (S)

**REC 317 (3) Urban and Community Recreation.**

This course is a study of the various aspects, problems and practices of recreational agencies in urban areas. Students will be afforded experiences in the organization of street groups, family projects, commercial groups, and neighborhood schools. (S)

**REC 325 (1) Practicum in Recreation Administration.**

Experiences in recreation administration will be obtained by students at local recreation administration agencies that have viable programs. Students will gain experiences in initiating leadership and programming techniques. (S)

**REC 350 (3) Introduction to Leisure Education.**

Introduces students to the concept of leisure, fundamental and critical trends, and future perspectives vital for growth and development of leisure attitudes.

**REC 404 (3) Recreation Program Design.**

This course entails a study of various aspects, problems and practices of agencies, governmental, and private programs and their planning with particular emphasis on playground, community and teen center plans and procedures. (S)

**REC 405 (2) Outdoor Recreation Programming.**

Emphasis of this course is placed on the philosophy, scope, and trends in outdoor recreation. It includes planning, administering, programming, and evaluating various outdoor recreation programs. (S)

**REC 406 (3) Legal Issues in Recreation.** This course provides a legal structure by which students can best learn liability, legal and risk management principles, and understand and develop professional ethics.

**REC 415 (3) Current Issues and Trends in Recreation.**

This course focuses on critical issues and trends surrounding the professional practice of recreation, leisure, play, and recreation administration and the challenges for future growth and development. This course will also focus on leisure style development, resource allocation and decision making for a constantly changing society.

**REC 418 (3) Principles, Practices, and Procedures in Recreation.**

This course provides an overview of service delivery, practice, guidelines, theories, facilitation techniques and evaluation of the recreation and leisure process.

**REC 421 (3) Management in Recreation.**

This course is a study of principles, methods, techniques, organizational patterns, personnel, public relations and administrative problems involved in the management of recreation, leisure and park programs. This course of study includes finance and budget, the art of human relations, communication, problem solving skills and techniques.

**REC 423 (3) Research and Evaluation in Recreation.**

Emphasis is placed on the principles and techniques of research and evaluation in therapeutic recreation to the organization, administration, and objectives of viable therapeutic recreation programs. (Sum)

**REC 424 (3) Seminar in Recreation Administration.**

This course will emphasize review of current recreation administrative literature; completing abstracts, budget planning, community relations and annotated bibliographies; role playing, situation resolution and site visits. Students will be expected to take a major leadership role in the course. (F, S)

**REC 425 (9) Recreation Internship.**

Emphasis is placed on supervised leadership assignments in public or private agencies with emphasis on a variety of recreation leadership experiences common to such organization programs. Students will have the responsibility of planning, implementing and evaluating a special program during internship. (F, S)

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**GENERAL SCIENCE**

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**Department of Physics, Atmospheric Sciences and Geoscience**

**OFFICE: Just Hall of Science Building**

**SCI 201 (3) Physical Science.** A study of the universe and natural events in the environment.

**SCI 202 (3) Physical Science.** A study of the changes in matter and energy which leads to the utilization of energy and material resources for man's benefit.

**SCI 204 (3) General Science for Teachers.** Topics in astronomy, biology, chemistry, geology and physics are studied. Laboratory work provides for experiments and projects.

**SCI 205 (3) Earth and Space Science.** A geophysical study of the earth with emphasis on the major scientific discoveries about the earth and its relation to the universe.

**SCI 206 (3) Elementary Geology.** The course is designed to give a basic understanding of the origin and classification of rocks and materials in the geologic process that alter the earth's surface.

**SCI 215 (3) Global Change.** This course introduces a new concept that views Earth as a synergistic physical system of interrelated phenomenon governed by complex processes involving the atmosphere, the hydrosphere, the biosphere, and the solid Earth. The course emphasizes that events which shape the physical, chemical, and biological processes of the Earth do not occur in isolation. Rather, there is a delicate relationship between events that occur in the ocean, atmosphere and the solid Earth. The course provides a multidimensional approach in solving scientific issues related to Earth-related sciences, namely geology, meteorology, oceanography, and ecology.

**SCI 228 (3) Science Technology and Environment.** An overview of contemporary topics in science technology and environment.

**SCI 310 (3) Earth History.** Prerequisite: SCI 205. This course covers major events that have shaped the Earth during the past 4.6 billion years. Physical, chemical, and biological characteristics of Precambrian, Paleozoic, Mesozoic, and Cenozoic intervals are discussed. Important topics include the evolution of continents, origin of mountain ranges, evolution of oceans, sea-level fluctuations, variation in seawater chemistry, evolution of atmospheric gases, and major deformation events. In the laboratory portion of the course, students are familiarized with major fossil groups and geological maps.

**SCI 312 (3) Innovative Approaches in Science Teaching.** This course is designed to introduce pre-service science teachers to new and alternative instructional materials for science teaching. Emphasis is placed on analyzing, comparing, and contrasting these materials with implications for science teaching.

**SCI 320 (3) Sedimentary Environments.** Prerequisites: SCI 205 and 310. Sedimentary environments are areas where sediments accumulate. These include deserts, lakes, rivers, deltas, marshes, beaches, lagoons, shallow sea, and deep sea. This

course discusses sediment types, hydrodynamics, and stratal packages of each of these environments. Fundamental knowledge about physical processes that operate in these areas is conveyed. Special attention is paid to sedimentary rock types and structures. Students are expected to be able to recognize and interpret the record left behind by these environments in the geological record. In the laboratory portion of the course, students are familiarized with grain size analysis, sedimentary structures, stratigraphic analysis, and depositional environments.

**SCI 325 (3) Mineralogy-Petrology.** Prerequisites: SCI 205 and 310. This course is designed to familiarize students with characteristics of the Earth's materials. This is accomplished by a detailed analysis of minerals and rocks through microscopic examinations. The course begins with an overview of the nature of light. This is followed by a discussion of the response of minerals to the passage of light. Then, microscopic properties of major mineral groups are presented. After these, mineralogical and petrological characteristics of igneous rocks, sedimentary rocks, and metamorphic rocks are evaluated. In the lab segment of the course, students learn to examine microscopic properties of minerals and learn to identify major rock groups through petrographic examinations.

**SCI 401S (3) Science for Children.** Prerequisite: Junior standing. Consideration is given to helping the student organize curriculum materials and gain proficiency in presenting science to high school students.

**SCI 403 (3) Seminar in Science.** Prerequisite: Senior standing. Provides an opportunity for the student to discuss the most pertinent trends in the fields of science.

**SCI 410 (3) Methods and Curriculum Materials for Science Classroom.** Prerequisites: SCI 205, and 310. This course is designed to familiarize students with major characteristics of the oceans. Students learn about ocean physiography, seawater composition, ocean circulation, evolution of seawater through time, marine life, and ocean management. Particular emphasis is placed on major and rapid perturbation on the chemistry of seawater and ocean circulation. Additionally, ocean-atmospheric interactions are emphasized.

**SCI 410E (3) Science for Children.** Prerequisite: Junior standing. Designed to familiarize students

with materials, techniques and unifying principles of science with laboratory exercises emphasized.

**SCI 410S (3) Method and Curriculum Materials for the Science Classroom.** Curriculum materials designed to train the students in the selection, preparation and use of curriculum materials in the teaching of science at the secondary level.

**SCI 415 (2) Geochemistry.** Prerequisites: CHEM 141, 142, and SCI 205. This course discusses basic geochemical principles as applied to Earth Science. First, an overview of thermodynamic principles is presented. Then, geochemical aspects of the most common reactions of the atmosphere, rivers, lakes, estuaries, and oceans are evaluated. Other important issues that are discussed include geochemical reactions which occur during weathering, early diagenesis, burial diagenesis, and formation ore deposits. A dedicated geochemical laboratory is also associated with the class where students learn to calculate mineral solubility and perform simple experiments.

