

Courses of Instruction

In this section are listed and described all undergraduate courses taught in the schools and departments of the University except for the School of Law (see the *Law School Bulletin*) and the various schools at The University of Mississippi Medical Center in Jackson (see the *Bulletin of the University of Mississippi Medical Center*).

The courses are presented by departments or programs and are listed alphabetically. The subject name (the heading in large bold type) together with the course number constitutes the official designation of the course for the purposes of registration and official records. The official course title also appears in all capitals following the course number. The figures in parentheses after the course description denote the number of semester hours of credit for the course. Subtitles indicate subdivisions within the department and form no part of the actual course designation.

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|---------|---|
| 1-99 | Courses offering no semester-hour credit |
| 101-199 | Courses primarily for freshmen |
| 201-299 | Courses primarily for sophomores |
| 301-399 | Courses primarily for juniors |
| 401-499 | Courses primarily for seniors for which graduate credit is not given |
| 501-599 | Courses limited to graduate and upper-division students. Courses on the 600- to 700-level are for graduate students only and are listed in the <i>Graduate School Catalog</i> . |

Prerequisites are listed for some courses. A student may not take a course unless these prerequisites have been met. Exceptions can be made only in special cases with the prior consent of the instructor, the department chair, and the dean. A student who has failed one semester of a continuous course sequence (such as ENGL 101, 102; MATH 261, 262, 263, 264, or SPAN 101, 102, 201, 202) may not enroll in a subsequent course in that sequence until the failed course has been passed.

ACCOUNTANCY—ACCY

Professor James W. Davis, dean • 200 Conner Hall

Professors Elam, D. Flesher, T. Flesher, and Taylor • Associate Professors Burkett, Cassidy, Nichols, Stocks, Wilder, and Zarzeski • Assistant Professors Christian, C. Metrejean, and Walker • Instructors E. Metrejean and Rhodes

201, 202. INTRODUCTION TO ACCOUNTING PRINCIPLES I, II. Accounting principles and procedures for proprietorships, partnerships, and corporations; preparation of financial statements; management's use of accounting data. (3, 3).

301. ADMINISTRATIVE ACCOUNTING. Planning and control through accounting, information systems, cost determination, financial statement analysis, and interpretation. Prerequisite: 202. (3).

303. FINANCIAL ACCOUNTING PRINCIPLES I. Principles underlying financial statements: current assets, current liabilities, and investments. Prerequisite: B minimum in 202. (3).

304. FINANCIAL ACCOUNTING PRINCIPLES II. Continuation of ACCY 303: plant and equipment, intangible assets, long-term liabilities, corporate capital, and analysis of financial statements. Prerequisite: C minimum in 303. (3).

309. COST CONTROL. Job-order cost accounting, accumulation and allocation of factory overhead, fundamentals of process costs, and by-products and joint products. Prerequisite: B minimum in 202. (3).

310. SYSTEMS. Principles underlying establishment of complete accounting systems, application to typical business organizations, and emphasis on the functions of control and protection. Prerequisite: Completion of MIS 241 and C minimum in ACCY 202. (3).

401. AUDITING. General standards and procedures for a contemporary audit, working papers, and reports. Prerequisite: C minimum in ACCY 304. (3).

402. ADVANCED ACCOUNTING. Specialized accounting problems including partnerships, installment sales, consignments, branch accounting and consolidations, and fiduciary relationships. Prerequisite: C minimum in ACCY 304. (3).

404. ACCOUNTING THEORY. The function of accounting in society, structure of contemporary accounting theory, conceptual elements of accounting, nature of net income, and other related fields. Prerequisite: C minimum in ACCY 304. (3).

405. INCOME TAXES I. Federal and state income taxes for individuals, including research procedures. Prerequisite: C minimum in ACCY 202. (3).

407. GOVERNMENTAL ACCOUNTING. Procedures for government units, particularly municipalities; emphasis on budgetary and fund accounts. Prerequisite: C minimum in ACCY 202. (3).

411. BUSINESS LAW. Major principles and topics of law encountered by accounting majors and CPA candidates; contracts, the Uniform Commercial Code, property rights—real and personal, bailments, sales, commercial paper, bankruptcy, agency, corporations, and wills and estates. Prerequisite: BUS 250. (3).

420. INDEPENDENT STUDY. Individual study. Prerequisite: consent of instructor. (3).

501. INTERNAL/OPERATIONAL AUDITING. Emphasis on proper internal controls and on compliance with applicable laws, regulations, and policies. Prerequisite: C minimum in ACCY 304. (3).

502. OIL AND GAS ACCOUNTING. Accounting for exploration, development, production, and reserve recognition for firms in the petroleum industry; related topics in income taxes also are covered. Prerequisite: ACCY 201, 202, and 301. (3).

504. STANDARD COSTS. Trends in costing based on standards in manufacturing industries, setting standards, measuring actual costs against standards, and disposition of variances. Prerequisite: ACCY 309. (3).

505. TAXATION FOR NON-ACCOUNTANTS. Fundamentals of federal taxation, including the background knowledge necessary to recognize the tax consequences of business and investment decisions. Prerequisite: ACCY 202. (3).

509. INCOME TAXES II. Federal and state income taxes on corporations, partnerships, estates, and trusts; a brief study of estate and gift taxes. Prerequisites: a minimum grade of C in ACCY 405 and full standing admission in the graduate program in accountancy or a senior within 15 hours of the bachelor's degree or others with consent of the instructor. (3).

514. MANAGERIAL AND BUDGETARY CONTROL. Work of the controller, with special emphasis on the construction, control, and interpretation of accounts. Budgets of various kinds; recent CPA problems dealing with budgeting. Prerequisite: C minimum in ACCY 202. (3).

521. INTERNATIONAL ACCOUNTING. Topics include comparative international accounting systems, efforts to harmonize accounting standards internationally, problems of foreign currency translation, and accounting and performance evaluation problems of multinational corporations. (3).

525. PROFESSIONAL REPORT WRITING. Intensive practice in professional report writing for accountants. Principles emphasized include analysis of audience, organization of ideas, clarity, and conciseness of presentation, and correct grammar. Formats include memos, research reports, business letters, and other types of written communications used by accountants in practice. (3).

530. INFORMATION TECHNOLOGY AUDITING. Nature, control, and audit of computer-based accounting information systems. (3).

AFRO-AMERICAN STUDIES—AFRO

Associate Professor James F. Payne, director • 306 Barr Hall

Professors Eagles, Jordan, Thorne, and Winkle • Associate Professors Crouther and Steel • Assistant Professors Ross, Young-Minor, and Orey

201. AFRO-AMERICAN EXPERIENCE I. General overview including focus on race (biological and population factors), economy, and nationality (social institutions and culture), and key historical periods: Africa, slave trade, slavery emancipation, rural, migrations, and urban.

202. AFRO-AMERICAN EXPERIENCE II. Survey of black experience using the study of culture and the arts as a major focus. (AFRO 201 is not a prerequisite). (3).

302. LAW AND THE BLACK COMMUNITY. Through lectures and class discussion, this course will examine the major legal decisions (statutes and case law) that have impacted the lives of black people in America. Emphasis will be placed on the following areas: education, housing, interracial sex and marriage, voting, and the rights of protesters. The course material reflects how race and racism are interwoven into the fabric of the American legal system. (3).

307. PEOPLES OF AFRICA. Ethnographically known hunting and gathering groups in Sub-Saharan Africa; their origin, differences, and relationships to more technologically advanced groups. (Same as ANTH 307). (3).

308. POLITICS OF CIVIL LIBERTIES. American legal and political freedoms, judicial policy making, criminal justice, civil rights. (Same as POL 307). (3).

310. EXPERIENCES OF BLACK MISSISSIPPIANS. Cross-disciplinary focus on the social, political, economic, and cultural aspects of black history in the state with the largest concentration of blacks in the United States. (3).

315. POLITICAL SYSTEMS OF SUB-SAHARAN AFRICA. (Same as POL 323). (3).

325. AFRICAN AMERICAN HISTORY TO 1865. Black American history from West Africa to 1865, emphasizing the role of black leaders and their struggle against racial segregation and oppression. (Same as HIS 307). (3).

326. AFRICAN AMERICAN HISTORY SINCE 1865. A survey of the history of black Americans from the Civil War to the present, emphasizing the role of black leaders, the struggle against oppression, and the evolution of race relations. (Same as HIS 308). (3).

329. AFRICAN AND AFRO-AMERICAN ARTS. (Same as ARHI 338). (3).

334. INTRODUCTION TO FIELD WORK TECHNIQUES. Examination of theory, practice, and tradition of documentary field research, including the use of photography, film and video, and tape recorders. Special emphasis on documentary study of the American South. (Same as SST 334, ANTH 334, and SOC 334). (3).

337. ANTHROPOLOGY OF BLUES CULTURE. Examines the blues in all its myriad social and cultural roles and contexts, using the anthropological models and approaches of the oral and musical arts, linguistics, ethnohistory, ethnography, religion, and ritual analysis among others. (Same as ANTH 337). (3).

339. AFRICAN AMERICAN ANTHROPOLOGY. Applies the theories, models, and methods of anthropology to an understanding of African American culture and the African American experience in the western hemisphere, with emphasis on North America. Topics include religion, language, family and kinship, plantation society, post-emancipation adaptation, arts, and history. (Same as ANTH 339). (3).

341. THE AFRICAN AMERICAN LITERARY TRADITION I: FROM THE BEGINNING TO 1920. Begins with the oral tradition in Africa and continues with the evolution in form from slave narrations to autobiographies and novels; the incorporation of folk and popular materials into formal literature, and the idea of a literary tradition. Writers include Wheatley, Hammon, Equiano, Brown, Douglass, DuBois, Chesnut, Dunbar, and Johnson. Prerequisites: ENGL 101, 102, 6 hours of English at the 200 level or equivalent. (Same as ENGL 322). (3).

342. THE AFRICAN AMERICAN LITERARY TRADITION II: 1920 TO THE PRESENT. Covers modern African American literature, concentrating on poetry and the novel. Attention to modern uses of folk materials; criticism and aesthetic movements, problems in form, audience, genre; politics and the writer with focus on the emergence of African American female writers in contemporary literature. Selected works by Brown, Hurston, Hughes, Toomer, Wright, Ellison, Alice Walker, Toni Morrison, and selected playwrights. Prerequisites: ENGL 101, 102, 6 hours English at the 200 level or equivalent. (Same as ENGL 323). (3).

350, 351. TOPICS IN AFRO-AMERICAN STUDIES. Explores important themes from the perspectives of historical, cultural, and social/behavioral studies. Topics will vary. (AFRO 351 same as ANTH 361). (3, 3).

392. SUB-SAHARAN AFRICA. (Same as HIS 387). (3).

395. SURVEY OF BLACK AMERICAN ART. (Same as ARHI 398). (3).

413. MINORITY GROUPS. (Same as SOC 413). (3).

420. RICHARD WRIGHT. Explores the development and impact of this African American writer and native Mississippian through study of his fiction and nonfiction. (3).

438. HISTORICAL PERSPECTIVES ON SLAVERY IN THE AMERICAS. Examination of the roles of Europeans, Africans, and the nations of North and South America in the international slave trade and the institution of slavery in the western hemisphere. (Same as HIS 327). (3).

440. HISTORY OF AFRICAN AMERICANS IN SPORT. A historical survey of African Americans and their roles in various sports, beginning with black participation in the late 19th century and chronicling that involvement into the 21st century. (Same as HIS 328). (3).

443. THE CIVIL RIGHTS ERA. An exploration of the various issues, persons, organizations, and ideas which have been the focus of the African-American struggle for citizenship and civil rights from the perspective of social and political history. (Same as HIS 329). (3).

498. AFRO-AMERICAN STUDIES DIRECTED STUDY. Individual study of a special issue or problem in an area where the student has demonstrated the interest and competence necessary for independent work. A project selected in conference with sponsoring faculty, regular progress meetings, and a final report are required. Prerequisites: 8 units in Afro-American Studies, senior or graduate standing, consent of faculty member to serve as sponsor and recommendation of program director. (3-6).

501. AFRO-AMERICAN STUDIES SEMINAR. Research, using the seminar format to focus on the Afro-American experience during key historical periods: African origins, slave trade era, slavery, emancipation, urban migrations, and social and political integration. Special attention will be given to the socioeconomic, cultural and political development of Afro-Americans and the context within which it has occurred. Course content will vary. Prerequisites: AFRO 201 and 325 or 326, or consent of the instructor. (3).

504. RESEARCH IN AFRO-AMERICAN STUDIES. Intellectual history of the study of the black experience and the rise of Afro-American studies. Critical examination of past and current research and its significance to various disciplines. Prerequisites: AFRO 326 or 350, or consent of the instructor. (3).

593. AFRO-AMERICAN LITERATURE. Selected Afro-American prose, poetry, fiction and drama, with emphasis on major figures, themes, periods, and movements. Prerequisite: ENGL 303, 304, 306, 308, or 309. (May be repeated once for credit). (Same as ENGL 593). (3).

The Afro-American Studies Program also includes the following courses: HIS 399 (Problems in History), HIS 321 (Afro-American Biography); MUS 317 (Afro-American Musical Traditions); and S ST 101, 102 (Introduction to Southern Studies).

AIR FORCE ROTC/AEROSPACE STUDIES—AS

Professor Catherine R. Doan, lieutenant colonel, U.S. Air Force, chair • 219 Guyton Hall

Assistant Professors Major Gurner and Major McElderry

101, 102. FOUNDATIONS OF THE UNITED STATES AIR FORCE I, II. Mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force leaders and officer pay, benefits, and career opportunities. Enrollment in this course does not incur a military obligation. Corequisites: AS 111, 112. (1, 1).

111, 112. LEADERSHIP LABORATORY I, II. Introduction to Air Force customs and courtesies and the environment of an Air Force officer. Enrollment in this course does not incur a military obligation. Corequisites: AS 101, 102. (1, 1).

201, 202. THE EVOLUTION OF US AIR AND SPACE POWER I, II. Air Force heritage, leaders, ethics, and values. Introduction to leadership, group leadership problems, and Air Force quality programs. Enrollment in this course does not incur a military obligation. Corequisites: AS 211, 212. (1, 1).

211, 212. LEADERSHIP LABORATORY I, II. Air Force customs and courtesies, the environment of an Air Force officer, and introduction to military leadership applications. Enrollment in this course does not incur a military obligation. Corequisites: AS 201, 202. (1, 1).

301, 302. AIR FORCE LEADERSHIP STUDIES I, II. Study of Air Force leadership, quality management fundamentals, professional knowledge, doctrine, leadership ethics and communicative skills. Corequisites: AS 311, 312. (3, 3).

311, 312. AIR FORCE LEADERSHIP AND MANAGEMENT LABORATORY I, II. Application of leadership and management principles. Corequisites: 301, 302. (1, 1).

401, 402. NATIONAL SECURITY AFFAIRS/PREPARATION FOR ACTIVE DUTY I, II. Military officership and professionalism, national security process, advanced leadership ethics, military justice, and preparation for active duty service in the Air Force. Corequisites: AS 411, 412. (3, 3).

411, 412. DEFENSE STUDIES LABORATORY I, II. Advanced application of Air Force leadership and quality management principles. Orientation to the active duty Air Force environment. Corequisites: AS 401, 402. (1, 1).

ANTHROPOLOGY *See the Department of Sociology and Anthropology.*

ARCHAEOLOGY *See the Department of Classics and the Department of Sociology and Anthropology.*

ART—ART

Professor Janice Murray, chair • 206 Bryant Hall

Professors Dale, and Temple • Associate Professors Crouther, and Dewey • Assistant Professors Kloman, Larson, and Rieth

Art Fundamentals

101. TWO-DIMENSIONAL DESIGN. Through reading, discussion, and projects, the foundations course introduces students to the studio method while exploring the fundamental of two-dimensional design. Recommended studio art elective. (3).

111. DRAWING I. An introduction to traditional drawing techniques and skills with a primary focus on perspective. Prerequisite or corequisite: ART 101. (3).

211. DRAWING II. A further development of traditional drawing skills and techniques explored through a variety of media. Prerequisites: ART 101, 111. (3).

300. THREE-DIMENSIONAL DESIGN. Through readings, discussion, and projects, the foundation studio explores design in three dimensions. (3).

Graphic Design/Illustration/Computer Graphics

202. COMPUTER IMAGE-MAKING. Introductory experience in the use of computers with graphics and illustrative capability. Students will generate and manipulate pictorial images by using various computer technologies. Prerequisites: ART 101, 111. (3).

301. GRAPHIC DESIGN I. Study of the formal aspects of graphic design with emphasis in typography and its use in the graphic design process; a history of type design and applied problems in composing publications with type and the use of the computer in finalizing projects. Prerequisite: 211. (3).

302. INTERMEDIATE COMPUTER GRAPHICS. Theoretical and technical exploration of the various uses for computer-based imagery, including basic multimedia and Internet development. Prerequisite: 202. (3).

303. GRAPHIC DESIGN II. Instruction in theory and techniques involving illustration and layout preparation for publications. Prerequisite: ART 301. (3).

304. ILLUSTRATION. Visual and conceptual exploration of various techniques and media involved in artwork for reproduction in publications. Prerequisite: ART 303. (3).

345. ART AND THE COMPUTER. Studio investigation in the aesthetic and perceptual possibilities of using the computer in the art-making process. Introductory technical instruction and advanced conceptual exploration of computer graphics technologies and their potential for advancement as an artistic media. Students are given theoretical and practical discourse as well as hands-on experience. Prerequisites: ART 202, 300, 321, or consent of instructor. (3).

400. PACKAGE DESIGN. Theory and techniques of design for package production with instruction in preparing prototypes. Prerequisite: ART 303. (3).

403. ADVANCED INDIVIDUAL STUDIES IN GRAPHIC DESIGN AND ILLUSTRATION. Course work directed toward preparing professional portfolio materials in the student's area(s) of interest. Prerequisite: a minimum of 9 hours in upper-level visual communication courses. (3).

444. MULTIMEDIA DESIGN AND DEVELOPMENT. In-depth analysis of multimedia architecture and tools. Students implement an interactive multimedia brochure. Prerequisites: 202, 303. (Same as CSCI 444.) (3).

445. ADVANCED COMPUTER GRAPHICS. Advanced conceptual and technical exploration of computer-generated imagery. Potential topics include historical issues in computer graphics, Internet development, multimedia, two- and three-dimensional animation, and image manipulation. Prerequisite: ART 302 or consent of instructor. (3).

446. SPECIAL PROBLEMS IN COMPUTER GRAPHICS. Individually structured studies based on the student's area of interest. Individually selected topics could include Internet development, multimedia, interactivity, two- or three-dimensional animation, and static image manipulation. Prerequisite: ART 445 or consent of instructor. (3).

502. STUDIES IN COMPUTER IMAGE MAKING. Studio investigation in the use of computers with graphics and illustrative capability. Generation and manipulation of pictorial images by using various computer technologies. Aesthetic and conceptual exploration of computer-generated imagery. (May be repeated for credit for maximum of 6 hours.) (3-6).

Drawing

118. DRAWING I. Basic drawing from model and still life with occasional criticism by staff. Open to non-art majors. (An evening class). (1).

218, 318, 418, 518. DRAWING II-V. Continuation of ART 118. (Evening class). (1 hour each).

311, 312. FIGURE DRAWING I, II. Drawing from the model with an emphasis on skeletal and anatomical structure. Prerequisites: ART 101, 211. (3).

313. RENDERING FOR DESIGNERS. Rendering techniques in watercolor, markers, pencil, and ink for designers. Rendering interior perspectives, architectural elevations, furniture, and plan drawings for presentations. Prerequisite: ART 211. (3).

411. DRAWING VI. Continued exploration of media and techniques with emphasis on individual directions. Prerequisite: ART 312. (May be repeated for credit). (1-6).

Interior Design

205. INTRODUCTION TO INTERIOR DESIGN. Art elements and principles applied to furnishing and decorating the interior. Prerequisite: ART 101, 111, or consent of instructor. (Lecture with outside lab). (3).

208. GRAPHICS FOR INTERIORS II. An introduction to the nomenclature, equipment, and mechanical drawing techniques used by interior designers. Interpretation and creation of elementary orthographic projections and axonometric drawings. Conversance with architectural drafting conventions, appropriate lettering styles, and sheet layout. (2).

213. GRAPHICS FOR INTERIORS III. Fundamentals of projection and grid methods for representing interior designs in perspective. Mechanical shadow casting. Exploration of graphite and ink techniques suitable for reproduction by conventional means. (3).

305. SURVEY OF INTERIORS I. Survey of furniture, decorative arts, and interiors from antiquity through the late 19th century. (Same as ARHI 305). (3).

306. FORMING AND SHAPING SPACE. An explorative introduction to designing interior spaces and the techniques used to represent designs. Prerequisites: ART 208, 211, 300. (Lecture/lab). (3).

307. SURVEY OF INTERIORS II. Surveys American domestic architecture, furniture, decorative arts, and interiors from colonial times to the late 19th century. Additionally, surveys American, British, and European design philosophies from the late 19th century to the present and the resultant furniture, decorative arts, and interiors. Prerequisite: ART 305 or consent of the instructor. (Same as ARHI 307). (3).

309. INTERIOR DESIGN TECHNOLOGY. The study of technical knowledge relating to the design of interiors, including codes and materials, construction techniques, lighting, cost estimating, marketing factors, and designer-client relationships. On-site construction projects and major design market visitation required. Prerequisite: ART 306. (3).

406. INTERIOR SPACE PLANNING. Special problems relating to the design and presentation techniques of interiors. Prerequisites: ART 211, 306. (3).

407. COMMERCIAL INTERIOR DESIGN. Planning and analysis of interior spaces for commercial and institutional design. Relationship of interior spaces to architecture; working knowledge of construction and mechanical systems; market resources available. Prerequisite: ART 406. (3).

408. RESIDENTIAL DESIGN. Planning and analysis of interior space to meet individual and family need. Relationship of interior space to architecture and building site; working knowledge of construction and mechanical systems. Prerequisite: ART 406. (3).

409. SENIOR DESIGN. Through writings, discussions, and projects, students will demonstrate their mastery of the design process, their understanding of the aesthetic principles of design, and their familiarity with the components of interior environments. Prerequisites: ART 407 and consent of instructor. (3).

413. SPECIAL TOPICS IN INTERIORS. Exploration of pertinent topics including graphic presentation, portfolio preparation, historic interiors, custom cabinetry, furniture design, interior materials and finishes, lighting, human factors, environmental systems, life-safety codes, etc. Prerequisites: Art 309, 406. (3).

Jewelry and Crafts

351. JEWELRY I. Design and execution of jewelry in silver and other materials. (3).

451. JEWELRY II. Advanced problems in jewelry design. Prerequisite: ART 351. (May be repeated for credit). (3).

354. CRAFTS. Study of specific art problems relating to various areas of crafts such as textiles, leather, stained glass, constructed wood, and plastics. (3).

Painting

321, 322. BEGINNING PAINTING I, II. Fundamentals in materials and techniques, including varied supports, grounds, and media. Work from still life and figures. Prerequisites: ART 101, 211. (3, 3).

326. WATERCOLOR. Water painting techniques and the use of materials and tools for the exploration of water-based media on paper. Prerequisites: ART 211. (3).

421. PAINTING. Further development in techniques with emphasis on individual selection of content. Prerequisite: ART 322. (May be repeated for credit). (1-6).

426. ADVANCED WATERCOLOR. Advanced water base painting techniques combined with mixed media on paper. Prerequisite: ART 326. (3).

Photography

390. INTRODUCTION TO PHOTOGRAPHY. Photographic fundamentals and camera techniques applied to basic black-and-white photography. Course emphasizes students developing a personal point of view. Requires that student have 35mm camera with adjustable aperture and shutter speed. (3).

391. INTERMEDIATE PHOTOGRAPHY. Continues emphasis on fundamentals of photography applied to black-and-white developing and printing. Stresses fine darkroom techniques, the development of a personal aesthetic and the presentation of photographs. Prerequisite: ART 390. (3).

392. ADVANCED PHOTOGRAPHY. Stresses medium format and view camera techniques; archival processing; toning; and museum presentation of a coherent series of images. Prerequisite: ART 391. (3).

Pottery and Ceramics

340. BEGINNING CERAMICS. An introduction to clay through constructive techniques, emphasizing three-dimensional form and design. No prerequisite. (3).

341. POTTERY. Exploration of the vessel form, using the potter's wheel as the primary construction technique. Prerequisite: ART 340. (3).

342. HANDBUILDING. Exploration of the three-dimensional form, with clay and glazes the primary media. Prerequisite: ART 340. (3).

441. ADVANCED CERAMICS. Advanced study of three-dimensional form and ceramic techniques, including in-depth study in one area of concentration with strong emphasis on individual expression and research. Prerequisites: ART 341 and 342. (May be repeated for credit). (1-6).

Printmaking

371. INTRODUCTION TO RELIEF AND PLANOGRAPHIC PRINTMAKING. Lectures, discussions, demonstrations, and studio projects introducing woodcut, linoleum, embossing, and planographic printmaking processes. Prerequisites: ART 101 and 211. (3).

372. INTRODUCTION TO INTAGLIO PRINTMAKING. Lecture, discussions, demonstrations, and studio projects introducing etching, aquatint, metal engraving, collagraph, and dry-point processes. Prerequisites: ART 101 and 211. (3).

471. ADVANCED PRINTMAKING. Individual exploration of relief, intaglio, planographic, and new techniques of printmaking. Prerequisites: ART 371, 372. (May be repeated for credit). (1-6).

Sculpture

331. BEGINNING SCULPTURE. Introduction to techniques, materials, and concepts including plaster, wood, environmental, and presentation. (3).

332. INTERMEDIATE SCULPTURE. Continuation of investigation into materials and techniques, including welding and foundry practice. Prerequisite: ART 331. (3).

431. ADVANCED SCULPTURE. Advanced problems in studio techniques and conceptual development. Emphasis upon individual expression and research. Prerequisite: ART 332. (May be repeated for credit). (1-6).

Special Areas

308. ARTS ADMINISTRATION. Principles and practices of arts management and administration. Interdisciplinary approach covers museology, fund raising, grant writing, appraising, accounting, laws, and publications. (3).

315. THE CRAFT OF OLD-MASTER DRAWINGS AND PAINTINGS. Technical (studio) exploration and historical appreciation of a variety of drawing and painting media generally uncommon in contemporary art; silver and leadpoint, chiaroscuro, quill and reed pens with bistre, sepia and iron-gall inks, natural and fabricated chalks, egg tempera, encaustic, oil glazing and fresco (buon fresco) and handmade paper. (3).

334. INTRODUCTION TO FIELD WORK TECHNIQUES. Examination of the theory, practice, and tradition of documentary field research, including the use of photography, film and video, and tape recorders. Special emphasis of documentary study of the American South. (Same as S ST 334, ANTH 334, and SOC 334). (3).

380. STUDIO FOR FIGURE STUDY. Exploration of varied methods of depicting the human form, using two- and three-dimensional media. (3).

410. ART INTERNSHIP. Individually planned work experience relating to a major area of emphasis; open to art majors of junior standing or above with consent of instructor. Prerequisites for interior design majors only: ART 309, 406. Prerequisites for graphic design/illustration majors only: ART 301, 303. (3).

480. EXHIBITION SEMINAR. Exhibition organization including preparation of prospectus, publicity, fund raising, slide and/or work organization, researching and writing on exhibition program and/or catalog, educational programming, installing and dismantling the exhibition. (3).

490. DIRECTED INDIVIDUAL PROBLEMS. Prerequisite: consent of instructor. (1-6).

534. STUDIES IN DOCUMENTARY FIELD WORK. Interdisciplinary study of the theory, practice, and tradition of documentary field research through readings, photography, films and videotapes, audio recordings, and field notes. (Same as S ST 534, ANTH 534). (3).

Thesis

491. THESIS. This course requires the design and fabrication of a cohesive body of artwork presented through a professional quality exhibition. Prerequisites: senior status and admission to the BFA program. (1-3).

492. SENIOR SEMINAR. Directions, problems, and ethics encountered in the practice of art as a profession. Prerequisite: senior status. (1). (Z grade).

Art Education—ARED

361. TEACHING OF ART IN THE ELEMENTARY SCHOOL. Principles basic to selection of materials and the guidance of activities appropriate to the kindergarten through the elementary school program. Prerequisites: EDCI 351, 352; junior/senior level or consent of instructor. (Lecture with outside lab). (3).

367. ARTS AND CRAFTS IN THE SCHOOLS. Development of individual skills in selected areas of arts and crafts appropriate to the kindergarten through the secondary school programs. Prerequisites: ARED 361 and consent of instructor. (Lecture with outside lab). (3).

461. PHILOSOPHY OF ART EDUCATION. Philosophies in art education and their relationship to planning, development, evaluation, and administration of art education programs in the public schools. (3).

462. ART FOR ATYPICAL INDIVIDUALS. Appropriate art activities for the elderly, gifted, physically and/or emotionally impaired, and those enrolled in nontraditional learning situations. (3).

463. TEACHING OF ART IN THE PUBLIC SCHOOLS. Principles basic to selection of materials; guidance of appropriate activities. (Lecture with outside lab). Corequisite: EDLE 471. (3).

565. ART WORKSHOP I. Principles basic to selection of materials and the guidance of activities appropriate to the kindergarten through the secondary school program. (3).

567. ART WORKSHOP II. Development of individual skills in selected areas of art and crafts appropriate to the kindergarten through the secondary school program. (3).

Art History, Appreciation and Criticism—ARHI

281. ART APPRECIATION: WESTERN. For all students interested in acquiring an understanding of the visual arts. An introductory survey of painting, sculpture, and architecture in the Western world. Illustrated lectures. Will not count toward art major. (3).

283. HISTORY OF ART: ANCIENT THROUGH MEDIEVAL. A survey of the great originative styles and developments in painting, sculpture, and architecture of the Mediterranean world from Paleolithic period through Gothic Europe. (Same as CLC 283). (3).

284. HISTORY OF ART: RENAISSANCE THROUGH MODERN. A survey of the representative movements and masters in the historical development of European painting, sculpture, and architecture from the 15th century to the present. (3).

286. ART APPRECIATION: NON-WESTERN. A chronological and comparative survey of art in non-western areas of the world; illustrated lectures. (3).

305. SURVEY OF INTERIORS I. Survey of furniture, decorative arts, and interiors from antiquity through the late 19th century. (Same as ART 305). (3).

307. SURVEY OF INTERIORS II. Surveys American domestic architecture, furniture, decorative arts, and interiors from colonial times to the late 19th century. Additionally, surveys American, British, and European design philosophies from the late 19th century to the present and the resultant furniture, decorative arts, and interiors. Prerequisite: ARHI 305 or consent of instructor. (Same as ART 307). (3).

314. ART AND SOCIETY. The relation of art and the artist to society, with special attention to contemporary problems. (3).

318. GREEK VASE PAINTING. Designed for undergraduates with an interest in the classical world, the course will cover prehistoric through Hellenistic Greek vase painting, utilizing the Robinson Collection at the University Museums. (Same as CLC 318). (3).