**SCI 420 (3) Structural Geology.** Prerequisites: SCI 205, and 310. This course familiarizes students with changes that occur in Earth's materials collectively referred to as deformation. The course is designed to present deformation of rocks at a scale ranging from microscopic to continent-wide regions. The course begins with the introduction of stress, strain, force, and factors controlling rock behavior including an analysis of mechanical behavior of rocks. This is followed by a discussion of folds, normal faults, thrust faults, strike-slip faults, joints, lineation, and foliation. In the laboratory portion of the course, students learn basic elements of structural geology, work with Brunton compasses, prepare structural cross sections, and apply graphical solutions to solve structural problems.

**SCI 425 (2) Environmental Geology.** Prerequisites: SCI 205, and 310. The aim of this course is to provide basic and fundamental information about processes which affects the environment. The course begins with elementary background on some important concepts of Earth Science including overviews and rocks and minerals, global tectonics, earthquakes, and volcanoes. This is followed by discussions of environmental issues produced by flooding, hurricanes, groundwater pollution, waste management, fossil fuel, climate change, global warming, and sea-level change. In the lab section

of this course, students conduct hands-on projects related to our environmental projects in an urban setting.

**SCI 430 (3) GIS/RS (Geographic Information Systems/Remote Sensing).** Fundamental concepts of remote sensing, including airborne and spaceborne platforms for collecting data, analysis and integration into GIS, are introduced in this course. Techniques in remotely identifying various earth features and their changes are taught. Students are also introduced to digital manipulation and analysis techniques used by today's remote sensing technicians.

**SCI 432 (3) Hydrology.** Prerequisites: SCI 205, and 310. This course is designed to provide students fundamental information about fresh water on Earth. As the human population increases, so does our need for drinking water. The course provides an analysis of surface and groundwater reservoirs. An analysis of drainage basin characteristics is presented. Darcy's Law is presented in detail. Aquifer and aquitard characteristics are covered. Water chemistry, groundwater resource evaluation, and water quality are presented.

**SCI 441 (3) Field Geology.** Prerequisite: SCI 205. This course investigates Africa's physical and natural environments. It promotes the concept that Africa's natural environments are connected with health issues across the continent. The term "health" refers to humans and/or ecosystems. Each topic begins with a scientific investigation into climate, water systems, and meteorological events. Discussions are held on physical conditions that may trigger environmental risks for humans and the environment.

**SCI 480 (1) Earth Science Seminar.** Prerequisites: SCI 205, 310, and 430. This course is designed to familiarize students with major topics in Earth Science. Students conduct research and prepare presentations. Topics covered include plate tectonics, mountain building, mass extinction, meteoric impact, carbon cycle, ocean circulation, ocean chemistry, climate change, global warming, coastal land loss, groundwater contamination, and major environmental issues.

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## DRIVERS EDUCATION

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**Department of Health, Physical Education  
and Recreation**

**OFFICE: T.B. Ellis Physical Education Complex**



**SE 300 (3) Beginning Drivers Education.** This course is designed to develop students who have a working knowledge of motor vehicle operations and laws and to develop within each student a sense of personal responsibility for the safe operation of motor vehicles. (F, S, Sum)

**SE 340 (3) Introduction to Drivers Education.** This course emphasizes techniques and materials that are used in teaching the basic driving skills needed to use the highway systems. (F, Sum)

**SE 410 (3) Safety Education.** This course involves the study of objectives, policies, procedures, supervisory techniques, and accident prevention techniques. Laboratory assignments are given. (S)

**SE 411 (3) Methods in Driver and Safety Education.** Prerequisite: SE 340. This course is principally designed for organization, teaching, administration, and supervision of traffic safety programs. The place of simulators is discussed. (F)

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## **SOCIOLOGY PROGRAM**

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**Department of Criminal Justice and Sociology**  
**OFFICE: Dollye M. E. Robinson Building, Room #313**

**SOC 214 (3) Introduction to Sociology.** An introduction to the basic concepts and generalizations in the field of sociology and a descriptive study of culture, societal processes, social institutions, and the significance of group behavior. (F, S, Sum)

**SOC 216 (3) Modern Social Problems.** A brief survey of some of the social problems prevalent in contemporary America. Attention will be given to their nature, type, causes, and collective action toward them. (S, Sum)

**SOC 301 (3) Community Organization.** A study of the historical evaluation of community organizations, methods of securing community support, the ecological characteristics, the social processes and interactional patterns. Attention is given to agency organization and functions. Student participation in organizational practices and professional supervision. (D)

**SOC 302 (3) Basic Issues in Mental Health.** This course will examine basic issues in the mental health service delivery system. Emphasis will be placed upon clients rights, mental health laws, goals of mental health systems, and areas of specialization. Students will study selected interdisciplinary

literature as related to: (a) the psychosocial and historical context of mental illness and community mental health services, (b) problems and needs of target populations, and (c) implications for health practice. (D)

**SOC 310 (3) Introduction to Alcohol and Drugs.**

Encompasses factual and scientific information on alcohol and drug use, misuse and non-use. The physiological, psychological and social manifestations of the use of mind altering substances will be explored. (F)

**SOC 318 (3) Women in Contemporary American Society.**

To examine the interrelationship of sex-role stereotypes and the translation of sex-roles into social institutions. It will provide a description and an analysis of the experiences of women in social and individual roles—the social structure and social institution which both serve and are served by the differential treatment of the female/male roles. (D)

**SOC 320 (3) Counseling the Chemically Dependent.**

Explores the philosophy and principles of the helping relationship including the theoretical orientation to counseling, techniques of counseling, counseling approaches and overview of counseling theories and techniques. (D)

**SOC 321 (3) Personality and Culture.** This course is designed to study the role of culture in the development of personality and the range of personal adjustments in the light of cultural variability. (D)

**SOC 322 (2) Alcohol/Drug Seminar.** This course focuses attention on basic alcohol content and exposure to the state-of-the-art alcohol/drug research. (S)

**SOC 323 (3) Introduction to Anthropology.** An introduction to basic anthropological concepts and a descriptive and analytical study of selected cultural traits, patterns and themes found among contemporary preliterate culture groups, with emphasis focused on cultural similarities and differences. (D)

**SOC 324 (3) Social Psychology of Women.** Will be designed to offer insight into the socialization process of women. It is to pursue the process of adaptation, which starts at birth and continues for a considerable period in the life of the individuals. It will also focus on stress techniques used by women in every day life. (D)

**SOC 325 (3) Cultural Anthropology.** An introduction to basic anthropological concepts and a descriptive and analytical study of selected cultural traits, patterns and theme found among contemporary preliterate folk, and literate culture groups, with emphasis focused on cultural similarities and differences. (F)

**SOC 326 (3) Social Psychology.** A study of processes of interrelationships and of stimuli as they affect individual and group reactions and behavior such as fashions and social movements. (F, S)

**SOC 327 (3) Social Stratification.** An analysis of American social structure. Topics to be considered include criteria for differentiation, types of stratification, the composition of strata and status systems, mobility and consequences of stratification. (D)

**SOC 328 (3) Urban Sociology.** Special attention is given to types of cities. Consideration is given also to the rise of urbanism, suburbanism, the culture of cities, segregated ethnic areas, community and neighborhood organization and disorganization. (D)

**SOC 329 (3) Social Change.** Concern with the basic principles and theories of social change, trends in the major societal institutions, e.g., family, government, religion, economics, and education, special emphasis on the roles that technology and invention play as factors in social change. (F, S)

**SOC 330 (3) Urban and Rural Transportation**  
Concepts. Sociological implications of urban-rural transportation network systems interfacing with the ecological, social political and other established social institutions in America. (D)

**SOC 331 (3) Marriage and the Family.** Prerequisite: Junior standing. The marriage-family system, a critical approach to the study of courtship, marriage and the family modern functions, characteristics, and maladjustments. (F, S)

**SOC 332 (3) Rural Sociology.** The characteristics of agricultural communities in the United States. A comparative analysis of rural America prior to World War I and World War II emphasizing specific problems of Black Americans. (D)

**SOC 333 (3) Criminology.** Prerequisite: Junior standing. Theories of the genesis of criminal behavior in terms of the person and the group; theories of crime and punishment. (F)

**SOC 334 (3) Social Disorganization.** Review of sociological perspective used in the study of deviance and deviants. Examines societal reactions to deviance and consequences for people defined as deviant. Analysis of selected forms of deviance, such as mental illness, eating disorders, drug and alcohol abuses and sex workers. (D)

**SOC 420 (3) Black Female and the Family.** To enhance the existing interrelated concepts of the family and women studies. It will offer a descriptive account of how women have, and still are, a significant force in implementing the major functions of the family which include: replacement of the species, e.g., nurturing its offsprings, initial status ascriptions tension management, household maintenance, cultural transmission, and informal education. Special attention will be given to black women heads of household with a relationship or the lack of a relationship to a "culture of poverty thesis." (S)

**SOC 427 (3) Urban Anthropology.** Prerequisite: Senior standing. Special focus on the problems of rural-urban migration of ethnic minority groups and subsequent adaptation of them within the United States explored in terms of methods and perspective of anthropology. (D)

**SOC 428 (3) Seminar in Urban Social Problems.** A critical examination of contemporary social issues which have produced unrest in the cities. Emphasis will be upon urban problems in Mississippi. The topics to be studied will include poverty, housing, racism, riots, power structure, educational problems, and the community organizing. (D)

**SOC 430 (3) Family Treatment.** This course will deal with the utilization of social work intervention techniques necessary in working with the family as a unit. Emphasis is placed on services to the family in crisis. (D)

**SOC 433 (3) Laboratory/Research Center-Based Internship.** During the three-month internship attention will be given to research conceptualization, implementation, design, data collection and analytical procedures. (D)

**SOC 442 (3) Collective Behavior and Social Movements.** Conditions giving rise to crowds, mobs, riots, and social unrest. Natural history of reform and revolutionary movements, referring to public opinion, propaganda, tactics, strategy, and leadership. Sectarian movements, general social movements. Emergence

of the mass society in the United States. (D)

**SOC 443 (3) Population and its Problems.**

Prerequisite: Senior standing. A systematic investigation of the qualitative and mobile aspects of the human composition of the various nations. Special attention is given to the United States and those areas experiencing population pressure. (D)

**SOC 445W (3) Methods of Social Research.**

Prerequisite: Junior standing. Consideration is given to the essential tools of sociological research; field work is given to the student to orient him/her in collecting, presenting, analyzing, and interpreting sociological data. (S)

**SOC 446 (3) Development of Social Theory.**

Prerequisite: Senior standing. A comparative and historical survey of a basis concepts and theories in sociology, a critical analysis of trends in theory construction of early European and American pioneers in sociological theories from Comte through Weber. (S)

**SOC 447 (3) Sociology of the Family.** A sociological analysis of the development of the modern family, its structure, its interrelationships in society, and its sociological functions. (D)

**SOC 448 (3) Comparative Family Systems.**

Prerequisite: Senior standing. A study of family structures, kinship patterns, social relationships, comparative functions and variations in the family organization in selected culture. (D)

**SOC 451 (3) Social Statistics.** Prerequisite: Senior standing. Basic methods of presenting, analyzing and interpreting social data through statistical methods with concentration on statistical series, frequency distributions, normal curve, measures of central tendency, dispersion, variability, correlation, and such analysis of variance as chi-square. (F, S)

**SOC 453 (3) Women and Employment: Selected Topics of Concern.** Will be both academic and research oriented. It will cover such issues as: how women combine the work role with other major roles, the matching of workers to jobs including both women's own career decision and organizational process of placement, and the problems and rewards associated with non-traditional occupations. (D)

**SOC 455 (3) Race and Ethnic Relations.** A description and analysis of the race and ethnic

characteristics of groups within the United States, with special emphasis on patterns of racial and ethnic relationship and factors influencing them. (F, S)

**SOC 458 (3) Group Dynamics.** Emergence of social organization from unorganized collect behavior. Conditions giving rise to crowds, mobs, riots, panic, social unrest. Attention to dynamics of small group behavior, patterns of leadership, and formation of public opinion. (D)

**SOC 460 (3) Honors Independent Reading and Research.** Prerequisites: Cumulative grade point average of 3.0 and 3.3 in all sociological courses and permission of instructor. Emphasis will be focused on giving highly individualized guidance to the student interested in exploring in depth a selected independent reading or research area in sociology for either one or two semesters. (D)

**SOC 470 (3) Seminar in Sociology.** Prerequisites: Senior standing and completion all required sociology courses through the First Semester, Senior year with a minimum of 2.00 average and a grade of "C" or better in all sociology courses. Critical analysis of research papers presented by the students. Methods of finding and organizing source and secondary materials. (S)

**SOC 490 (3) Special Topics in Sociology.** Varying advanced topics selected by the instructor for study in depth. May be repeated for a maximum of nine hours provided registrations cover different topics, Topics announced in advance. (D)

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**SPANISH**

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**Department of English and Modern Foreign Languages  
OFFICE: Dollye M. E. Robinson Building**

**SP 101-102 (3, 3) Elementary Spanish. An introduction of Spanish.** Essentials of the language. Training in the four skills of listening, speaking, reading, and writing in the Spanish language. May not be taken by native speakers.

**SP 201 (3) Intermediate Spanish.** Prerequisites: SP 101, 102 or equivalent. Review of essentials. Reading of appropriate texts and analysis and discussion emphasizing content and grammar. Conducted mainly in Spanish. May not be taken by native speakers. May be used to satisfy 3rd or 4th semester department requirement.

**SP 202 (3) Intermediate Spanish.** Prerequisites: SP 101, 102, 201, or equivalent. Continuation of SP 201. May not be taken by native speakers. May be used to satisfy the 4th semester departmental requirement.

**SP 230 (3) Spanish Civilization Studies.** Emphasizes Spanish Peninsular History, Philosophy, Sociology, Politics, Cultural and Social Institutions, and to a limited degree, Literature. Taught in English and open to the general student body. Required of majors.

**SP 231 (3) Spanish-American Civilizational Studies.** Emphasizes Spanish American History, Philosophy, Sociology, Politics, Cultural and Social Institutions, and to a limited degree, Literature. Taught in English and open to the general student body. Required of majors.

**SP 254 (3) Spanish for Businessmen.**

**SP 311 (3) Survey of Spanish Literature.** Prerequisites: SP 201 and 202. A general outline course in the history of Spanish Literature up to the Seventeenth Century. Lectures, readings, oral and written reports.

**SP 312 (3) Survey of Spanish Literature.** Prerequisites: SP 201 and 202. A general outline of the history of the literature of the Eighteenth and Nineteenth Centuries and a study of the most significant aspects of modern and contemporary literature in Spain.

**SP 313 (3) Landmarks of Peninsular Spanish Literature.** Prerequisites: SP 230, 231 or the equivalent. A course in which peninsular Spanish masterpieces will be studied in order to familiarize the students with these works, plots, characters, and literary and cultural importance.

**SP 315, 316 (3) (3) Introduction to Spanish-American Literature.** Prerequisites: SP 230 and 231. A general survey of the main currents in Spanish-American Literature from the Colonial Period through the Contemporary Period.