319. GREEK SCULPTURE. Designed for undergraduates with an interest in the ancient world, the course will cover archaic through Hellenistic Greek sculpture. (Same as CLC 319). (3).

320. GREEK ARCHITECTURE. An introduction to the principles of ancient architecture through a study of monuments and sites in Greece and Asia Minor. (Same as CLC 320). (3).

321. GREEK ART AND ARCHAEOLOGY. Development of painting, sculpture, and architecture in the Greek world from the Late Bronze Age to Hellenistic times. (Same as CLC 321). (3).

322. ROMAN ART AND ARCHAEOLOGY. Roman architecture, sculpture, and painting. (Same as CLC 322). (3).

323. BRONZE AGE GREEK AND AEGEAN ARTS AND ARCHITECTURE. Offered every third year in sequence with ARHI 324 and 325. (Same as CLC 323). (3).

324. EGYPTIAN ART AND ARCHITECTURE. Offered every third year in sequence with ARHI 323 and 325. (Same as CLC 324). (3).

325. ETRUSCAN ART AND ARCHITECTURE. Offered every third year in sequence with ARHI 323 and 324. (Same as CLC 325). (3).

328. ORIENTAL ART. Special topics in the major and minor arts of China, Japan, and India with consideration of religious, historical, and geographical influences. (May be repeated with change of content up to a total of 9 semester hours). (3).

329. AMERICAN INDIAN ARTS. Arts of the American Indians in the United States and Canada; emphasis on sculpture, textiles, basketry, leatherwork, beadwork, ceramics, habitations, and oral history. (3).

333. PRE-COLUMBIAN ARTS. Interdisciplinary approach to the history of the arts of middle America from 1500 B.C. to the present, covering Olmec, Maya, Mixtec, and Aztec civilizations. (Same as ANTH 333). (3).

338. AFRICAN AND AFRO-AMERICAN ARTS. Interdisciplinary approach to the continuities between traditional and contemporary African and Afro-American arts, with emphasis on architecture, sculpture, ceramics, textiles, basketry, jewelry, dance, and music. (Same as AFRO 329). (3).

346. FOLK ARTS OF THE AMERICAS. Multicultural introduction to American folk art from the Pilgrim settlements in New England to the popular arts of the 20th century; indigenous/native arts from Alaska to Mexico and Peru. (3).

348. SOUTHERN FOLK ARTS. Interdisciplinary approach to the history of folk arts in the Southern United States. Emphasis on field research and development of exhibits. (3).

349. HISTORY OF SOUTHERN ART AND DECORATIVE ARTS. Southern art and decorative arts from 18th century seaboard culture to the present. Course will stress indigenous Southern characteristics and adaptation of imported styles and attitudes. (3).

350. SOUTHERN ARCHITECTURE AND INTERIORS. Southern architecture and interiors from 18th century seaboard culture to the present. Course will stress indigenous Southern characteristics and adaptation of imported styles and attitudes. (3).

352. ART NOUVEAU AND ART DECO. Two major movements from 1890 to 1940 in European and American design, with focus upon design sources, theory, characteristics, and leading figures in interior design and decorative arts. Illustrated lectures. (3).

355, 555. HISTORY OF PHOTOGRAPHY I, II. Study of the technical and expressive evaluation of photography from Daguerre to contemporary developments in the field, including color art photography and the rise of Southern photographers. (3, 3).

382. MEDIEVAL ART. History and appreciation of art movements in early Christian, Byzantine, Romanesque, and Gothic periods. Illustrated lectures. (3).

385. NORTHERN RENAISSANCE ART. A study of significant movements and developments in the graphic arts, sculpture, and architecture in Germany, France, and the Netherlands from 1300 to 1600 A.D. Post-Renaissance "Mannerism" is discussed within this course cycle. Illustrated lectures. (3).

386. ITALIAN RENAISSANCE ART. A study of the major developments in the mediums of the graphic arts, sculpture, and architecture in Italy from the Dugento (13th century) through 16th century "Mannerism." Illustrated lectures. (3).

389. BAROQUE AND ROCOCO ART AND ARCHITECTURE. History and analysis of European art movements from the 17th century to the French Revolution. Illustrated lectures. (3).

392. 19TH CENTURY EUROPEAN ART. An examination of the major European styles from Neoclassicism through Post-Impressionism. Illustrated lectures. (3).

394. 20TH CENTURY ART, 1900-1965. A concentrated study of 20th century American and European art and philosophies through the late 1960s. Illustrated lectures. (3).

395. AMERICAN ART ON PAPER. An examination of the prints, drawings and watercolors, including folk art, illustration and artists' sketches, produced in America during the past 300 years. (3).

396. AMERICAN ART TO 1900. History of American painting, sculpture, architecture, interiors, furniture, other decorative arts, and folk art from the Colonial Period to 1900. Illustrated lectures. (3).

398. SURVEY OF BLACK AMERICAN ART. History and appreciation of the art of black Americans with emphasis on painting, sculpture, architecture, and other plastic art forms. Illustrated lectures. (Same as AFRO 395). (3).

399. MODERN ARCHITECTURE AND INDUSTRIAL DESIGN. The development of architectural and industrial design in Europe and America from 1800-1963 with emphasis upon new materials and engineering. Illustrated lectures. (3).

410. ART ADMINISTRATION INTERNSHIP. Individually planned work experience in a museum, gallery, or art organization. Junior standing or above and consent of instructor. (This course may not be used to satisfy the fine or performing arts requirements). (1-3).

481. CONTEMPORARY ART AND ARCHITECTURE. Art movements and philosophies since 1965. Illustrated lectures. (3).

488. HISTORY OF PRINTMAKING. Art in the graphic media in western Europe, the United States, and the Orient from the 15th century to the recent past. Illustrated lectures. (3).

495. ART THEORY AND CRITICISM. Topics and problems concerning theory and criticism in the arts. Interdisciplinary approach; with analysis of specific works of art. Illustrated lectures. (3).

496. WRITING AND RESEARCH IN ART. Methods of research, bibliography, use and criticism of source material, individual reports, and presentation of papers. Required of art history majors and all B.F.A. candidates in the junior year. Prerequisites: ARHI 283, 284. (3).

497. SELECTED READINGS IN ART HISTORY AND CRITICISM. Prerequisite: Senior status and consent of instructor. (1-3).

ASTRONOMY *See the Department of Physics and Astronomy.*

AUDIOLOGY *See the Department of Communicative Disorders.*

BIOLOGY—BISC

Professor Gary L. Miller, chair • 214 Shoemaker Hall • Professors Gaston, Keiser, Lago, and Threlkeld • Associate Professors D'Surney, Holland, Mikell, Ochs, and Parsons • Assistant Professors Brewer, Buchholz, Douglas, Goulet, Halda-Alija, and Secor • Instructors Garrison, McCook, and Stratton.

102. INQUIRY INTO LIFE—HUMAN BIOLOGY. A survey course intended for nonbiology majors, introducing basic principles and emphasizing the function of the human body, including diseases, cellular processes, respiration, muscular system, reproduction, development, immunity, and inheritance. Will not count for credit if BISC 160 is counted. Applies to the science requirement of the core curricula. Associated laboratory is BISC 103. (3).

103. INQUIRY INTO LIFE LABORATORY I. Laboratory to accompany BISC 102. BISC 102 and 103 together are applicable to the laboratory science requirements of core curricula. Will not count for credit if BISC 161 is counted. (1).

104. INQUIRY INTO LIFE: THE ENVIRONMENT. A survey course intended for nonbiology majors, emphasizing the relationships of humans to the environment, including origin and diversification of life, behavior, ecology, role of plants, and environmental concerns. Applies to the science requirement of the core curricula. Associated laboratory is BISC 105. Prerequisite: BISC 102 or permission of the instructor. Will not count for credit if BISC 162 is counted. (3).

105. INQUIRY INTO LIFE LABORATORY II. Laboratory to accompany BISC 104. BISC 104, 105 together are applicable to the laboratory science requirement of core curricula. Will not count for credit if BISC 163 is counted. (1).

160. BIOLOGICAL SCIENCES I. A comprehensive treatment of the major principles of modern biology. Intended primarily for biology major and minors and pre-professional biomedical students. Applies to the science requirement of core curricula. Corequisite laboratory is BISC 161. (3).

161. BIOLOGICAL SCIENCES I LABORATORY. Laboratory to accompany BISC 160. Corequisite: BISC 160. (1).

162. BIOLOGICAL SCIENCES II. Continuation of BISC 160. A comprehensive treatment of the major principles of modern biology. Intended primarily for biology major and minors and for pre-professional biomedical students. Applies to the science requirement of the core curriculum. Corequisite laboratory is BISC 163. Prerequisites: BISC 160, 161. (3).

163. BIOLOGICAL SCIENCES II LABORATORY. Laboratory to accompany BISC 162. Corequisite: BISC 162. (1).

164H. HONORS RECITATION I. Amplification of the principles covered in BISC 160 and 161. Must be taken concurrently with BISC 160, 161. (1).

165H. HONORS RECITATION II. Amplification of the principles covered in BISC 162 and 163. Must be taken concurrently with BISC 162, 163. (1).

206. HUMAN ANATOMY AND PHYSIOLOGY. (Nonmajors only). Structure and function of the human body; for pre-nursing, pre-medical record administration, and other paramedical students. (3 lecture, 2 lab hours). (4).

207. HUMAN ANATOMY AND PHYSIOLOGY. Continuation of BISC 206. (Nonmajors only.) May not be counted toward a major or minor in the Department of Biology. (3 lecture, 2 lab hours). (4).

210. PRINCIPLES OF MICROBIOLOGY. An introductory course in microbiology emphasizing sanitation, disease, food and industrial microbiology. The course is designed for students in health related studies such as pre-nursing, nutrition, and pre-dental hygiene. The course does not count toward a degree in the Department of Biology. Applies to the laboratory science requirement of the core curriculum. May not be counted toward major or minor credit in the Department of Biology. (3 lecture, 1 lab). (4).

300. RESEARCH METHODS IN BIOLOGY. Examinations of discovery approaches used in the biological sciences, development of scientific theory, strengths and weaknesses of different research methods, basic concepts of biometry and experimental design, library skills, funding, publications, peer review, and ethics. Prerequisite: BISC 162. (3).

ADVISERS AND STUDENTS NOTE: BISC 160, 161, 162, and 163 or their equivalents are prerequisites for all courses numbered 304 and above. Additional prerequisites are indicated in many course descriptions.

306. VIROLOGY. Fundamental biology and biochemistry of bacterial, animal, and plant viruses. (3).

318. BOTANY. Basic botany for majors, minors, and pre-professional students. (4).

320. INTRODUCTORY MARINE BIOLOGY. Principles of marine biology, ecology, distribution, and physiology of marine organisms. Prerequisite: BISC 162 or consent of instructor. (3).

321. INTRODUCTORY AQUATIC BIOLOGY. Principles of freshwater biology with emphasis on factors affecting ecology and populations in diverse aquatic environments. (2 lecture, 2 lab hours). (3).

322. GENERAL ECOLOGY. Basic principles of ecology of plants and animals. (3 lecture, 2 lab hours). (4).

329. BIOLOGY OF FISHES. Systematics, ecology, and morphology of fishes. (4).

330. INTRODUCTORY PHYSIOLOGY. Survey of mammalian physiology. Prerequisites: CHEM 105, 106. (3 lecture, 2 lab hours). (4).

331. COMPARATIVE ANATOMY OF THE VERTEBRATES. Anatomy and evolutionary development of vertebrates. (3 lecture, 3 lab hours). (4).

332. COMPARATIVE EMBRYOLOGY OF THE VERTEBRATES. Principles of morphogenesis and evolution of selected vertebrates. Prerequisite: BISC 331 or consent of instructor. (3 lecture, 3 lab hours). (4).

333. GENERAL MICROBIOLOGY. Morphology, taxonomy, ecology, physiology of bacteria and related microorganisms; basic techniques. Prerequisites: CHEM 105, 106. (4).

334. ORNITHOLOGY. Taxonomy, ecology, and biology of birds. (4).

335. HUMAN REPRODUCTION. Physiological and endocrinological information basic to understanding human reproductive processes. (3).

336. GENETICS. Basic principles of the patterns of inheritance and mechanisms of gene action. Classical, molecular, and population genetics introduced. (4).

337. INTRODUCTORY ENTOMOLOGY. Basic entomology for majors: insect morphology, ecology, taxonomy, physiology, and bionomics. (4).

338. INVERTEBRATE ZOOLOGY. The anatomy, life cycles, habitats, and evolution of animals of the major phyla are stressed. The insects will be presented only to the extent needed for recognition. (2 lecture, 4 lab hours). (4).

339. PHYCOLOGY. Phylogeny, morphology, physiology, and ecological relationships of algae. (4).

342. PLANT DIVERSITY. Examination of processes and patterns underlying plant diversification, including a survey of the evolution of major groups and associated dynamics of life history and morphology. (4).

399. LISTING FOR IB (Individual Basis) COURSES. (1-6).

414. IMMUNOLOGY AND SEROLOGY. Principle of humoral and cellular immune response; physiological and molecular bases of immune mechanisms. (3).

415. VERTEBRATE HISTOLOGY. Structure of principal tissue types and organ systems. Prerequisite: BISC 330 or consent of instructor. (4).

- 416. ELEMENTARY PARASITOLOGY.** Introduction to parasitic groups, collection, identification, and preservation of specimens. (2 lecture, 4 lab hours). (4).
- 435. RESEARCH EXPERIENCES IN FRESHWATER BIOLOGY.** Undergraduate research experience in freshwater systems, emphasizing research study design, quantitative and descriptive methods and instrumentation for analysis of physical, chemical, and biological samples; use of computers in data acquisition, analysis, and interpretation; fundamentals of research report preparation and presentation. (2 lecture, 6 lab hours). (4).
- 440. CELL AND MOLECULAR BIOLOGY.** A study of molecules and biochemical processes essential to life: emphasis on the vital molecular mechanisms in mammals. Prerequisites: CHEM 105, 106, and BISC 330, 336 or permission of the instructor. (4).
- 491. DIRECTED STUDY IN BIOLOGICAL SCIENCES.** Independent research project conducted under the supervision of Biology Department faculty, hands-on experience in areas of mutual student and faculty interest requiring a tangible product (research paper, publication, etc.). Recommended for students planning graduate studies in biology or related professional fields including medicine. Students must contact a faculty sponsor before enrollment. Prerequisites: BISC 160, 162 and permission of instructor. (Two hours per week per credit hour attempted). (1-3).
- 498. MAJOR FIELD ACHIEVEMENT TEST.** Students take the biology MFAT, a nationally applied test to evaluate basic knowledge and understanding gained in the undergraduate biology curriculum. Required for graduation as a biology major. (0).
- 499. LISTING FOR IB (Individual Basis) COURSES.** (1-6).
- 502. MYCOLOGY.** Fungi of economic importance; their distribution, biology, and control; collection, identification, and nutrition. (4).
- 504. BIOMETRY.** A biology course on design of biological experiments and analysis of biological data using parametric and nonparametric methodology through multivariate analysis, emphasizing use of mainframe and microcomputer and analytical packages. Prerequisites: At least 15 hours of biology and MATH 121 or consent of instructor. (3).
- 505. AQUATIC MICROBIOLOGY.** Principles and applications of the microbiology of lakes, reservoirs, streams, oceans, and sewage treatment processes. Prerequisite: BISC 333. (4).
- 509. MICROBIAL GENETICS.** Genetics and molecular biology of bacteria and viruses. Prerequisite: BISC 333. (4).
- 510. THEORETICAL ECOLOGY.** Advanced course in ecology emphasizing modern conceptual and mathematical models of ecological phenomena. Students will use the computers in the simulation of the above processes. Prerequisites: BISC 322 and Math 121 (Calculus preferred) or consent of instructor. (3).
- 511. APPLIED MICROBIOLOGY.** Applications of microorganisms in industry, agriculture, food and beverage production, wastewater treatment, biohydrometallurgy, and bioremediation of environmental pollutants. Prerequisite: BISC 333. (4).
- 512. ANIMAL BEHAVIOR.** The significance of the behavior of animals with emphasis on current evolutionary and ecological approaches. Topics include genetics of behavior, adaptation, fitness, behavioral polymorphism, and communication. Prerequisite: BISC 322. (4).
- 513. LIMNOLOGICAL METHODS.** Field and laboratory techniques in freshwater ecology. Prerequisite: consent of instructor. (1 lecture, 4 lab hours). (3).
- 514. POPULATION GENETICS.** Basic principles of the factors which influence the genetic composition of natural and artificial populations. Topics covered will include selection, migration, mutation, genetic drift, mating systems, and quantitative genetics. Prerequisites: BISC 336 and MATH 121. (3).
- 516. PLANT PHYSIOLOGY.** Growth and development in plants; emphasis on assimilation, chemical control of growth, and environmental physiology. Prerequisite: CHEM 105, 106. (3 lecture, 2 lab hours). (4).
- 518. MICROTÉCHNIQUE.** Techniques of fixing, embedding, sectioning, and staining tissue. Prerequisite: BISC 415. (4).
- 519. PHYSIOLOGY OF AQUATIC ANIMALS.** The physiology and physiological adaptations of aquatic animals, with emphasis on freshwater animals. Prerequisite: BISC 330 or consent of instructor. (4).

- 520. MEDICAL MICROBIOLOGY.** The nature of infectious microorganisms with emphasis on mechanisms of pathogenicity and epidemiology. Prerequisite: BISC 333 or consent of instructor. (3).
- 521. CELL PHYSIOLOGY.** Basic principles and practices of molecular and cellular physiology. Prerequisite: BISC 330, CHEM 221, 222. (3 lecture, 2 lab hours). (4).
- 522. MICROBIAL ECOLOGY.** Factors that govern the interrelationships between microorganisms and their environments, including microbial energetics, nutrient cycles, aquatic and terrestrial environments, microbial interfaces, methodology. Prerequisite: BISC 333 or consent of instructor. (3).
- 524. AQUATIC BOTANY.** Ecology and physiology of vascular plants occurring in fresh water. (4).
- 525. CONSERVATION AND RESTORATION ECOLOGY.** Addresses the efficacy of applying principles of population, community, and landscape ecology to the design, restoration, management, and protection of biological reserves. (3).
- 526. SURVEY OF THE AMPHIBIA.** An introduction to the taxonomy, morphology, and evolution of salamanders, frogs, and caecilians. May not be counted for credit if BISC 546 or BISC 640 is counted. (3).
- 527. SURVEY OF THE REPTILIA.** An introduction to the taxonomy, morphology, and evolution of crocodylians, snakes, lizards, amphisbaenians, and turtles. May not be counted for credit if BISC 546 or BISC 641 is counted. (3).
- 529. ENDOCRINOLOGY.** Vertebrate endocrine systems. Prerequisites: BISC 330, CHEM 221, 222. (4).
- 530. ADVANCED FIELD STUDY IN ECOLOGY.** Extended field trip experience illustrating ecological principles, biological diversity, and major biotic regions; may be repeated for credit if topic changes. Prerequisites: BISC 322 or equivalent and permission of instructor. (4).
- 531. PLANT MORPHOLOGY.** Development and life histories of major plant groups: emphasis on vascular plants. Prerequisite: any 300-level or above biology course. (4).
- 532. PLANT TAXONOMY.** Survey of the diversity of vascular plants of the world, including their historical and modern classification, nomenclature, and identification. Prerequisite: BISC 318 or consent of instructor. (4).
- 534. FRESHWATER INSECTS.** Identification and biology of insects associated with fresh water. Prerequisite: BISC 337 or consent of instructor. (2 lecture, 4 lab hours). (4).
- 542. MICROBIAL DIVERSITY.** Ecology, physiology, and taxonomy of microorganisms isolated from natural habitats. Prerequisite: BISC 333. (4).
- 545. MICROBIAL PHYSIOLOGY.** Biochemical processes of microbial cells. Prerequisite: 333. (4).
- 546. HERPETOLOGY.** Studies on the systematics, morphology, evolution, and natural history of amphibians and reptiles. (2 lecture, 4 lab hours). (May not be counted for credit if BISC 548 and 549 are counted). (4).
- 547. ADVANCED HISTOLOGY.** Essential features of microscopic anatomy and development of selected tissues and organs. Prerequisite: BISC 415 or consent of instructor. (4).
- 550. BIOLOGICAL OCEANOGRAPHY.** Course examines the biota of the world's oceans and its relationship to the abiotic environment. Physical, chemical, and geological aspects of oceanography also will be considered. Prerequisites: 16 hours upper-division biology or consent of instructor. (4).
- 551. PROTOZOOLOGY.** Structure, reproduction, growth, collection, and methods of culture of protozoa organisms. Prerequisite: consent of instructor. (4).
- 553. COMPARATIVE ANIMAL PHYSIOLOGY.** Comparative and integrative investigation of the structure and mechanisms of the physiological systems of animals. Emphasis on adaptive strategies expressed in physiological systems. Prerequisite: BISC 330 or consent of instructor. (3).
- 554. ECOLOGICAL PHYSIOLOGY.** Systemic function of organisms in relation to the natural environment. (4).

555. RADIATION BIOLOGY. Effects of radiation on living material at all levels of organization. Prerequisite: consent of instructor. (3 lecture, 2 lab hours). (4).

566. EVOLUTIONARY BIOLOGY. Lectures and assigned readings on modern evolutionary theories, with emphasis on speciation and processes operating at the population level of organization. Prerequisite: 15 hours of biology or permission of instructor. (3).

567. EVOLUTIONARY BIOLOGY LABORATORY. Laboratory to accompany BISC 566. Corequisite: BISC 566. Prerequisite: 15 hours of biology or permission of instructor. (2 lab hours). (1).

571. HISTORY OF BIOLOGY. (3).

Belize Courses

The following biology courses will be taught in Belize during summer terms and sponsored by the American Universities International Program (AUIP) and depending upon faculty availability and enrollment. Students will be required to pay AUIP a fee for each course and to provide their own travel to and from Belize. All courses except BISC 220 will count for credit toward the B.A. or B.S. in biological science.

220. NATURAL RESOURCE MANAGEMENT. A study of the natural resources of Belize with emphasis on forestry, agriculture, wildlife management, coastal development, and multi-use planning. May not be counted for a major or minor in biology. (3-6).

441. TROPICAL BOTANY. Field survey of the plants of Belize with discussions regarding tropical plant diversity, ecology, and rain forest dynamics. Prerequisite: consent of instructor. (4).

445. INTRODUCTION TO CORAL-REEF ECOLOGY. Field studies of the principles of coral-reef ecology including a survey of the organisms and discussions of factors affecting reef communities. Prerequisites: introductory biology (8 hours) or consent of instructor. (4).

446. FISHES OF THE TROPICS. Field surveys of the fishes inhabiting marine and coastal waters of the tropics. Topics to include systematics, ecology, physiology, and morphology of fishes. Prerequisites: introductory biology (8 hours) or consent of instructor. (4).

447. NEOTROPICAL FOREST HERPETOLOGY. Field studies on the biology of amphibians and reptiles of Belize with emphasis on rain forest and upland pine forest habitans. Prerequisites: introductory biology (8 hours) or consent of instructor. (4).

448. TROPICAL STUDIES IN FRESHWATER BIOLOGY. Field studies of ecology and biogeography of tropical freshwater ecosystems with emphasis on vertebrates as model for population, genetic, biodiversity, and ecosystem integrity studies. Prerequisites: introductory biology (8 hours) or consent of instructor. (4).

449. TROPICAL INVERTEBRATE BIOLOGY. Field surveys of the insects and arachnids of the neotropics with emphasis on behavior and ecology of major groups. Prerequisites: introductory biology (8 hours) or consent of instructor. (4).

450. TROPICAL ORNITHOLOGY. Field surveys of the birds of Belize with discussions of behavior and ecology of birds. Prerequisites: introductory biology (8 hours) or consent of instructor. (4).

BOTANY *See the Department of Biology.*

BUSINESS—BUS

Instructors Calder, Connell, Garrett, Jordan, Ross, Oakley, and Tyner

230. ECONOMIC STATISTICS I. Statistical decision-making, parameters, probability, sampling, inference and testing, comparative experiments, linear correlation, and time series analysis. Prerequisite: C minimum in MATH 267 or MATH 261 and C minimum in MIS 241 (3).

250. LEGAL ENVIRONMENT OF BUSINESS. The legal environment of business and organizations with emphasis on current social, political, and ethical forces influencing the law of business, particularly business contracts and agency relationships. (2).

271. BUSINESS COMMUNICATION. An oral and written applications-oriented communication course for managers; developing and writing of reports, oral briefings of business issues, and multimedia presentations. Prerequisites: ENGL 101, 102. Corequisite: MIS 241. (3).

301. INTRODUCTION TO PETROLEUM LAND MANAGEMENT. Petroleum industry overview; formation, migration and accumulation of reserves; land acquisition process and management. (3).

302. ECONOMIC STATISTICS II. Sampling, parametric and nonparametric testing, multiple regression and correlation, experimental design, Bayesian statistics. Prerequisite: C minimum in BUS 230. (3).

308. OPERATIONS RESEARCH. Prerequisite: BUS 230. (Same as ECON 308). (3).

310. OIL AND GAS LAW. Basics of oil and gas production, mineral interests and ownership, rights and obligations under oil and gas leases, royalty calculations, oil and gas conservation practices, severance and special profit taxes, environmental controls. (3).

311. FUNDAMENTALS OF OIL AND GAS LEASING. Examination of common oil and gas leases, maintaining leases, title searches and title curatives, operating and farm-out agreements, lease brokering, top leasing, ethical problems, offshore leasing. (3).

321. INTERNATIONAL BUSINESS. An integrated, multifunctional survey course defining the basic terminology of international business, with emphasis on an introduction to how national differences affect the business functions. Prerequisite: junior standing. (3).

390. BUSINESS CAREER PLANNING. Assists business students in making the transition from the academic community to the work environment. Students will be provided with career and self-assessment information from which they can make independent decisions on future career directions. (0).

400. SPECIAL TOPICS IN BUSINESS. A seminar for special topics in business, either for discussion or for individual research projects. Senior standing only. (1-6).

500. BUSINESS INTERNSHIP. Internship open to business students of junior or senior standing or to MBA students. A business field experience of at least 10 weeks of full-time employment is required. MBA students may not use this course to satisfy either a core or elective requirement. (May be repeated once). (3). (Z grade).

CHEMICAL ENGINEERING—CH E

Professor Peter C. Sukanek, chair • 134 Anderson Hall

Professors Chen and Sadana • Associate Professor Williford • Assistant Professors O'Haver and Price

103. INTRODUCTION TO CHEMICAL ENGINEERING I. Careers in engineering; basic computer skills; simple graphical analysis; units and conversions. (1).

104. INTRODUCTION TO CHEMICAL ENGINEERING II. Introductory concepts in engineering statistics, ethics, and economics. (1).

245. ENGINEERING ECONOMY. Time value of money. Depreciation; cost estimation, return of investment; selecting alternatives; risk and selecting alternatives. (2).

307. CHEMICAL PROCESS PRINCIPLES I. Steady state material balances; stoichiometry; equations of state; solid-liquid phase equilibrium. (2).

308. CHEMICAL PROCESS PRINCIPLES II. Steady state energy balances, computer-aided balance calculations. Prerequisite: CHE 307. (2).

309. INTRODUCTION TO CHEMICAL ENGINEERING DESIGN. The design of fluid dynamic and heat transfer equipment for chemical engineering applications. Project work in chemical engineering design. (2).

313. MODELING AND SIMULATION I. Applications of analytical, numerical, and statistical techniques in the design and modeling of chemical process systems. Prerequisite: MATH 353. (3).

314. MODELING AND SIMULATION II. Continuation of CHE 313, which is a prerequisite. (3).

317. PROCESS FLUID DYNAMICS & HEAT TRANSFER. Macroscopic momentum balances, piping system design; macroscopic energy balances, heat transfer coefficients, heat exchanger design, evaporation. Prerequisites: CHE 308, ENGR 322. (4).

407, 408. CHEMICAL ENGINEERING PROJECTS I, II. Specific topic investigated by each student; report due at the end of each semester. (1-3, 1-3).

411. CHEMICAL ENGINEERING SEMINAR. Oral presentation of engineering results. Prerequisite: senior standing. (1).

417. SEPARATION PROCESS. Diffusion and mass transfer processes; stagewise and packed column mass transfer operation; membrane separation; solids processing. Prerequisite: CHE 317. (4).

421. CHEMICAL ENGINEERING THERMODYNAMICS. Multicomponent systems; phase and chemical equilibria. Prerequisites: ENGR 321, MATH 264. (3).

423. CHEMICAL REACTOR ANALYSIS AND DESIGN. Kinetic mechanisms, reaction rates; homogeneous reactor design. Prerequisite: CHE 421. (3).

505. CHEMICAL ENGINEERING LAB I. Design, performance, and reporting of experiments. Corequisite: CHE 317. (2).

506. CHEMICAL ENGINEERING LAB II. Continuation of CHE 505. Corequisite: CHE 417. (2).

509. PLANT DESIGN I. Design of chemical processes and plants. (Prerequisites: CHE 317, CHE 245). (3).

510. PLANT DESIGN II. Design of chemical processes and plants. In order to pass this course, students must have taken the Fundamentals of Engineering (FE) exam prior to the end of the semester. Prerequisites: CHE 417, CHE 509. (3).

511. PROCESS DYNAMICS AND CONTROL. Modeling of transient systems; design of feedback control systems. Prerequisite: ENGR 310. (3).

513. SPECIAL TOPICS IN CHEMICAL ENGINEERING. (May be repeated for credit). (1-3).

515. RESEARCH SEMINAR. Philosophy and principles of engineering research. (1). (Z grade).

520. BIOCHEMICAL ENGINEERING. An overview of microbiology and biochemistry. The development of models for microbial kinetics. The design of reactors and auxiliary equipment for microbial systems. (3).

530. COAL UTILIZATION AND POLLUTANTS CONTROL. The structure, properties, reactivities, and utilization and conversion technologies of coal. Emphasis will be placed on combustion and its environmental issues. (3).

541, 542. ENGINEERING APPLICATIONS OF CHEMICAL INSTRUMENTATION I, II. Theory, use, and limitations of spectroscopic and chromatographic methods of sample analysis. (3,3).

545. COLLOID AND SURFACE SCIENCE. Fundamental concepts of colloid and surface science, including the nature and types of surfactants, surfactant phase behavior, surface tension and capillarity, and adsorption. (3).

560, 561. ADVANCED TRANSPORT PHENOMENA I, II. Development and use of the equations of conservation of mass, energy, and momentum in continuous materials. The use of detailed and integral balances. (3, 3).

CHEMISTRY AND BIOCHEMISTRY—CHEM

Professor Charles L. Hussey, chair • 322 Coulter Hall

Professors Eftink, Graves, and Parcher • Associate Professors Cleland, Davis, Mattern, O'Neal, and W. Scott • Assistant Professors Carter, Mossing, Pedigo, and Ritchie • Instructors Clark and K. Scott

101. CHEMICAL CONCEPTS. For those requiring a less detailed introduction to chemistry. When taken in conjunction with CHEM 102, satisfies science requirements of the core curriculum. (3).