**SP 317 (3) Landmarks of Spanish American Literature.** Prerequisites: SP 230, 231 or the equivalent. A course in which Spanish American masterpieces will be studied in order to familiarize the students with these works, plots, characters, and literary and cultural importance.

**SP 321 (3) Conversation and Composition.** Prerequisites: any 6 hours of Intermediate options

or equivalents. Practice in idiomatic Spanish Composition, conversations and discussions on current events. May not be taken by native speakers.

**SP 322 (3) Conversation and Composition.** Prerequisite: SP 321. A continuation of SP 321. May not be taken by native speakers.

**SP 401S (3) Methods of Teaching Modern Foreign Languages.** A course designed to treat the principles, problems and materials involved in the teaching of Spanish and other modern languages on the secondary level. Required of foreign language majors with senior standing who follow the teaching program.

**SP 421, 422 (3) (3) Advanced Topics for Conversation.** Prerequisites: SP 321, 322 or equivalent. Intensive practice in oral Spanish using topics of culture, civilization, politics, and economics of the Spanish-speaking world. May not be taken by native speakers.

**SP 425 (3) Advanced Spanish Grammar.** Prerequisites: Any 6 hours of Intermediate options or equivalent. Special aspects and problems of Spanish grammar. Development of written skills through grammatical and stylistic drills; guided and original compositions. Individual corrections.

**SP 430, 431 (3) (3) History of Spanish Civilization.** Prerequisites: SP 230 and 231. An outline study of the physical, racial, historical, and artistic influences which have molded the culture of Spain. Lectures, readings, oral and written reports.

**SP 441 (3) Siglo de Oro.** Prerequisites: SP 311 and 312. A detailed study of the Golden Age. Lectures, readings, oral and written reports.

**SP 443 (3) Cervantes.** Prerequisites: SP 311 and 312. A study of the life and works of Miguel de Cervantes, with special attention to "Don Quijote de la Mancha" as a masterpiece of world literature. Lectures, readings, oral and written reports.

**SP 447 (3) The Regional Novel.** Prerequisite: SP 311 and 312. A study of the Spanish novel of the Nineteenth Century. Lectures, readings, oral and written reports.

**SP 449 (3) Twentieth Century Spanish Literature.** Prerequisites: SP 311 and 312. New currents in the prose and poetry of the Twentieth Century. Lectures, readings, oral and written reports.

**SP 451 (3) Spanish-American Novel.** Prerequisite: SP 231. A study of the contemporary Spanish-American Novel. Lectures, readings, oral and written reports.

**SP 480 (3) Independent Study.** Prerequisites: Departmental approval. Special reading assignments, investigative paper or research project in a specific area of Spanish-American literature, philosophy or culture directed by a specialist in that area.

**SP 499 (3) Senior Seminar.** Prerequisites: Departmental approval and senior status. The primary purpose of this course is to interrelate all areas covered in Spanish during the first three years of study of the language, literature and culture.

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## **SPEECH COMMUNICATION STUDIES**

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**Department of Speech Communication**  
**OFFICE: Rose McCoy Auditorium**

**SPCH 201 (3) Speech Arts.** A discussion, demonstration, and performance based course designed for the non-speech major. It aims to develop the student's ability to speak fluently with confidence and poise with another individual, in the group setting, and before an audience. A University core course.

**SPCH 214 (3) Interpersonal Communication.** A course designed to analyze communication from one to several persons. It offers opportunities to engage in face-to-face interactions through interviews, conversations, etc.

**SPCH 215 (3) Training the Speaking Voice.** A course designed to improve vocal conditions for speech purposes in general, and for the classroom teaching situation in particular. It deals primarily with the basic elements of voice and diction, articulation, pronunciation and development of vocal skills.

**SPCH 216 (3) Public Speaking.** An intensified study of and training in speech composition and techniques of delivery. Basic and special types of speeches are considered.

**SPCH 217 (3) Oral Interpretation.** A course designed to help students analyze, experience, and orally communicate various types of literature.

**SPCH 300 (3) Introduction to Organizational Communication.** A course designed to study the key variables influencing the communication behavior of people in organizations and those variables most affected by that behavior. The organization

as a living open-system connected by the flow of information between and among people who occupy various roles and positions will be examined.

**SPCH 334 (3) Argumentation and Debate.** An application of logical principles to discourse in order to develop cogency and standards for criticism. Attention is given to analysis, evidence, straight thinking, methods of attack and defense, organization of ideas, preparation of briefs, and the techniques of delivery in debating.

**SPCH 335 (3) Persuasion.** A course designed to give both theoretical knowledge and practical skill in recognizing and applying the various techniques of influence.

**SPCH 416 (3) Rhetorical Criticism.** Prerequisite: SPCH 337 or consent of instructor. A examination of rhetorical methods and artifacts for the purpose of understanding various communication situations and the rhetoric of social reality set forth by rhetors and rhetorical communities.

**SPCH 430 (3) Small Group Discussion.** A course designed to teach the student skills for effective communication in group settings such as panel, symposium, and forum. Deals specifically with group cohesion in topic understanding and problem solution.

**SPCH 435 (3) Directing Forensics.** A course designed to study the theories and techniques involved in organizing interscholastic and intrascholastic speech activities. Attention is given to the directing of debate, oral interpretation and oratory taught by teachers and coaches on the high school and/or college level.

**SPCH 499 (3) Seminar in Communication.**  
Prerequisites: Senior standing and consent of instructor. This course will provide the student in speech with intensive reading in and critical discussion of literature on advanced topics, with particular attention to interaction processes characterizing speech communication. The student will design, perform and report original research on speech communication variables.

## **SPEECH COMMUNICATION STUDIES:**

**SPCH 218 (3) Listening.** The course aims to explain causes and nature of poor listening; to foster self insight into personal listening habits and to initiate a method of training to improve listening behavior.

**SPCH 337 (3) Analysis of Communication.** A detailed analysis of the process of communication. Methods and models of communication will be studied in-depth to understand theories that guide criticism, interpretation and validation of the process and effects of communication, oral and written, in all sectors of life.

**SPCH 338 (3) Nonverbal Communication.** The course will explore the functions of communication in such areas as posture, gesture, facial expressions, voice, touching, clothing, proxemics and environment as they impact on the process of communication.

**SPCH 339 (3) Intercultural Communication.** A course designed to analyze the nature of intercultural communication and its importance to the survival of humanity and society.

**SPCH 431 (3) Political Communication.** This course focuses on the communication process in politics through political campaigning as a specialized approach to mass persuasion.

**SPCH 496 (3) History and Development of Black Protest Oratory.** Students will identify and analyze (1) the basic historical periods in African-American history, (2) persuasive elements within selected protest orations, and (3) rhetorical strategies and tactics used to accomplish persuasive goals.

**SPCH 497 (3) Communication Project.** The student will design a research project as an outgrowth of knowledge learned or skills acquired. The nature of the project will vary depending upon student interest but may include attitudinal studies, program effectiveness studies, and student-teacher departmental relationships.

**SPCH 498 (3) Communication Internship.** The student will spend a semester in an actual job setting utilizing knowledge learned or skills acquired. The nature of the work may vary depending upon the particular placement, but may include speech writing, public relations, and research.

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## **SPECIAL EDUCATION**

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**Department of Special Education**  
**OFFICE: Joseph H. Jackson Building**

**SPED 304 (3) Organizational Procedures for Special Education.** A study of organizational structures, programmatic procedures, policies, resources, and guidelines essential to the delivery of educational services for exceptional children.

**SPED 306W (3) Introduction to Disabilities Studies.** This course is a study of classifications, characteristics, and interactions of biological, emotional and social factors concerning the disabled. It will also emphasize programs and practices for the disabled in non-traditional settings.