- 102. CHEMICAL CONCEPTS LABORATORY¹.** Corequisite: CHEM 101. (1).
- 103, 104. SURVEY OF CHEMISTRY I, II.** Overview of chemistry for the nonmajor. CHEM 103 is a prerequisite for CHEM 104. When taken in conjunction with CHEM 113, 114, satisfies science requirements of the core curriculum. (3, 3).
- 105, 106. GENERAL CHEMISTRY I, II.** Lecture part of the standard basic course for a major or minor program in chemistry. Prerequisite: minimum ACT mathematics score of 22 (SAT 510) or B minimum in MATH 121 or 125. CHEM 105 is a prerequisite for CHEM 106. (3, 3).
- 105H, 106H. HONORS GENERAL CHEMISTRY I, II.** Lecture part of the standard basic course for a major or minor program in chemistry. Reserved for honors students. Must be taken concurrently with CHEM 107H, 108H. CHEM 105H is a prerequisite for CHEM 106H. (3, 3).
- 107H, 108H. HONORS RECITATION I, II.** Amplification of the principles covered in CHEM 105H, 106H. Must be taken concurrently with CHEM 105H, 106H. (1, 1).
- 113, 114. SURVEY OF CHEMISTRY LABORATORY I, II¹.** Corequisite: CHEM 103, 104. (3 lab hours). (1, 1).
- 115, 116. GENERAL CHEMISTRY LABORATORY I, II¹.** Corequisite: CHEM 105, 106, (1, 1).
- 121. FUNDAMENTALS OF ORGANIC CHEMISTRY.** For those requiring a less detailed study of organic chemistry. Prerequisites: CHEM 101, 102 or 106, 116. (3 lecture, 3 lab hours). (4).
- 171. READINGS IN BIOCHEMISTRY.** Readings and oral presentations of works in contemporary biochemistry and molecular biology. Prerequisite or corequisite: CHEM 221 or 321. (1).
- 200. SCIENCE FOR THE HEALTH PROFESSIONS.** Selected topics from general chemistry, organic chemistry, and biochemistry that are related to biological and medical sciences. This course cannot be used for credit toward a degree in any of the sciences. (3).
- 201. ENVIRONMENTAL CHEMISTRY I.** Agricultural chemicals, water pollution, essential foods, processed foods, food additives, drugs. Not open to students who have taken first-year chemistry. Not applicable to a major or minor in chemistry. Not acceptable for certification in chemistry of secondary school teachers. When taken in conjunction with CHEM 113, satisfies science requirements of the core curriculum. (3).
- 202. ENVIRONMENTAL CHEMISTRY II.** Population growth, nondegradable waste, mineral and energy sources, aerosols, air pollution, consumer chemicals. Not open to students who have taken first-year chemistry. Not applicable to a major or minor in chemistry. Not acceptable for certification in chemistry of secondary school teachers. When taken in conjunction with CHEM 114, satisfies science requirements of the core curriculum. CHEM 201 is not a prerequisite for CHEM 202. (3).
- 221, 222. ELEMENTARY ORGANIC CHEMISTRY I, II.** Structures and spectroscopy of organic compounds; organic reactions and their mechanisms. Prerequisite: CHEM 106. CHEM 221 is a prerequisite for CHEM 222. (3, 3).
- 225, 226. ELEMENTARY ORGANIC CHEMISTRY LABORATORY I, II¹.** Investigation of organic functional groups; preparation and purification techniques. Prerequisite: CHEM 116. Corequisite: CHEM 221, 222. (1, 1).
- 301. INTRODUCTORY INORGANIC CHEMISTRY.** Introduction to atomic and molecular structure, periodicity of atomic properties, chemistry of selected representative elements and their compounds, acid-base concepts and solution chemistry, chemistry of transition metals and coordination compounds. Prerequisite: CHEM 222 or 322. (3).
- 314. QUANTITATIVE ANALYSIS.** Introduction to the theory and practice of chemical analysis, including acid-base, oxidation-reduction, and precipitation titrations; spectrophotometry; ion-selective electrodes; and chromatography. Prerequisite: CHEM 222. (2 lecture, 6 lab hours). (4).
- 320. INTRODUCTION TO THE CHEMISTRY OF NATURAL PRODUCTS.** Prerequisites: CHEM 222, 226. (3).
- 321, 322. ORGANIC CHEMISTRY I, II.** Detailed study of organic structures and reactions. Prerequisite: CHEM 106. (3, 3).
- 323, 324. ORGANIC CHEMISTRY LABORATORY I, II.** Organic functional groups; techniques of synthesis and structural analysis. Prerequisite: CHEM 116. Corequisite: CHEM 321, 322. (1, 1).
- 331, 332. PHYSICAL CHEMISTRY I, II.** Professional course. Quantum chemistry and molecular orbital theory, thermodynamics and statistical mechanics, kinetics and reaction dynamics, spectroscopy. Prerequisites: CHEM 222, Physics 212 or 214, and MATH 262. (3, 3).

¹ Students who withdraw from the lecture must withdraw from the laboratory.

333. ELEMENTARY PHYSICAL CHEMISTRY. Nonprofessional course. Prerequisite: CHEM 106, MATH 121 or 125. (3).

334. BIOPHYSICAL CHEMISTRY. Introduction to physical and chemical principles applied to biological and life sciences. Prerequisites: CHEM 222 or 322. (3).

337, 338. PHYSICAL CHEMISTRY LABORATORY I, II¹. Corequisite: CHEM 331, 332. (1, 1).

351. INDIVIDUAL RESEARCH. Research project conducted by the student under faculty supervision. May be repeated for credit. Prerequisites: CHEM 222, 226 (or 322, 324), and departmental approval. The IP grade may be given in this course when the student will be continuing the project in a subsequent semester. (1-3).

371. BIOCHEMICAL CONCEPTS. Prerequisite: CHEM 121 or 221 or 321. May not be used to satisfy major or minor requirements in chemistry. (3).

381, 382, 383. CHEMISTRY FOR TEACHERS I, II, III. Analysis of the concepts and models of chemistry with emphasis on computational skills for school teachers. Appropriate for persons seeking certification as chemistry or science teachers. May not be counted toward a degree in any of the sciences. (3 lecture, 2 lab hours each). (4, 4, 4).

400. INDUSTRIAL CHEMISTRY. Prerequisites: CHEM 222 and 226. (3).

401. INORGANIC CHEMICAL PRINCIPLES. Application of physical chemical principles to the study of inorganic systems. Prerequisite: CHEM 332. (3).

402. INORGANIC CHEMISTRY LABORATORY. Synthesis, identification, and study of physical and chemical properties of selected inorganic compounds. Corequisite: CHEM 401. (1).

403, 404. EXPERIMENTAL METHODOLOGY I, II. Guided experimental work for development of laboratory skills. Prerequisites: CHEM 225, 226, 314. (2, 2).

414. CLINICAL CHEMISTRY. Theoretical and experimental treatment of the analytical procedures encountered in clinical chemistry laboratories. Prerequisites: CHEM 225, 226, 314. (2 lecture, 6 lab hours). (4).

415. COMPUTER METHODS IN CHEMISTRY. Interfacing of computers to chemical instrumentation; data collection and analysis using computer methods. (3).

421H, 422H. RECITATION IN ORGANIC CHEMISTRY I, II. Expansion of material from the elementary courses and transmission of basic concepts to elementary students. Prerequisites: grade of A in CHEM 221-222 or 321-322 and consent of the department. (1, 1).

423. ORGANIC ANALYSIS. Expanded organic chemistry topics. Development of synthetic, separation, purification, and identification skills in a problem-solving context. Prerequisites: CHEM 222 and 226, or 322 and 324. (1 lecture, 3 lab hours). (2).

459. FORENSIC SCIENCE INTERNSHIP. (3). (Z grade).

461. DIRECTED READINGS IN CHEMISTRY. Readings in various areas of chemistry beyond junior-level courses which may be interdisciplinary in nature and not covered in any one course. Prerequisite: departmental approval and consent of the instructor. (May be repeated for credit). (3).

463. SENIOR RESEARCH. Research project conducted by the student under faculty supervision. Written report and seminar presentation required. May be repeated once for credit. Prerequisites: CHEM 222, 226 (or 322, 324); 314; departmental approval. The IP grade may be given for the first semester of this course. (1-3).

469. INTRODUCTION TO INSTRUMENTAL ANALYSIS. Introduction to modern analytical instrumentation including chromatography (GL and HPLC), spectroscopy (atomic absorption, infrared, UV-visible, NMR, and fluorescence), and mass spectrometry. Applications of computer methods for data acquisition. Prerequisite: CHEM 314. (2 lecture, 6 lab hours). (4).

471, 473. BIOCHEMISTRY I, II. Chemistry of biological macromolecules and their control of life processes. Prerequisites: CHEM 222, 226 (or 322, 324). (3, 3).

472. BIOCHEMISTRY LABORATORY. Introduction to modern analytical techniques used for the separation and characterization of the biochemical macromolecules. Corequisite: CHEM 471. (6 lab hours). (2).

Chemistry 222, 226 (or 322, 324) and 332 are prerequisite to all 500-level courses except 543, 546, and 547.

501. ADVANCED INORGANIC CHEMISTRY. Atomic and molecular structure; chemical bonds; solvent systems; reactions of the elements and their compounds. (3).

512. ADVANCED INSTRUMENTAL ANALYSIS. Theoretical and experimental treatment of chromatography, Fourier-transform NMR, mass spectrometry, and electrical techniques. Prerequisite: CHEM 469. (2 lecture, 3 lab hours). (3).

¹ Students who withdraw from the lecture must withdraw from the laboratory.

519. CHEMICAL SEPARATIONS. Theoretical and mathematical treatment of chromatography and other separation techniques. Prerequisite: CHEM 469. (3).

527. ADVANCED ORGANIC CHEMISTRY, STRUCTURE AND MECHANISM. Resonance and molecular orbital theory, linear free energy relations, and reaction mechanisms. (3).

528. ADVANCED ORGANIC CHEMISTRY, MECHANISM AND SYNTHESIS. Conformational analysis, electron-deficient rearrangements, carbanion chemistry, photochemistry, synthetic reactions. (3).

529. STEREOCHEMISTRY. Configurational and conformational analysis of molecules; the steric course of organic chemical reactions. (3).

530. ADVANCED ORGANIC SYNTHESIS. A study of the literature, reactions, and planning methods which are used in modern organic synthesis. (3).

531. ADVANCED PHYSICAL CHEMISTRY, QUANTUM CHEMISTRY. Elementary quantum chemistry; solution of the Schrodinger equation for simple chemical systems; molecular orbital theory. (3).

532. ADVANCED PHYSICAL CHEMISTRY, CHEMICAL THERMODYNAMICS. Rigorous discussion of irreversible and equilibrium thermodynamics and application to various chemical problems. (3).

543. HISTORY OF CHEMISTRY. History of the science and study of the pioneers who developed its theories and were instrumental in its advancement. Prerequisite: CHEM 121, 222, or 322. (3). (Z grade).

544. CHEMICAL APPLICATIONS OF GROUP THEORY. Introduction to the principles of symmetry and group theory and their application to the description of molecular structure in terms of the chemical bonding models (VB, MO, and LF) and spectral properties (magnetic, vibrational, and electronic). (3).

545. CHEMICAL LITERATURE. Introduction to and practice in the use of chemical abstracts, journals, and other library reference materials. (3). (Z grade).

546, 547. CHEMISTRY FOR HIGH SCHOOL SCIENCE TEACHERS I, II. A review of the basic principles of chemistry and an overview of the new technology, instructional materials, and methods used for teaching chemistry at the high school level. Appropriate for high school teachers seeking certificate renewal or supplemental endorsement. Prerequisite: CHEM 106. (May not be counted toward a degree in the sciences. May be repeated once for credit.) (3, 3).

548. WORKSHOP FOR MIDDLE SCHOOL SCIENCE TEACHERS. Selection and application of instructional materials and methods for secondary school chemistry. (May not be counted toward an advanced degree in any of the sciences.) (1-2).

553. MATHEMATICAL METHODS IN CHEMISTRY. Application of mathematical techniques to chemical problems. Vectors; matrix and determinants; differential and integral skills for reaction kinetics and molecular theory; Fourier and Laplace transformations applied to spectroscopy and transport processes; some numerical techniques (Newton-Rafson and Runge-Katta methods). Prerequisite: consent of instructor. (3).

550. SAFETY IN THE CHEMICAL LABORATORY. Assigned readings and demonstrations on the use and handling of hazardous chemicals and chemical apparatus. (3). (Z grade).

559, 560. LABORATORY PRACTICUM I, II. Guided experimental work for development of research laboratory skills. Open only to B.S. seniors and first-year graduate students. (3, 3).

563. APPLIED SPECTROSCOPY. Application of theoretical principles to the interpretation of the various types of spectroscopy. Prerequisite: CHEM 469. (2 lecture, 3 lab hours). (3).

571. PHYSICAL BIOCHEMISTRY. Macromolecules: structure and function; thermodynamics and kinetics of conformational transitions and macromolecule-ligand interactions. Prerequisite: CHEM 471 or 575 or consent of instructor. (3).

580, 581. MOLECULAR BIOCHEMISTRY I, II. Examination of the organization and functional mechanisms of gene expression at the molecular level. Prerequisite: CHEM 473 or 572. (3, 3).

CIVIL ENGINEERING—C E

Professor K.P. George, acting chair • 203 Carrier Hall • Professor Prasad • Associate Professor Uddin • Assistant Professors Barkdoll and Mullen

207. SURVEYING. Traversing and computations, area calculations, topographic surveys, leveling, boundary surveys, circular and parabolic curves, volumes, photogrammetry, electronic distance measurement, computer applications. Corequisite: CSCI 251. (1 lecture, 2 lab hours). (1).

307. CIVIL ENGINEERING LABORATORY I. Selected experiments in soils and materials. Tests of identification and characterization of soils. Strength tests on other materials commonly used in civil engineering practice. Corequisite: CE 431. (1).

311. STRUCTURES I. Structural analysis of beams, trusses, and frames; virtual work; statically determinate structures, equations of condition, influence lines, flexibility method for statically determinate structures. Computer applications. Prerequisite: ENGR 312. (Same as ME 421). (3).

315. CIVIL ENGINEERING MATERIALS. Properties and behavior of construction materials including concrete, metals, wood, asphalt, composites, and plastics. Classification of materials. Basic properties of portland cement and bituminous asphalt. Mix design procedures; quality control. Prerequisite: ENGR 314. (3).

401. PROFESSIONALISM IN CIVIL ENGINEERING. Philosophy, methodology, influence, and ideals associated with the practice of civil engineering; ethics, history, communication, technical and professional societies, registration, creativity, service, and responsibility for the protection of occupational and public health. Prerequisite: senior standing. (1).

407. CIVIL ENGINEERING LABORATORY II. Student-designed experiments in structural, hydraulic, and foundation systems. Preliminary planning, problem analysis, setting hypotheses and criteria, equipment selection, detailed planning, data handling, analysis of results, presentation of reports. Prerequisite: CE 307. (1).

411. STRUCTURES II. Stiffness methods of structural analysis, moment distribution, slope-deflection, and direct stiffness. Introduction to limit analysis. Computer applications. Prerequisite: CE 311. (Same as ME 422). (3).

412. DESIGN OF CONCRETE STRUCTURES. Design methods and requirements. Rectangular sections in bending, shear strength and shear reinforcement, continuity in building frames of reinforced concrete, design of one-way slabs, T-sections in bending, members in compression and bending, design of two-way floor systems, ACI building code and commentary. Corequisite: CE 411. (3).

413. STRUCTURAL STEEL DESIGN. Design of tension members, structural fasteners, compression members, beams, and continuous beams; combined bending and axial loads, connections, composite steel-concrete structures, AISC specifications. Corequisite: CE 411. (3).

417. CONSTRUCTION PRACTICES. Problems of construction, transport, fabrication of metal, concrete and wood structures, roads, dams, bridges, earthwork, temporary support structures. (3).

431. SOIL MECHANICS I. Testing and identification of soils, saturated flow through earth structures, stress distribution in soils, consolidation, and settlement; shear strength of soils; earth pressure, slope stability, and shallow foundation problems. Prerequisite: ENGR 312. Corequisite: ENGR 322. (3).

433. FOUNDATION ENGINEERING. Soil investigation and bearing capacity. Factors to consider in foundation design, spread-footing design, combined footing design, mat foundations, retaining wall design, sheet-pile wall design, single pile foundation, and pile group foundation design. Caissons and cofferdams. Prerequisites: CE 411, 431. (3).

442. APPLIED FLUID MECHANICS. Hydrostatics, dimensional analysis and modeling, flow in pipes and open channels. Design of pipe systems, hydraulic structures, and open channel systems. Prerequisite: ENGR 322. (Same as ME 404). (3).

452. CIVIL ENGINEERING ANALYSIS. Development and analysis of conceptual models of contemporary civil engineering; applications in structures, geotechniques, hydraulics, hydrology, transportation, and environmental engineering. Prerequisites: CE 311, 431, ENGR 310. (3).

453. PROBABILISTIC ANALYSIS AND DESIGN. Monte Carlo simulation of random variables from common probability distributions. Design of structures under uncertainty, simulation of hydrologic time series for design under limited data, elementary decision analysis. Prerequisite: ENGR 310. (3).

455. CIVIL ENGINEERING DESIGN I. Elements of the design process: establishment of objectives, setting criteria, emphasizing safety, synthesis, developing alternatives, creativity, modeling, evaluation. Preliminary design of a significant civil engineering project. Prerequisite: senior standing. (1).

456. CIVIL ENGINEERING DESIGN II. Capstone design course. Group effort in the design of a project; consideration of economic factors, safety, reliability, aesthetics, ethics, and social impact. The taking of the national Fundamentals of Engineering (FE) examination is a requirement of this course. Prerequisite: CE 455 or consent of instructor. (3).

471. ENVIRONMENTAL ENGINEERING I. Water requirements and waste volumes. Design of water distribution systems, waste-water systems, and systems for treating water and wastes. Physical-chemical-biological treatment processes. Prerequisite: ENGR 322. (3).

481. TRANSPORTATION ENGINEERING I. Major transportation modes and their characteristics, traffic flow theory, probabilistic methods, queues and elements of design of intersections, simulation, computer applications. Corequisite: ENGR 310. (3).

497. CIVIL ENGINEERING PROJECTS. Special problems in civil engineering research and design. Prerequisite: senior standing. (3).

511. STRUCTURES III. Advanced methods of structural analysis; finite-element modeling. Instability of framed structures. Dynamics of structures. Computer applications. Laboratory demonstrations of the dynamic response of structures, employing computer graphics. Prerequisite: CE 411. (3).

514. DESIGN OF PRE-STRESSED CONCRETE STRUCTURES. Pre- and post-tensioning technologies; material properties; response to and design for axial load, flexure, shear, and torsion; application to buildings and bridges. Corequisite: CE 412. (3).

521. SOLID MECHANICS. Stress, strain, theory of elasticity; applications in two dimensions; strength theories; plasticity; viscoelasticity; thermoelasticity. Prerequisites: ENGR 310, 312. (3).

531. SOIL MECHANICS II. Soil variability, strength, and deformation; flow of water through soil; settlement calculation; stability problems including earth pressure; retaining structures; slope stability; bearing capacity of shallow and deep foundations. Computer applications. Prerequisite: CE 431. (3).

541. FLOW IN OPEN CHANNELS. Uniform and nonuniform flow; gradually varying flow, rapidly varying flow controls; subcritical and supercritical transitions; unsteady flow; level-pool routing; flood waves. Prerequisite: CE 442. (3).

542. FLOW IN POROUS MEDIA. Steady, homogeneous flow; prediction of transport properties; wells, seepage, drainage, re-charge; nonhomogeneous flow. Prerequisite: CE 442. (3).

543. SEDIMENT TRANSPORT. Fall velocity, particle size analysis, incipient motion, bed form mechanics, suspended loads; stream flows, natural river processes; transport of liquid-solid mixtures in pipelines. Prerequisite: CE 442. (3).

561. CIVIL ENGINEERING SYSTEMS. Engineering applications of linear programming, dynamic programming, PERT-CPM, game theory; stochastic systems. Prerequisite: MATH 264. (3).

570. INFRASTRUCTURE MANAGEMENT. Methodologies for development and implementation of performance monitoring and maintenance management systems for roadways, bridge structures, and airport pavements; nondestructive evaluation; utilization of new materials and technologies. Prerequisite: CE 456 or consent of instructor. (3).

581. TRANSPORTATION ENGINEERING II. Theory of traffic flow, car-following, intersection analysis; probabilistic methods. Prerequisite: CE 481. (3).

585. HIGHWAY PAVEMENTS. Stress analysis of pavements, traffic estimation, material characterization, current design schemes, computer applications. Corequisite: CE 431. (3).

CLASSICS

Professor Ronald Vernon, acting chair • 307 McDonnell-Barksdale Honors College

Professor Moysey • Associate Professor Capps • Assistant Professor Ajootian

Classics—CLAS

201. SCIENTIFIC AND MEDICAL TERMINOLOGY FROM GREEK AND LATIN. Vocabularies of the sciences and medicine derived from words, roots, and forms of Greek and Latin; designed to ease the acquisition, understanding and use of these terms. No previous knowledge of Greek or Latin required. (3).

Greek–GR

101, 102. INTRODUCTION TO GREEK I, II. Principles of grammar, training in translation. (3, 3).

201, 202. INTERMEDIATE GREEK I, II. Continuation of Greek grammar; readings in selected prose, including the New Testament. (3, 3).

303. GREEK NEW TESTAMENT I. Readings in the Greek New Testament. (3).

304. GREEK NEW TESTAMENT II. Reading of portions of the Acts of the Apostles and the Pauline Epistles. (3).

305. HOMER. Readings in the Iliad or Odyssey. (3).

306. LYRIC AND EARLY PROSE. Selections from the lyric poets and pre-Socratic philosophers. (3).

307. GREEK HISTORIANS. Selected readings in Greek of major historians such as Herodotus, Thucydides, and Xenophon. Prerequisites: GR 101, 102, 201, 202. (3).

308. GREEK TRAGEDY. Selected readings from the works of Aeschylus, Sophocles, and Euripides. Prerequisites: GR 101, 102, 201, 202. (3).

309. GREEK COMEDY. Selected readings from the works of Aristophanes. Prerequisites: GR 101, 102, 201, 202. (3).

310. GREEK RHETORIC. Selected readings from the works of Demosthenes, Lysias, Aeschines, or other Attic orators. Prerequisites: GR 101, 102, 201, 202. (3).

311. PLATO. Selected readings in the works of Plato in Greek. Prerequisites: GR 101, 102, 201, 202. (3).

407, 408. ATTIC DRAMA I, II. Tragedy and Aristophanes. (3, 3).

503. NEW TESTAMENT. Extensive passages of selected books of the New Testament; consideration of recent trends in New Testament scholarship. (3).

507. SPECIAL READING. Extensive reading of authors not included in specific courses above, arranged according to needs of individual student. (May be repeated for additional reading and credit). (1-3).

Latin–LAT

101, 102. INTRODUCTION TO LATIN I, II. Essentials of grammar, training in translation. (3, 3).

201, 202. INTERMEDIATE LATIN I, II. Continuation of grammar and selections from representative authors. (3, 3).

301. ROMAN COMEDY. Selected readings from the plays of Plautus or Terence. Prerequisites: LAT 101, 102, 201, 202. (3).

302. ROMAN SATIRE. Selected readings from the satires of Horace, Juvenal, Persius, or Martial. Prerequisites: LAT 101, 102, 201, 202. (3).

303. LUCRETIUS. Selected readings in the philosopher Lucretius' *De Rerum Natura* (On the Nature of the Universe). Prerequisites: LAT 101, 102, 201, 202. (3).

304. CICERO AND CAESAR. Selected readings in the works of Julius Caesar and Marcus Tullius Cicero. Prerequisites: LAT 101, 102, 201, 202. (3).

305. ROMAN PROSE AND POETRY I. Selected readings. (3).

306. ROMAN PROSE AND POETRY II. Selected readings. (3).

401. ROMAN HISTORIANS. Selected readings in major Roman historians such as Livy, Sallust, and Tacitus. (3).

402. VERGIL. Selections. (3).

507. SPECIAL READING. Extensive reading of authors not included in specific courses above, arranged according to needs of individual students. (May be repeated for additional reading and credit). (1-3).

Classical Civilization—CLC

101. INTRODUCTION TO GREEK CIVILIZATION. An introductory survey course in the art, architecture, history, government, literature, and thought of ancient Greece. (3).

102. INTRODUCTION TO ROMAN CIVILIZATION. An introductory survey course in the art, architecture, history, government, literature, and thought of ancient Rome. (3).

103. WOMEN IN ANTIQUITY. An introduction to the history and culture of ancient Greece and Rome through a consideration of the role and status of women in the classical world. Lectures with slides will be supplemented by readings of ancient texts in translation, in addition to textbook assignments. (Same as W ST 103). (3)

104. SPORTS IN THE ANCIENT WORLD. An introduction to the history and culture of ancient Greece and Rome through the consideration of sports in the classical world. Lectures with slides will be supplemented by readings of ancient texts in translation and textbook assignments. (Same as ES 104). (3).

105. FROM MYTH TO FILM. Selected readings in ancient Greek and Roman literature in translation, their survival and legacy in film. (3).

306. THE MASK OF DIONYSUS. Readings in ancient Greek tragedy and comedy in translation, the theatrical, social, and literary contexts. Supplemented by critical writings on theatre, ancient and modern. (Same as ENGL 306). (3).

310. SOCRATES AND SOPHISTRY. The intellectual ferment surrounding the development of philosophy in fifth-century Athens; its origins and consequences in literature and politics. Readings focus on Socrates: drama, early philosophical texts, the Sophists and Plato. (Same as PHIL 310). (3).

318. GREEK VASE PAINTING. Designed for undergraduates with an interest in the classical world, the course will cover prehistoric through Hellenistic Greek vase painting, utilizing the Robinson Collection at the University Museums. (Same as ARHI 318). (3).

319. GREEK SCULPTURE. Designed for undergraduates with an interest in the ancient world, the course will cover archaic through Hellenistic Greek sculpture. (Same as ARHI 319). (3).

320. GREEK ARCHITECTURE. An introduction to the principles of ancient architecture through a study of monuments and sites in Greece and Asia Minor. (Same as ARHI 320). (3).

331. SCIENCE AND TECHNOLOGY IN THE ANCIENT WORLD. Examples of the change from mythic to rational thought and of the use of planning and technology in Greece, Rome, and other ancient cultures. (3).

333. POETRY AND POLITICS AT ROME. The relationship between politics and literature in ancient Rome, focused on works of central importance in the history of Latin literature. Readings to include drama, lyric, elegy, and satire as well as Vergil's Aeneid in English. (Same as ENGL 333). (3).

511. INTRODUCTION TO CLASSICAL SCHOLARSHIP. An introduction to the methodology used in classical scholarship. Information about research tools, the history of classical scholarship, textual transmission, paleography, papyrology, epigraphy, numismatics, linguistics, and art and archaeology. (3).

Art and Archaeology

283. HISTORY OF ART: ANCIENT THROUGH MEDIEVAL. A survey of the great originative styles and developments in painting, sculpture, and architecture of the Mediterranean world from Paleolithic period through Gothic Europe. (Same as ARHI 283). (3).

321. GREEK ART AND ARCHAEOLOGY. Development of painting, sculpture, and architecture in the Greek world from the late Bronze Age to Hellenistic times. (Same as ARHI 321). (3).

322. ROMAN ART AND ARCHAEOLOGY. Roman architecture, sculpture, and painting. (Same as ARHI 322). (3).

323. BRONZE AGE GREEK AND AEGEAN ART AND ARCHITECTURE. Offered every third year in sequence with 324 and 325. (Same as ARHI 323). (3).

324. EGYPTIAN ART AND ARCHITECTURE. Offered every third year in sequence with CLC 323 and 325. (Same as ARHI 324). (3).

325. ETRUSCAN ART AND ARCHITECTURE. Offered every third year in sequence with CLC 323 and 324. (Same as ARHI 325). (3).

373. CULTURES OF THE BRONZE AGE. (3).

523. ANCIENT ART. Specific topics within the field of ancient art. Content varies. (May be repeated for credit). (Same as ARHI 581). (3).

History

311. GREEK HISTORY. The history of the Greek world from the earliest times to 146 B.C.; influence of Greek institutions on modern civilization. (Same as HIS 350). (3).

313. THE ROMAN REPUBLIC. A survey course in the history of the Roman Republic from the founding of the city in 753 B.C. to the end of the Second Triumvirate in 31 B.C. (Same as HIS 352). (3).

314. THE ROMAN EMPIRE. A survey course in the history of the Roman Empire from the reign of Augustus beginning in 31 B.C. through the fall of the Western Roman Empire in 476 A.D. (Same as HIS 353). (3).

340. THE GOLDEN AGE OF ATHENS. A detailed examination of the history and culture of Athens in the fifth century B.C. centering on the life of Pericles. The course will begin with the birth of democracy under Cleisthenes and end with the death of Socrates. (Same as HIS 348). (3).

341. ALEXANDER THE GREAT. An examination of the rise of Macedonia under Philip, the accession of Alexander and Alexander's conquest of the Persian Empire. Topics discussed include Macedonia's domination of Greece, Greek opposition, the destruction of Olynthus and modern interpretations of Philip and Alexander. (Same as HIS 349). (3).

501. TOPICS IN GREEK HISTORY. (May be repeated once for credit). (3).

502. TOPICS IN ROMAN HISTORY. (May be repeated once for credit). (3).

Literature and Thought

305. GREEK AND ROMAN MYTHOLOGY. The myths of the Greeks and Romans; their influence on Western literature and art. (Same as ENGL 305). (3).

307. GREEK LITERATURE IN ENGLISH TRANSLATION. Reading in English translation of selected masterpieces of Greek literature; origin and development of epic and lyric poetry, the drama, history, and philosophy. (Same as ENGL 307). (3).

308. SURVEY OF ROMAN LITERATURE. Reading in English translation of important works in the literature of Rome; Roman contributions to the development of European and English literature. (3).

401. GREEK DRAMA IN ENGLISH TRANSLATION. The works of Aeschylus, Sophocles, Euripides, Aristophanes, and Menander in English translation. (3).

403. GREEK TRAGEDY IN ENGLISH TRANSLATION. Analysis of one tragedy each by Aeschylus and Sophocles and two by Euripides. (3).