**SPED 307 (3) Behavioral Management for Exceptional Children.** Emphasis will be placed on current techniques, educational strategies and tools that will aid the teacher in understanding and handling behavior problems in the classroom.

**SPED 311 (3) Exceptional Children and Youth in the Schools.** A study of definitions, classifications, characteristics, educational programs and problems of exceptional children.

**SPED 315W (3) Assessment and Individualized Programming for 7-12.** Introduction and orientation to the diagnosis, appraisal and programming of exceptional persons at the secondary level.

**SPED 339 (3) Vocational/Career Planning for Exceptional Adolescents.** This course is an investigation of strategies for developing vocational/career education and employment opportunities for students with disabilities.

**SPED 367 (3) Introduction to the Hearing Impaired.** Focuses on causes of hearing impairment, educational facilities, the methods, controversy, and family adjustment which are necessary in order to fully understand the hearing impaired child.

**SPED 368 (3) Family and Community Resources.** An exploration of locating and utilizing community resources in helping persons with disabilities and their families.

**SPED 369 (3) Strategies for Managing Violent and Aggressive Behaviors.** This course emphasizes prevention and crisis management models, verbal interaction and personal safety skills applicable with verbally aggressive and physically violent behavior.

**SPED 400 (3) Medical Aspects of Disabilities.** This course is a study of definitions, classifications, characteristics, evaluations, diagnosis, and treatments of medical conditions of children or youth with exceptionalities.

**SPED 402A (12) Clinical Internship.** This course is a continuation of the practical learning experiences



engaged in during the EDCI 302 course, but in a more intensified and concrete manner. These experiences occur in an off-campus school and community situations for twelve weeks where opportunity is given to the student teacher to test theories of teaching and learning, to initiate and test idea with children. With guidance and supervision, the student teacher is also given the opportunity to develop the ability, initiative and responsibility for planning, guiding and evaluating the total program of the children with whom he/she is working.

**SPED 402B (12) Clinical Internship in Disabled Students.**

Placement of Seniors who have completed SPED 306, 307, 339, 368, 369, 400, 403, 466, 467, 480W, 482, and 499, with agencies where they can get on-the-job experiences in non-teaching settings.

**SPED 403 (3) Teaching the Severely and Profoundly Handicapped.**

Provides students with the skills and understanding needed to teach severely/profoundly handicapped students; program needs, services, and an overview of the role of severely and profoundly handicapped person within society.

**SPED 420 (3) Introduction to Assistive Technology.**

This course provides hands-on demonstration of technology and software that facilitates new ways of teaching and learning for individuals with disabilities.

**SPED 422 (3) Education and the Psychology of the Mildly/Moderately Handicapped.**

This course is an overview of the three traditional handicapped groups: learning disabled, mildly (educable) mentally retarded, and mildly behaviorally disordered.

**SPED 428W (3) Educational Assessment.**

Investigation of instruments and procedures in assessing exceptional children; their interpretation, usefulness, and limitation in diagnosing problems and planning educational programs.

**SPED 430 (3) Education and Psychology of the Mentally Retarded.**

Deals with the medical and behavioral classifications, characteristics, interaction of biological, emotional and social factors, educational philosophy, objectives and programs for the mentally retarded.

**SPED 432 (3) Education and Psychology of the Learning Disabled.**

Survey of the historical development of learning disabilities, problems of definition and classification, screening and diagnosis, and instructional systems.

**SPED 450 (3) Education and Psychology of Children With Behavioral Disorders.**

Characteristics, causes and problems of emotional disturbance in children and youth; diagnosis, and placement and in-depth study of educational programs.

**SPED 466 (3) Introduction to Sign Language.**

Emphasizes fundamental skills of sign language used by deaf individuals in communicative process.

**SPED 467 (3) Advanced Sign Language.**

Prerequisite: SPED 466A. Emphasizes the interpretation of English language into sign language and presents colloquialisms that are prevalent in informal conversational situations among deaf people.

**SPED 468 (3) Introduction to Interpreting.**

Prerequisites: SPED 466A and 466B. Development of skills necessary for interpreting for deaf individuals in educational and other related settings. It also emphasizes the values and ethics of interpreting.

**SPED 480 (3) Education and Psychology of the Physically Handicapped.**

Description of the various types of orthopedically and other health impaired children and youth; etiology, characteristics, medical aspects, and needs of each type.

**SPED 498 (3) Seminar in the Hearing Impaired.**

Current problems, issues, and trends in the field of the hearing impaired.

**SPED 499 (3) Seminar in the Mildly/Moderately Handicapped.**

Current problems, trends, and issues in the field of the mildly/moderately handicapped.

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**SOCIAL SCIENCE**

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**Department of Social and Cultural Studies**

**OFFICE: Joseph H. Jackson Building**

**SS 101 (3) Introduction to the Social Sciences-Foundations.**

This course examines the basic definitions, concepts, generalizations, literature, values, valuing process, and evaluation techniques in the Social Sciences and Social Studies. (D)

**SS 111 (3) Survey of Black Studies.**

This course examines the cultural traits of blacks, conflicts of blacks and whites, and the status of blacks in America. (F, S, Sum)

**SS 201 (3) Social Institutions.** The course examines the basic domestic, educational and religious institutions, relying heavily on the interdisciplinary approach. (F, S, Sum)

**SS 202 (3) Economic Institutions.** This course examines the basic economic institutions, relying heavily on the interdisciplinary approach. (F)

**SS 203 (3) Historical and Cultural Foundations of Education.** Prerequisite: EDCI 100. This course is concerned primarily with selected historical facts and philosophical ideas, which have influenced the development of modern education. (F, S, Sum)

**SS 204 (3) Introduction to Social Science-Value and Valuing.** Basic social values, the valuing process and the role of values in decision-making are explored. (D)

**SS 205 (3) Introduction to Social Science-Inquiry.** Explains the inquiry strategies and techniques used in concept formation and generalization discovery, as they pertain to the social science. (D)

**SS 211 (3) Ethnic Studies Survey of Native and Hispanic Americans.** This course examines cultural traits of Native Americans and Hispanic Americans, their conflicts with white people, and their status in the United States of America. (F, S, Sum)

**SS 212 (3) Ethnic Studies Survey of Jewish and Asian Americans.** This course examines the cultural traits of Jewish and Asian Americans, their conflicts with white people, and their status in the United States of America. (S)

**SS 300 (3) Organization and Regulations for Social Studies Teachers.** This course acquaints students with the legal and professional obligations and opportunities for social studies teachers. (D)

**SS 301 (3) Law and Social Studies.** This course examines laws and court decisions affecting the rights, responsibilities, conditions and expectations of public school teachers and the students and districts which they serve. (F, S)

**SS 305 (3) African American Futures.** The course is designed to involve Jackson State University in an examination and study of relevant futurist issues. The content for this course will be explored using an interdisciplinary approach. (F, S, Sum)

**SS 311 (3) Ethnic Studies and Curriculum Development.** Prerequisite: Completion of SS 111, 211 and 212. This course focuses on the evaluation and development of ethnic studies curriculum materials. (S)

**SS 324 (3) Introduction to Cartography.** This course introduces students to map projections, cartographic theory and practical experience in the collection, classification, and display of spatial data via mapping techniques, design and production, using pen and ink. (D)

**SS 400S (3) Social Studies Equipment and Materials.** Prerequisite: Junior standing. Students are acquainted with the selection and utilization of reading, audio, graphic, and visual materials and equipment designed for social studies. (D)

**SS 401 (3) Social Science in the Elementary School.** Prerequisite: Junior standing and at least 15 hours of Social Sciences. Exposure to the methods of developing objectives, carrying out strategies and evaluating social studies teaching, learning and interactions are focuses of this course. (F, S)