CLINICAL PHARMACY PRACTICE—CLPH

Professor H. Joseph Byrd, chair

Professors T. Brown, Fischer, and Parks • Associate Professors Cleary, Crabtree, Theilman and Vinson • Assistant Professors King, Kujdych, Pittman, D. Rogers, Sacks, and Ziska • Clinical Assistant Professors Ayers, Bingham, Boutwell, B. Brown, Burkes, Cushing, Dickey, Dumas, Evans, Haines, Harrell, Hogan, Hood, Huddleston, Keahey, McCrory, Mack, Malinowski, Noble, Ogletree, Purvis, Ramsey, J. Robinson, R. Robinson, Rochester, K. Rogers, Russell, Sylvestri, Todaro, Wales, and Warren • Clinical Instructor Koch

NOTE: A grade of at least C is required on all prerequisite courses.

350. PHARMACY ORIENTATION. An introduction to the School of Pharmacy and to the resources available for use by the student. An overview of school and faculty expectations of the student. Prerequisite: admission to the professional degree program. (1).

450. PHARMACY PRACTICE I. To provide the student with fundamentals of practice research, diagnostic laboratory tests, nursing home, and hospital pharmacy practice. (2).

451. PHARMACY PRACTICE II. To provide the student with essential skills for ambulatory pharmacy practice, pharmaceutical care, and patient self-care. (2).

452. PHARMACY PRACTICE III. To provide the student with a systematic, problem-solving process that teaches students the skills needed to provide direct, responsible, outcome-focused care to improve a patient's quality of life. (1).

520. CASE MANAGEMENT I. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 530, 576, 577, 578, 579. (1).

521. CASE MANAGEMENT II. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 520, 530, 576, 577, 578, 579. (1).

522. CASE MANAGEMENT III. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 521, 530, 576, 577, 578, 579. (1).

523. CASE MANAGEMENT IV. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 522, 530, 576, 577, 578, 579. (1).

524. CASE MANAGEMENT V. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 523, 530, 576, 577, 578, 579. (1).

525. CASE MANAGEMENT VI. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 524, 531, 576, 577, 578, 579. (1).

526. CASE MANAGEMENT VII. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 525, 531, 576, 577, 578, 579. (1).

527. CASE MANAGEMENT VIII. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 526, 531, 576, 577, 578, 579. (1).

528. CASE MANAGEMENT IX. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 527, 531, 576, 577, 578, 579. (1).

529. CASE MANAGEMENT X. Consists of 10 cases from the case management course sequence. The cases will be defended at six remote sites located in Memphis, Tupelo, Oxford, Jackson, Hattiesburg, and Biloxi. Prerequisites: CLPH 528, 531, 576, 577, 578, 579. (1).

530. CLINICAL SKILLS EVALUATION I. A course involving a two-week period of evaluation performed by a clinical teacher-practitioner at one of six remote practice sites maintained and funded by The University of Mississippi School of Pharmacy. Prerequisites: CLPH 576, 577, 578 and 579.

531. CLINICAL SKILLS EVALUATION II. A course involving a two-week period of evaluation performed by a clinical teacher-practitioner at one of six remote practice sites maintained and funded by The University of Mississippi School of Pharmacy. Prerequisites: CLPH 520-524 and 530.

532. CLINICAL SKILLS EVALUATION III. A course involving a two-week period of evaluation performed by a clinical teacher-practitioner at one of six remote practice sites maintained and funded by The University of Mississippi School of Pharmacy. Prerequisites: CLPH 525-529 and 531.

541, 542. PROBLEMS IN CLINICAL PHARMACY. Individual investigation of problems of current clinical interest in pharmacy. (1-3, 1-3).

551. INFORMATION SKILLS IN PHARMACY PRACTICE. Introduction to use of computerized drug information databases, biostatistics, drug literature evaluation, and clinical research design. Prerequisites: B.S. in pharmacy or B.S. in pharmaceutical sciences (practice track). (1).

553. CLINICAL EXTERNSHIP (community). Six-week professional experience program offered at approved community pharmacies. Prerequisites: All nonexperiential, required courses comprising the professional pharmacy curriculum. (Prerequisite: CLPH 579). (6). (Z grade).

554. CLINICAL EXTERNSHIP (institutional). Six-week professional experience program offered at approved hospital pharmacies. Prerequisites: All nonexperiential, required courses comprising the professional pharmacy curriculum. (Prerequisite: CLPH 579). (6) (Z grade).

566. SEMINAR SKILLS DEVELOPMENT FOR HEALTH PROFESSIONALS. Course on developing the basic skills needed for effective presentation of pharmacy-oriented material. Prerequisite: B.S. in pharmacy or B.S. in pharmaceutical sciences (practice track). (1) (Z grade).

567. SEMINAR SKILLS DEVELOPMENT FOR HEALTH PROFESSIONALS II. Continuation of CLPH 566. Course on developing the basic skills needed for the effective presentation of pharmacy-oriented material. Prerequisite: CLPH 551, 566, 570, 576, 577. (1). (Z grade).

568. PHARMACY BIOMEDICAL ETHICS. Seminar course is designed to explore topics to include clinical ethics, women's health issues, alternative/complimentary medicine, and practice management. The students will examine a number of patient-sensitive issues and evaluate literature in support of their own and opposing beliefs. Prerequisite: B.S. in pharmacy or B.S. in pharmaceutical sciences (practice track). (2). (Z grade).

570. PHARMACY GRAND ROUNDS I. Lecture series covering the most current issues facing the practice and profession of pharmacy. Lectures will be provided by local and national pharmacy experts. Prerequisite: B.S. in pharmacy or B.S. in pharmaceutical sciences (practice track). (1). (Z grade).

572. PHARMACY GRAND ROUNDS II. Continuation of CLPH 570. Lecture series covering the most current issues facing the practice and profession of pharmacy. Lectures will be provided by local and national pharmacy experts. Prerequisite: CLPH 551, 566, 570, 576, 577. (1).

575. DRUG INFORMATION, LITERATURE EVALUATION, AND RESEARCH DESIGN. A didactic and hands-on course that introduces the student to methods for retrieval, evaluation, interpretation, and communication of information about medications and their use. (3).

576. PHARMACEUTICAL CARE I. A course designed to integrate clinical and scientific discipline using patient cases as the basis for group discussions. Emphasis is placed on development of independent learning and communicational skills. Prerequisite: B.S. in pharmacy or B.S. in pharmaceutical sciences (practice track). (8).

577. PHARMACEUTICAL CARE II. Continuation of Pharmaceutical Care I. A course designed to integrate clinical and scientific discipline using patient cases as the basis for group discussions. Emphasis is placed on development of independent learning and communicational skills. Prerequisite: B.S. in pharmacy or B.S. in pharmaceutical sciences (practice track). (8).

578. PHARMACEUTICAL CARE III. Continuation of Pharmaceutical Care II. A course designed to integrate clinical and scientific discipline using patient cases as the basis for group discussions. Emphasis is placed on development of independent learning and communicational skills. Prerequisites: CLPH 576, 577. (8).

579. PHARMACEUTICAL CARE IV. Continuation of Pharmaceutical Care III. A course designed to integrate clinical and scientific discipline using patient cases as the basis for group discussions. Emphasis is placed on development of independent learning and communicational skills. Prerequisites: CLPH 576, 577. (8).

586. ADULT MEDICINE CLERKSHIP. A required course designed to provide in-depth experience and clinical competence in dealing with acutely ill patients in a hospital environment with emphasis on rational therapeutics. Prerequisite: CLPH 579. (6).

587. AMBULATORY CARE CLERKSHIP. A required clerkship in which students gain clinical experience and competence with ambulatory patients by participating as a drug consultant and primary care provider for patients in an outpatient environment. Prerequisite: CLPH 579. (6).

591. ELECTIVE CLERKSHIP. Six-week blocks of practical experience in specialty practice areas under the coordination of a faculty preceptor. Course may be taken three times for elective credit in specialty area of choice. Prerequisite: CLPH 579. (6).

AMBC 591. AMBULATORY CARE CLERKSHIP. An elective experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in ambulatory care patients. Prerequisites: CLPH 579 and CLPH 587. (6).

CARD 591. CARDIOLOGY CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in cardiology patients. Prerequisite: CLPH 579. (6).

COMM 591. COMMUNITY PHARMACY CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in patients in a community-practice setting. Prerequisites: CLPH 553, 579. (6).

CRIT 591. CRITICAL CARE CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in critical care patients. Prerequisite: CLPH 579. (6).

DINF 591. DRUG INFORMATION CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the utilization of drug information resources, both electronic and nonelectronic, in providing optimal patient care. Prerequisite: CLPH 579. (6).

GERA 591. GERIATRICS CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in geriatric patients. Prerequisite: CLPH 579. (6).

INF D 591. INFECTIOUS DISEASES CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in infectious disease patients. Prerequisite: CLPH 579. (6).

MEDC 591. MEDICINE CLERKSHIP. An elective experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in medicine patients. Prerequisites: CLPH 579 and CLPH 586. (6).

NEUR 591. NEUROLOGY CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in neurology patients. Prerequisite: CLPH 579. (6).

NUTR 591. NUTRITION CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of nutritional support in patient care. Prerequisite: CLPH 579. (6).

ONCL 591. ONCOLOGY CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in oncology patients. Prerequisite: CLPH 579. (6).

PEDS 591. PEDIATRIC CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in pediatric patients. Prerequisite: CLPH 579. (6).

PKIN 591. PHARMACOKINETICS CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the applied use of pharmacokinetic principles in providing optimal patient care. Prerequisite: CLPH 579. (6).

PSYC 591. PSYCHIATRY CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in psychiatric patients. Prerequisite: CLPH 579. (6).

SURG 591. SURGERY CLERKSHIP. An experiential course consisting of a full-time six-week exposure emphasizing the rational use of therapeutic agents and disease management in surgery patients. Prerequisite: CLPH 579. (6).

599. CLINICAL TRIAL SKILLS. Course instructs how to assess and perform multiple types of clinical trials, follow up statistical analysis and publication of results. Prerequisite: Medicine clerkship or equivalent. (3).

COMMUNICATIVE DISORDERS—CD

Professor Thomas A. Crowe, chair • 303 George Hall

Professor Kellum • Associate Professors Lucks Mendel and Walton • Assistant Professors Roberts and Wiles-Higdon • Acting Assistant Professor Ivy • Instructors Acevedo, L. DiLollo, and Joyce

201. INTRODUCTION TO COMMUNICATIVE DISORDERS. Disorders of speech, language, and audition; emphasis on recognition, causation, and principles of management. (3).

205. ANATOMY AND PHYSIOLOGY OF THE SPEECH AND HEARING MECHANISMS. Anatomical and physiological bases of speech, language, and auditory processes. (3 lecture). (Same as LING 205). (3).

211. INTRODUCTION TO PHONOLOGY. The study of speech sounds—their theoretical units of meaning (phonemics), production (articulatory phonetics), perception (perceptual phonetics), and physical characteristics (acoustic phonetics). Emphasis on the International Phonetic Alphabet and transcription of spoken language. (Same as LING 211). (3).

216. NORMAL DEVELOPMENT OF COMMUNICATION. Paralinguistic and psycholinguistic aspects of human development; study of developmental assessment. (Same as LING 216). (3).

301. DISORDERS OF ARTICULATION. Causes, correlates, symptoms, assessment, and clinical management; survey of related disorders. Prerequisites: CD 205, 211. (3).

316. LANGUAGE AND LEARNING DISORDERS. Causes, correlates, symptoms, assessments, and clinical/educational management; emphasis on description and prescription. Prerequisite: CD 216. (3).

351. BASIC AUDIOLOGY. Administration and interpretation of basic hearing measurement. Prerequisite: CD 205. (3).

356. PRINCIPLES OF AUDITORY (RE)HABILITATION. Management of the deaf and hard-of-hearing; emphasis on speech reading and auditory training. Prerequisites: CD 216 and 351. (3).

359. MANUAL COMMUNICATION. Study and practice in contemporary manual communication systems. (Same as LING 359). (3).

401. DIAGNOSTIC PROCEDURES. Basic differential diagnosis of communicative disorders; emphasis on instrumentation and interpretation. Prerequisites: CD 301, 316, 351, 356. (3).

405. FLUENCY AND VOICE DISORDERS. Causes, correlates, symptoms, assessment, and clinical management; survey of related disorders. Prerequisite: CD 205. (3).

421. PROGRAMS AND METHODS IN LANGUAGE DISORDERS. Sequential programs for the remediation of disordered spoken and written language. Prerequisite: CD 316. (3).

430. PRACTICES IN AUDIOLOGY. A general overview of practices in audiology including professional issues, pediatric and industrial audiology, disorders of the ear, and clinical techniques. Prerequisite: CD 351. (3).

452. FUNDAMENTALS OF SPEECH AND HEARING SCIENCE. To provide the undergraduate student with an understanding of the basic acoustic, physical, and psychological processes underlying speech and hearing. Prerequisite: CD 205. (3).

495. INTRODUCTION TO CLINICAL SCIENCE. The clinical process, applied behavioral analysis, and clinical research methods; emphasis on clinical writing. Prerequisites: CD 351, 356, 301, 316, and consent of instructor. (3).

496. PRACTICUM. Applied clinical procedures and prescriptive programming for the communicatively handicapped. Prerequisites: CD 495, consent of instructor, and professional liability insurance. (3). (Z grade).

499. SENIOR SEMINAR. Selected problems in identification, diagnosis, and management of communicative disorders. Prerequisite: senior standing. (1-3).

501. SURVEY OF COMMUNICATIVE DISORDERS. Disorders of speech, language, and audition; emphasis on causation, correlates, and management. (3).

505. NEUROPHYSIOLOGY OF COMMUNICATION. Neuroanatomical and neurophysiological bases of sensory, central, and motor aspects of language. Prerequisite: CD 205 or consent of instructor. (Same as LING 505). (3).

506. ANATOMY, PHYSIOLOGY, AND PATHOLOGY OF THE AUDITORY SYSTEM. Normal and pathologic structure and function of the auditory system with emphasis on diagnosis, audiologic manifestation, and treatment of auditory disorders. (3).

507. FUNDAMENTALS OF HEARING SCIENCE. Principles of decibel notation, properties of sound, acoustics, and psychophysical measurements. (3).

513. SPEECH SCIENCE. Physiology and acoustics of the speech mechanism: ventilation, phonation, resonance, articulation, and audition. Emphasis on instrumentation used in assessment and remediation. Prerequisite: CD 205 or consent of instructor. (Same as LING 513). (3).