**SS 412 (9) Internship in Ethnic Studies.** Prerequisite: Completion of SS 111, 211, and 212. In this course, students are placed with educational institutions where they practice what they have learned and get on-the-job experience. (S)

**SS 443 (3) Seminar in Social Science.** Prerequisite: Completion of all substantive courses in the social sciences. Contemporary issues and problems are analyzed by means of student research papers and project reports. Standardized examinations and job application techniques are also explored. (F)

**SS 498 (3) Seminar in Job Acquisition.** Students are given practical exercises in preparing for standardized examinations and in applying for jobs. (D)

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## **SOCIAL WORK**

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**Bachelor of Social Work Program**  
**OFFICE: Charles F. Moore Building**

**SW 200 (3) Introduction to Social Work.** This course provides a broad survey of the social work profession, its history, and the values and ethics that are fundamental to this profession. An overview of social work theory, practice, policy, research, and the diversity of the societal population are integrated in exploring the knowledge, values, and skills base of the social work profession. Students are introduced to generalist

social work practice and the use of critical thinking in the helping professions. Students in the course participate in twenty hours of service learning. (F, S)

**SW 201 (3) Introduction to Social Welfare Policy**

**and Services I.** This course acquaints students with the historical development of social welfare; its philosophical and value base; and contemporary social welfare policies, programs and services in the United States. The course provides a multicultural perspective for understanding issues of discrimination and oppression in relation to social welfare systems. It provides students with a global perspective which enables them to better understand the social welfare system in this country. Finally, the course provides an understanding of key social welfare concepts. (F, S)

**SW 210 (3) Social Work Values and Ethics.** This course focuses on the values of the social work profession and the process of ethical decision making in the practice of professional social work. The intent of the course is to provide a foundation knowledge of professional values and ethics in order to develop sensitivity to ethical issues and dilemmas in social work and social welfare. The course concentrates on knowledge about the codes of ethics of the National Association of Social Workers and the National Association of Black Social Workers. Legal issues related to malpractice and liability and ethical issues related to at-risk populations are covered. The course examines personal values as well as societal values and analyzes the interaction and interrelationship of these values with the social work professional values. (F, S)

**SW 250 (3) Theoretical Perspectives in Generalist**

**Social Work.** Prerequisites: SW 200, 210. This course outlines the historical development of social work theory. It equips students with a variety of perspectives in social work theories, while fostering a critical analysis in comparing and contrasting those theories and their applications. It provides opportunities for students to utilize theory to analyze different case scenarios working with individuals, families, groups, organizations, and communities in generalist social work practice. It orients students to the conceptual, ethical, and practical basis for analyzing social problems and issues and translating these theoretical constructs into problem-solving methods in social work practice. (F, S)

**SW 301 (3) Human Behavior and the Social**

**Environment I.** Prerequisites: BIO 101, HE 101, SOC 214, PSY 201, SW 200, 250; Corequisites:

SW 210 and PSY 216. The first course in human behavior and the social environment orients students to theoretical perspectives regarding the person-in-environment focus upon which social work bases its practice. Systems theory and an ecological perspective with a life-span approach and situational context are utilized to explore the periods from conception through later adulthood to understand individuals as they develop and have membership in diverse families, groups, organizations, and communities. Knowledge of the theories about and the relationships among human biological, social, psychological, cultural, spiritual, and economic systems during these periods of life span development is included and assessed for use in problem-solving while working with individuals, families, groups, organizations, and communities in social work practice. (F, S)

**SW 302 (3) Human Behavior and the Social**

**Environment II.** Prerequisites: SW 250, 301 and PSY 216.

This second course in human behavior and the social environment expands students' knowledge of theoretical perspectives regarding the person-in-environment focus upon which social work bases its practice. Systems theory and an ecosystems perspective utilizing a situational context to understand individuals as members of social systems such as families, groups, organizations, and communities is offered as the organizing framework. A strengths perspective, empowerment, and resiliency are underlying themes. Knowledge of the theories about and the relationships among human biological, social, psychological, cultural, spiritual, and economic systems are included for use in understanding human behavior and in problem-solving while working with individuals, families, groups, organizations, and communities in social work practice. (F, S)

**SW 305 (3) Human Diversity and Social Justice.**

Prerequisites: SOC 214, PSY 201, SW 200, SW 210; Co-requisites: PSY 216, SW 301. This course focuses on people from diverse backgrounds. It emphasizes populations that are at risk of discrimination and oppression, including the dynamics of these risks and strategies to promote social, economic, and political justice. (F, S)

**SW 315 (3) Introduction to Computer Utilization for Social Work Practice and Research.**

(Restricted to majors only). This course focuses on developing computer literacy in applications that are relevant to social work practice and research. Computer applications include word processing, data manage-

ment, and other uses relevant to monitoring direct practice and evaluating agency programs and services. A lab component is offered to provide students with hands-on experience with computers. (D)

**SW 330 (3) Child Welfare Services.** The focus of this course is on social welfare programs and services, legislation and policies in child welfare as they relate to children with special needs and their families. (D)

**SW 338 (3) Social Welfare Policy and Services II.** Prerequisites: SW 200, 201, ECO 211, and PS 135. This course focuses on the policy formulation process and evaluates its components. The interaction and relationship between and among the pluralistic social, political, and economic systems and sub-systems of society are analyzed. Emphasis is placed upon the egalitarian and humanitarian values that contribute to mutual aid and social justice. Additionally, the course assesses the underlying factors that influence definitions of social problems needing private and/or public solutions. The role that human diversity plays in influencing the social welfare policy decision making and implementation processes is discussed. The scientific research process and its role in the policy arena are considered. (F, S)

**SW 385 (3) Social Work Practice I.** Prerequisites: SW 200, 210, 301; Corequisite: SW 302. (Restricted to majors only). This course is the first of the required practice courses designed to provide the necessary knowledge, skills, and values and ethics to prepare students to function as generalist social work practitioners. It focuses on the relationship-building and problem-solving skills necessary for social work practice with individuals, families, and groups. (F, S)

**SW 390 (3) The Black Experience.** This course covers the historical development and contributions that have provided the foundation to the Black experience in social work. It discusses the unique manner in which African Americans practice “Black experience-based social work.” Based on the spiritual and blues traditions, the course offers social work techniques to work with African American individuals, families, groups, and communities. The roles of African American people in social work are explored. Emphasized are such factors as education, housing, family, employment, and the impact of racism. (D)

**SW 402 (3) Leadership and Management Skills.** A broad survey of the administrative and management theories associated with the knowledge base of the social work profession. This course focuses on

organizational and agency structure in relation to the delivery of services. It develops leadership skills and a systematic approach to management of work loads. Theories of management and motivation are considered in relationship to operation of organizations and agencies. (D)

**SW 405 (3) Community Organization and Development.** As one of the primary social work methods of practice, community organization is experiencing a revival in urban and rural areas in this country. This course assists social workers and other helping professionals respond to the resurgence of interest in this area. The focus is on “the community as the client” and it is both didactic and experiential in structure. The history, theories, and models of community organization practice are reviewed. The functions and roles of human service professionals in macro practice are examined. The primary emphasis is on the areas of practice and strategic practice approaches. (D)  
**SW 410 (3) Social Legislation.** Description and analysis of laws and court decisions relating to social, economic and legal problems in American society. The legislative process for addressing these problems is also studied. (D)

**SW 420 (3) Behavior Modification for Social Workers.** Social work students develop skills in using learning theory to modify human behavior. This course introduces a practical approach to assessment and intervention in achieving stabilization and behavioral change. The focus is upon overt behavior exhibited by clients whom the social worker encounters in practice. (D)

**SW 421 (3) Teenage Sexuality and Teenage Parenting in Urban Centers.** An investigation of those social, psychological, educational, and/or economic factors which influence teenagers toward sexual activity, pregnancy, marriage, pregnancy termination, etc. Emphasis is also placed on functional research relative to understanding the adolescent mind in urban centers, the unique problems and needs of the adolescent, and those social services in urban centers which attempt to meet the needs of adolescents. (D)

**SW 430 (3) Family Treatment.** This course provides information about the theory and process of family therapy. The course offers a presentation of the major theoretical underpinning and clinical practices in the family treatment field today. (D)

**SW 435 (3) Family Violence.** In recent years the family has become one of the most violent social institutions in this country. This course increases

student knowledge and awareness of domestic violence in all its forms: child and adolescent abuse and neglect, spouse abuse (women and men), and elderly abuse. The social and historical background of family violence is examined. Emphasis is also placed on the extent and seriousness of the problem. Current legislation, programs and services, and intervention strategies are reviewed. (D)

**SW 436 (3) Child Abuse and Neglect: Protective Services.** This course focuses specifically on the complex problems of child abuse and neglect. It covers the incidence, causes, symptomatology, and types of child abuse and neglect with critical study of child sexual abuse. State-of-the-art research and approaches to treatment utilizing a multidisciplinary perspective (legal, medical, educational, and social services) are included. (D)

**SW 445 (3) Introduction to Social Gerontology.** This course gives students a general overview of social gerontology as a branch of knowledge in the field of gerontology. Social gerontology concerns itself with psychosocial and economic aspects of the aged individual and the social problems encountered from living in both formal and informal societal groupings. The interaction of these aspects and groupings and the services established and considered for the aged through public and social policy are discussed. (D)

**SW 446 (3) Adult Development: Young Adulthood, Middle Years and Aging.** This course focuses on current and past theories in adult development. It highlights the changes in society and how these changes impact adulthood for young adults, middle-age and older persons as stages of development. The processes of adult development are explored from a psychological perspective. (D)

**SW 447 (3) Clinical Intervention with the Elderly.** The most important goal for human service professionals is to improve the quality of life for older people through effective intervention on their behalf. This course focuses on skill development and knowledge and understanding of older persons' behavior through the public health model of preventive intervention at the primary, secondary, and tertiary levels. Interventive activities and case studies are utilized in this course to develop skills for working with the elderly in institutions and in the community. (D)

**SW 448 (3) Public Policy Issues in Aging.** This course provides an analysis of legislative policy and organized human welfare services and resources for the elderly as a social group in society. The political, economic, and social realities of aging that identify the elderly as requiring public policy solutions are examined. The framework of analysis includes the legitimacy of aging as a social problem, and the social functioning of the overall society and its subcomponents such as the family, the individual and other social, political, economic and cultural institutions. (D)

**SW 449 (3) Independent Study: Special Topics in Aging.** A primary focus of this course is its emphasis on special topics in aging to insure development of knowledge in the behavioral, biological, clinical, and social sciences. In this regard, with faculty direction, students explore, build upon and increase the knowledge base in aging and individual well-being. Students engage in research and independent study in specific areas of interest in gerontology and translate research findings into policy and practice. (D)

**SW 450 (3) Social Work in Health Related Fields.** This course is designed to help students develop knowledge, skills and attitudes necessary to work in health-related fields. Two broad areas of concern in this course are: (1) social work in medical and psychiatric settings, and (2) delivery of health care services. Though general in scope, the course enables students to acquire knowledge in problem solving and in analyzing service systems. (D)

**SW 455 (3) Research Methods in Social Work.** Prerequisites: SW 250, 302, 305, 338, 385; Corequisites: SW 486, Statistics Option. (Restricted to majors only). This course focuses on the practical methods of research which entry-level social workers can incorporate into their practice environment. It reviews the fundamental theoretical frameworks, research concepts, and the research process from the point of view of problem-solving. Students obtain the knowledge needed to monitor their practice, evaluate agency programs, and understand the ethical use of social work research. (F, S)

**SW 460 (3) Professional Development in Human Services-Summer Institute.** Prerequisite: Permission of the Program Coordinator. This institute examines a variety of issues concerning the role of the human service professional in bringing about change. Each institute has a different focus based on expressed student and community needs. (D)

**SW 465 (2) Professional Development and Licensure Preparation.** Permission of instructor. (Restricted to majors only). This course enhances and extends the student's knowledge of the social work process. It includes knowledge in the areas of practice, assessment, human behavior, policy, research, administration, cultural diversity, and social work values and ethics. (F, S)

**SW 480 (3) Independent Study.** This course permits students to study in-depth social work related issues. A student may enroll in independent study for reading, writing, or field experience based on personal interest. Flexibility in the program is increased and student independence is enhanced. (D)

**SW 485 (3) Skills in Interviewing.** Prerequisites: SW 302 and 385. (Restricted to majors only). This course introduces essential communication skills and techniques, along with the pitfalls most commonly encountered in building helping relationships as a social work generalist practitioner. Emphasis is directed to the skills needed in interviewing individuals, families, small groups, and organizational and community systems. This course builds upon the assessment knowledge acquired through the biopsychosocial study of human behavior and the social environment and an understanding of the helping process in generalist social work practice. (F, S)

**SW 486 (3) Social Work Practice II.** Prerequisites: SW 200, 301, 302, and 385; Corequisite: SW 485. (Restricted to majors only; malpractice insurance required). This course is a continuation of Social Work Practice I in the development of the generalist social worker. It focuses on social work practice skills with organizations and communities, and includes a thirty-hour service learning component. (F, S)

**SW 489 (3) Field Instruction.** Prerequisites: All required social work courses and all liberal arts prerequisites and co-requisites for these courses. Corequisite: SW 499. (Restricted to majors only; malpractice insurance required). Field instruction enables students to integrate and apply to social work practice the knowledge, skills, and values and ethics obtained in the social work foundation courses. Agency-based learning experiences are provided which allow students to develop generalist practitioner skills for social work practice with diverse individuals, families, small groups, organizations, and communities, including populations at risk of injustice, oppression and discrimination. Each student completes a minimum of 500 hours of

supervised practice in a community agency. (F, S)

**SW 499 (3) Seminar in Issues and Problems of Professional Social Work.** Prerequisites: All social work required courses and all liberal arts prerequisites and corequisites for these courses. Corequisite: SW 489. (Restricted to majors only). This integrative seminar is an extension of the field instructional process and is dependent upon the field instructional learning experiences for considerable teaching content. This seminar serves as the bridge between the educational process and entry-level professional social work practice. Additionally, this course provides information for students who wish to pursue graduate professional education. It provides a forum for the discussion of practice-related issues and the integration of social work knowledge, skills, and values and ethics. The seminar also emphasizes the importance of the evaluation of one's own practice and the use of research skills in program evaluation. (F, S)

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## THERAPEUTIC RECREATION

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### Department of Health, Physical Education and Recreation

**OFFICE: T.B. Ellis Physical Education Complex**

#### **TREC 104 (3) Introduction to Therapeutic Recreation.**

This course provides orientation to the field of therapeutic recreation in terms of its history, philosophy, development, practice procedures and the contribution of therapeutic recreation to the school, community, and client. (F)

#### **TREC 218 (3) History and Philosophy of Therapeutic Recreation.**

This course provides a thorough investigation of the philosophical basis for therapeutic recreation, history, events, landmark legislation and the formation of the profession.

#### **TREC 225 (1) Practicum in Therapeutic Recreation.**

Learning experiences will be provided for students during the fall and summer at local therapeutic recreation agencies. Students will have opportunities to gain experience as an observer in programming procedures.

#### **TREC 313 (3) Implications of Disabling Conditions in Therapeutic Recreation.**

This course is designed to provide students with knowledge, and skills in planning and developing opportunities and for persons with various disabilities and the implications



related to service delivery.

**TREC 325 (1) Practicum in Therapeutic Recreation.**

Experiences will be obtained by students at local agencies institutions that have viable therapeutic recreation programs. Students will gain experiences in initiating leadership and programming techniques and procedures. (S)

**TREC 329 (3) Programs Design and Evaluation in Therapeutic Recreation.** This course presents a study of the various therapeutic recreation programs and problems encountered in recreation program planning for the special population. (S)

**TREC 415 (3) Current Issues and Trends in Therapeutic Recreation.** This course focuses on critical issues and trends surrounding the professional practice of therapeutic recreation and the challenges for future growth.

**TREC 418 (3) Principles, Practices, and Procedures in Therapeutic Recreation.** This course provides an overview of service delivery, practice, guidelines, theories, facilitation techniques and evaluation of the therapeutic recreation process.

**TREC 421 (3) Management in Therapeutic Recreation.** This course is a study of the principles, methods, techniques, organizational patterns, personnel, public relations and administrative problems involved in the management of therapeutic recreation programs.

**TREC 423 (3) Recreation and Evaluation in Therapeutic Recreation.** Emphasis of the course on the principles and techniques of research and evaluation in therapeutic recreation to the organization, administrators, and objectives of viable therapeutic recreation programs. (Sum)

**TREC 424 (3) Seminar in Therapeutic Recreation.** This course is designed to provide students with current information that pertains to issues, practices and procedures in therapeutic recreation. Emphasis will be placed on reviewing the literature, doing case studies, and abstracts.

**TREC 425 (9) Therapeutic Recreation Internship.** Emphasis is placed on supervised leadership assignments in public or private agencies institutions with emphasis on a variety of therapeutic recreation leadership experiences common to such organizational programs. Students will have the responsibility of planning, implementing, and evaluating a special

senior program during internship. (F, S)

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**URBAN STUDIES**

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**Department of Urban and Regional Planning  
OFFICE: Universities Center, Suite 7**

**UA 200 (3) Introduction to Urban Studies and Planning.** An introductory course outlining life in urban environments. Attention will be devoted to urban growth in general, race relations, housing, transportation, government administration, and education and specific role that planning has in influencing urban life.

**UA 229 (3) Dimensions in Cultures.** An introductory course in cultural anthropology which examines the process of culture and its role in shaping experiences of urban life.

**UA 300 (3) Transportation Delivery Systems.** This course is designed to acquaint the student with the major and current issues in transportation. The significance of transportation in the modern world, evolution of systems in America, interrelationships of the various modes and career opportunities is included.

**UA 302 (3) Urbanization: Ancient African Kingdoms/African American Experience.** The course addresses the history of African American urban communities from an Afrocentric perspective. Emphasis is placed on social, cultural, and political developments which have contributed to experience of contemporary urban life.

**UA 310 (3) History of Cities.** This course is a survey of the development of cities throughout history. Particular attention is paid to the form of development, politics, arts, aesthetics, economics, and culture of cities. Through lectures and class discussions, we will examine the American city in an effort to understand the basis for attempts to improve the urban environment.

**UA 336 (3) Housing: Problems and Perspectives in Urban America.** A survey course which examines factors that contributed to developments in housing in the past from the public and private sectors of society.

**UA 356 (3) Issues in Community Participation.** A survey course with emphasis on issues and problems associated with small and large communities relative to community participation.

**UA 357 (2) Community Development Field Work.** This course will introduce students to hands on

community development work. Guest speakers and activities with community organizations will be included in the course experience. Students will gain an understanding of community systems as well as strategies for addressing the challenges of community work.

**UA 366 (3) Public Policies and Practices.** This course is designed for majors and students interested in public and professional practices that direct the development of cities. Students will acquire knowledge of the issues, approaches, and impacts of public policy making on city development. Equally, they will learn the practices exercised by professions to implement policy mandates in a plural environment.

**UA 400 (3) Introduction to Environmental Planning.** The environment is a vital component of communities' economies and quality of life as well as of public health. Students who complete this course will gain an understanding of the major environmental concerns in the United States, including those involving protection of natural assets as well as those involving protection from natural and man-made hazards. Students will also become familiar with the major federal environmental regulatory policies and their effects at the community level.

**UA 420 (3) Transportation Planning.** Principles involved in planning local, state, and national transportation systems; variables critical to transportation planning including feasibility studies, land acquisition, accessibility, utility, economics and environment impact.

**UA 421 (3) Community Development Theory and Practice.** This course provides students with the essentials of community development and the skills of local capacity building that are needed in order to foster sustainable community development. It is not designed to give you answers on how to achieve sustainable development, but rather to expose you to a variety of elements and viewpoints about it. The course will broaden your horizon about what community development is and how it is pursued; it will reevaluate your assumptions and stereotypes about the world, how it works and what can be done to make things better.

The course emphasizes that community building begins with the process of locating assets, skills and capacities of residents, citizens associations, and local institutions. The major thrust is on rebuilding community by releasing individual capacities, the power of the local associations and organizations and capturing institutions.

**UA 466 (3) Ethics in Policy and Planning.** This course provides students the opportunity to come to grips with the ethical demands policy and planning work by familiarizing them with the essence of ethical questioning and helping them develop their own ethical stance. The course will utilize case studies to engage students in dialogue and introduce them to the types of ethical challenges of policy and planning practice.

**UA 493 (1-6 Variable Hours) Independent Research/Directed Study in Urban Studies.** Prerequisite: Limited to Senior Urban Affairs majors only. Students must have taken at least three semesters of coursework at JSU, are in good standing, and have approval from program coordinator and agreement from a specific faculty member who will guide their independent study. This course will be individualized and will deal with selected topics in the study of Urban Affairs. Within the first three weeks of semester, student should have a proposed scope of work on file with the faculty member.

**UA 494 (3) Writing and Presentation for Policy and Planning.** This course builds on core and disciplinary course and involves students in development of writing and presentation skills necessary to apply their urban studies knowledge to policy and planning activities across various organizational contexts. Students will explore, through mock experiences, various contexts for public presentation of their ideas such as board meetings, public forums, letter writing, effective email correspondence, charrette participation.

**UA 495 (4) Internship in Urban Studies.** Prerequisite: Senior standing; Urban Affairs majors only. This course entails supervised field work with private, public, or nonprofit organization related to his emphasis or minor.

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## UNIVERSITY SUCCESS

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**Division OF Undergraduate Studies**  
**OFFICE: Charles F. Moore Building**

**UNIV 100 (2) University Success in College.** This course serves as the nucleus of the First Year Experience and offers a global, comprehensive and personalized approach to student success through textbook, stimulating lectures, action research, leadership development, library initiatives, and service learning.

**UNIV 101, 102 (1) (1) University Success for Business**

**Majors.** These courses are designed to assist the first year students in their adjustment to college life and in exploring career options. Emphases will be placed on self-assessment, image development, credit/money management, winning attitudes, goal setting, dressing for success, constructing personal web pages, action research, portfolio development, leadership skills, and library usage. Personal Development activities relative to the students' academic, social and professional success are reinforced through participation in enrichment workshops, seminars, student organizations, service learning, and mentoring. (F, S)

**UNIV 105 (2) University Success for Adult Learners.**

This course is designed to assist adult learners in maximizing their potential to achieve academic success by providing a general orientation to the functions and resources of the University. The course is designed to help each student establish personal and professional goals and assess barriers to personal, academic, and career goals. In addition, the course is designed to provide students with positive learning experiences utilizing instructional methods of lectures, demonstrations, small and large group discussions, consultants and technology. The course will provide students with information on how to apply skills needed to take notes, communicate effectively, and develop good study skills to be successful college students. Students will have the opportunity to engage students in action research, leadership skills, library initiatives, and enrichment workshops/seminars activities relative to their academic, social, and professional success.