- 520. ADVANCED DIAGNOSTIC TECHNIQUES.** Current diagnostic theory and measurement methods for principal pathologies of speech, language, and hearing. Prerequisite: consent of instructor. (3).
- 521. DISORDERS OF FLUENCY.** Contemporary theories of etiology and principles of management for disorders of stuttering; study of related disorders. Prerequisite: consent of instructor. (3).
- 522. DISORDERS OF VOICE.** Organic and nonorganic disorders of voice; emphasis on functional disorders. Prerequisite: CD 205 or consent of instructor. (3).
- 523. PHONOLOGICAL DISORDERS.** Misarticulation; emphasis on contemporary methods of management. Prerequisite: 205 and 211 or consent of instructor. (3).
- 524. CLEFT PALATE.** Facial morphology, etiology, surgical and prosthetic correction, and orthodontia, emphasis on the rehabilitation team. Prerequisite: CD 205 or consent of instructor. (3).
- 526. NEUROGENIC DISORDERS OF LANGUAGE.** Study of the fundamentals of neurolinguistics; clinical problems of aphasia and traumatic brain injury; other clinical applications and neurolinguistics across the life span. Prerequisite: CD 505 or consent of instructor. (3).
- 531. SPECIAL PROBLEMS IN COMMUNICATIVE DISORDERS.** Specialized topics in speech-language pathology, speech science, deaf education, and audiology. (May be repeated for credit). (1-3).
- 532. WORKSHOP IN COMMUNICATIVE DISORDERS.** Intensive short-term study of selected issues and clinical procedures in communicative disorders. (May be repeated for credit). (1-3).
- 541. LANGUAGE DEVELOPMENT AND DISORDERS IN THE PRESCHOOL POPULATION.** Theories and sequential stages of language development in the birth-to-age-6 population. Attention given to the assessment and remediation of language disorders. Prerequisite: consent of instructor. (3).
- 551. CLINICAL AUDIOLOGY.** Theory, rationale and techniques of basic hearing evaluation. Calibration standards and procedures for audiological equipment. Prerequisite: CD 351 or equivalent. (3).
- 557. EDUCATIONAL AUDIOLOGY.** Diagnostic and habilitative procedures for school-age children in the school setting. (3).
- 560. MANUAL COMMUNICATION I.** A beginning course in sign language designed to familiarize the student with the various sign language systems and to provide the student with a basic core language. (3).
- 562. MANUAL COMMUNICATION II.** An intermediate course in manual communication designed to increase expressive and receptive sign language skills, to provide understanding of the linguistic nature of American Sign Language (AMESLAN) and to promote the acquisition of AMESLAN as a second language. Prerequisite: CD 560 or equivalent with consent of instructor. (3).
- 575. AUDIOLOGICAL INSTRUMENTATION AND MEASUREMENT.** Familiarization with basic technical characteristics and principles of instruments used in audiology. Prerequisite: CD 507 or consent of instructor. (3).
- 591. CLINICAL PRACTICUM IN AUDIOLOGY.** Practical experience in conventional audiologic techniques. (May be repeated for credit). (1-3). (Z grade).
- 592. CLINICAL SEMINAR IN SPEECH-LANGUAGE PATHOLOGY.** Issues and techniques in the evaluation and remediation of speech-language pathologies. Prerequisite: consent of instructor. (May be repeated for credit). (2). (Z grade).
- 593. CLINICAL SEMINAR IN AUDIOLOGY.** Issues and techniques in the evaluation and remediation of auditory problems. Prerequisite: consent of instructor. (May be repeated for credit). (2). (Z grade).
- 595. GRADUATE PRACTICUM.** Advanced application of diagnostic and clinical management procedures. Prerequisite: consent of instructor. (May be repeated for credit). (1-3). (Z grade).

COMPUTER AND INFORMATION SCIENCE—CSCI

Professor Robert Cook, chair • 302 Weir Hall

Associate Professors Cunningham, Lawhead, Maginnis, and Schoenly • Assistant Professors Stevens and Wilkins • Instructor Zickos

103. SURVEY OF COMPUTING. Introduction to computers and computing for students with no prior computer experience. (Not to be used to satisfy computer science major requirements.) (3).

111. COMPUTER SCIENCE I. Introduction to computer science with emphasis on problem solving and algorithm development. Using a high-level, block-structured programming language, students design, implement, debug, test, and document computer programs for various applications. Corequisite: MATH 123 or 125. (3).

112. COMPUTER SCIENCE II. Continuation of CSCI 111 with emphasis on computer programming as a systematic discipline. The topics include data structures, abstract data types, algorithm design and analysis, and programming methods and standards. Prerequisite: CSCI 111. Corequisite: MATH 261 or 267. (3).

191. OFFICE APPLICATIONS. Introduction to the use of computers with emphasis on the Windows platform and the Microsoft Office suite of application tools. (Not to be used to satisfy computer science major requirements.) (3).

192. COMPUTING APPLICATIONS. Introduction to the use of computers with emphasis on the Windows platform and the WordPerfect suite of application tools. (Not to be used to satisfy computer science major requirements.) (3).

193. PERSONAL COMPUTER SYSTEMS. Study of the hardware and software components of personal computer systems for experienced computer users. (Not to be used to satisfy computer science major requirements). Prerequisite: previous computer experience (e.g., CSCI 103, 191, or 192). (3).

203. COMPUTERS AND INFORMATION PROCESSING. Introduction to computer programming and information processing principles using the Visual Basic language. (Not to be used to satisfy computer science major requirements). Prerequisite: previous computer experience (e.g., CSCI 103, 191, or 192). (3).

211. COMPUTER SCIENCE III. Devices and techniques for conventional file processing, sequential, hashed, indexed organizations; language and operating system support facilities. Prerequisite: CSCI 112. (3).

223. COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE. Introduction to the architecture of computer systems. The topics include processor and external device structures and operation, machine operations and instructions, assembly language concepts, and assembly language programming. Prerequisite: CSCI 112. (3).

251. PROGRAMMING FOR ENGINEERING AND SCIENCES. Algorithm development and structured programming techniques; numerical and graphical applications related to engineering and scientific problem solving. Corequisite: MATH 261 or consent of instructor. (3).

259. PROGRAMMING IN C++. Study of programming in the language C++, covering character processing; use of pointers with strings, arrays and functions; data structures; bitwise operators. Prerequisite: previous programming experience (e.g., CSCI 111, 203, or 251). (3).

300. SOCIAL RESPONSIBILITY IN COMPUTER SCIENCE. Study of the nature of and need for social responsibility and ethical behavior in computing and the computer professions. Prerequisites: CSCI 211, 223. (1).

305. SOFTWARE FOR GLOBAL USE. Study of the principles and practice of software internationalization with emphasis on the design and customization of software to accommodate linguistic and cultural diversity. Prerequisite: CSCI 211 or consent of instructor. Corequisite: INST 101. (3).

311. MODELS OF COMPUTATION. Introduction to the theoretical foundations of computer science, including automata and formal languages. Prerequisites: CSCI 112, MATH 301. (3).

323. SYSTEMS PROGRAMMING. Study of a contemporary operating system and its set of tools from the perspective of software professionals and system administrators. The course analyzes the system components and their interactions, the tool environment, and system administration issues such as configuration, installation, networking, security, and performance tuning. Prerequisite: CSCI 223. (3).

345. INFORMATION STORAGE AND RETRIEVAL. Examination of systems for storage and retrieval of information in textual and other formats. The topics include query processing, matching and ranking algorithms, text analysis, user interfaces, and evaluation of retrieval effectiveness. Prerequisite: CSCI 211. (3).

353. INTRODUCTION TO NUMERICAL METHODS. Numerical solution of problems; problem analysis, algorithm design, coding, testing, interpretation of results; use of software packages on mainframe computers. Prerequisites: MATH 263 and 319 and proficiency in a higher-level language. (3).

361. INTRODUCTION TO COMPUTER NETWORKS. Analysis of loosely coupled computer communication protocols and network services. A generic network model is presented and compared to selected examples of computer networks including the Internet TCP/IP and Internet-based applications. Prerequisite: CSCI 223 or TC 201. (3).

387. SOFTWARE DESIGN AND DEVELOPMENT. Study of techniques for the construction of large, complex software systems, including project management, requirements analysis, specification, design, development, testing, documentation, deployment, and maintenance. Students develop software systems in a group structure that simulates an industrial setting. Prerequisites: CSCI 211, 223. (3).

390. SPECIAL TOPICS IN PROGRAMMING. Study of topics in programming according to the interests of the instructor and students. (May be repeated for credit when the topic varies.) Prerequisite: CSCI 211 and consent of instructor. (3).

391. COMPUTER GRAPHICS. Introduction to the fundamentals of computer graphics, including elementary figures, shading, geometric transformations, graphics program design, and interactive techniques. Prerequisites: CSCI 211, 223, MATH 262. (3).

405. COMPUTER SIMULATION. Introduction to computer-based simulation and its applications to engineering, the sciences, and management. Prerequisites: CSCI 211, MATH 262, and a statistics course. (3).

423. INTRODUCTION TO OPERATING SYSTEMS. Study of the basic concepts of operating systems, including user interfaces, process management, state saving, interprocess communication, input/output, device drivers, timing services, memory management, file management, and system abstractions. Prerequisites: CSCI 211, 223. (3).

433. ALGORITHM AND DATA STRUCTURE ANALYSIS. Study of the design and analysis of algorithms and data structures. The topics include analysis techniques, sorting, searching, advanced data structures, graphs, string matching, and NP-completeness. Prerequisites: CSCI 211, MATH 301. (3).

444. MULTIMEDIA DESIGN AND DEVELOPMENT. In-depth analysis of multimedia architecture and tools. Students implement an interactive multimedia project. Prerequisite: CSCI 211 or equivalent; or ART 302, 303. (3).

450. ORGANIZATION OF PROGRAMMING LANGUAGES. History and concepts of programming languages; run-time behavior; formal aspects; language definition; data types and structures; control; and data flow, compilation and interpretation. Prerequisite: senior standing in computer science.* (3).

475. INTRODUCTION TO DATABASE SYSTEMS. An introduction to database systems covering basic concepts, data models, normalization, concurrency, and storage structures. Prerequisite: CSCI 211, 223. (3).

487. SENIOR PROJECT. Each student conducts an in-depth study of a current problem in computer science or a related area. Upon completion, the student presents the results in both oral and written forms. Prerequisite: senior standing in computer science* with completion of at least 6 hours of computer science courses at the 300 level or above.

490. SPECIAL TOPICS. Study of topics in computer science according to interests of the instructor and students. (May be repeated for credit when the topic varies.) Prerequisite: consent of instructor. (3).

*The prerequisite designation senior in computer science means successful completion of all courses specifically required in the computer science curriculum that are numbered less than 400.

495. UNDERGRADUATE COMPUTER SCIENCE INTERNSHIP. Internship in approved settings to enhance the educational experience of the student through supervised training in a professional computer science environment. Completion of an internship is recommended for all students but this credit does not count toward completion of degree requirements. Prerequisites: approval by CIS Undergraduate Committee, GPA of at least 3.0, and junior standing. Z grade. (3).

NOTE: All courses numbered 515 and above have the prerequisite "senior standing in computer science or consent of instructor," as well as any specific courses indicated in the course description.

517. NATURAL LANGUAGE PROCESSING. Computer processing of natural language text at morphological, lexical, syntactic, and semantic levels; algorithms and procedures for sentence parsing and analysis; applications of natural language processing techniques. (3).

520. FORMAL THEORY OF COMPUTER LANGUAGES. A detailed study of mathematical models of regular and context-free languages, nondeterministic and deterministic models; closure properties, design algorithms; simplification of grammar. (3).

521. COMPUTER SYSTEMS ENGINEERING. Analysis of computer system components and manufacturing economics, and how they influence design goals, direct architectural development, create hardware/software issues and modify implementation concepts, as well as system and circuit packaging. (3).

523. OPERATING SYSTEMS. Design and construction of operating systems for shared program computers; various contemporary operating systems. Prerequisite: CSCI 423. (3).

524. DISTRIBUTED OPERATING SYSTEM DESIGN. Analysis of operating system design principles for multiple computers; a distributed operating system model is presented and compared to selected network and distributed operating system examples. Prerequisite: CSCI 423 or equivalent. (3).

525. COMPILER CONSTRUCTION. Introduction to techniques used in current compilers for computer languages; the syntactic specification of programming languages and an introduction to syntax-directed compiling. (3).

530. COMPUTER ARCHITECTURE AND DESIGN. Structured organization and hardware design of digital computers; register transfers, micro-operations, control units and timing, instruction set design, microprogramming; automated hardware design aids. (3).

531. ARTIFICIAL INTELLIGENCE. Use of the computer in human problem solving. Game theory, decision trees, Markov decision problems, selected topics. (3).

533. ANALYSIS OF ALGORITHMS. Introduction to the analysis of efficiency of computer algorithms and concepts of computational complexity; sorting, matrix multiplication, others. Prerequisite: CSCI 433 or consent of instructor. (3).

541. EXPERT SYSTEMS AND LOGIC PROGRAMMING. Expert Systems and Knowledge Engineering. Computer systems to emulate human expertise. Rule-based and other knowledge representation techniques. Knowledge engineering as a model for expert systems development; logic programming for expert systems implementation. Prerequisite: CSCI 531 or consent of instructor. (3).

550. PROGRAM SEMANTICS AND DERIVATION. A study of formal methods for the specification, derivation, and verification of computer programs. Predicate logic; notations for specification of programs; programming language semantics; calculational techniques for derivation of programs; case studies. (3).

551. COMPUTER SYSTEM PERFORMANCE ANALYSIS. Defining, parameterizing, and evaluating models of computer systems. The emphasis is on applying queuing network models and simulation techniques as tools to evaluate the performance of centralized and distributed computer systems. Prerequisite: MATH 475 or consent of instructor. (3).

555. FUNCTIONAL PROGRAMMING. The principles and techniques of programming with functions. Purely functional programming languages; recursion; higher-order functions; reduction models; strictness; type systems; list operations; infinite data structures; program synthesis and transformation. (3).

561. COMPUTER NETWORKS. Analysis of loosely coupled computer communication, communication protocols, and network services; an open systems interconnection model is presented and compared to selected examples of computer networks. Prerequisite: CSCI 423 or equivalent. (3).

562. SOFTWARE ENGINEERING I. Software engineering paradigms, requirement analysis and specification, design of reliable software; data flow, data structure, and object oriented design methodologies. Prerequisite: CSCI 387. (3).

575. DATABASE SYSTEMS II. Review of database systems with emphasis on data description and manipulation languages; data normalization; functional dependencies; database design; data integrity and security; distributed data processing; design and implementation of a comprehensive project. Prerequisite: CSCI 475 or consent of instructor. (3).

581. SPECIAL TOPICS IN COMPUTER SCIENCE. (May be repeated for credit). (1-3).

COOPERATIVE EDUCATION—C OP

Associate Professor Stacy V. Holmes • 120 CARRIER HALL

201, 202. CO-OP WORK EXPERIENCE. Work experience in business, industrial, governmental, professional, service, or other organizations to provide on-the-job training and professional preparation in the student's area of interest. Prerequisite: selection by co-op coordinator and employer. (1-6). (Z-grade).

301, 302. CO-OP WORK EXPERIENCE. Similar to the 200 series, but offering more difficult and responsible job assignments. Prerequisite: selection by the co-op coordinator and employer. (1-6). (Z-grade).

401, 402. CO-OP WORK EXPERIENCE. Similar to the 300 series, but demanding higher levels of initiative, creativity, responsibility, and leadership. Prerequisite: selection by co-op coordinator and employer. (1-6). (Z-grade).

501, 502, 503. CO-OP WORK EXPERIENCE. Similar to the 400 series, but with job assignments offering more challenge and responsibility for the advanced student. Prerequisite: selection by co-op coordinator and employer. (Not applicable toward a graduate degree). (3, 3, 3). (Z-grade).

COUNSELING *See the Department of Educational Administration, Counseling and Educational Psychology, and Higher Education.*

COURT REPORTING—CR

Associate Professor Janice K. Bounds, CRI, CPE, chair • 118 Law Center

Assistant Professor Williamson

103. TYPEWRITING FOR COURT REPORTERS. Emphasis on problem and production typewriting required by the professional reporter in judicial as well as nonjudicial settings; continued emphasis on basic skills and knowledge. Students must pass a minimum of two five-minute timed writings from unfamiliar material at a minimum of 60 gross words per minute with a maximum of five errors. (For students in court reporting only). (3).

105. MACHINE SHORTHAND THEORY. Basic Realtime stenotype theory, development of skill in phrasing, vocabulary, and abbreviations; reading of shorthand notes; general speed development; development of ability to write any word in the English language. Students must pass five minutes of dictation with a minimum of 95 percent accuracy in transcription. (6 class hours). (4).

106. ELEMENTARY MACHINE SHORTHAND I. Dictation practice on straight matter. Students must pass five minutes of dictation with a minimum of 95 percent accuracy in transcription. Prerequisite: C minimum in 105. (6 class hours). (4).

201. ELEMENTARY MACHINE SHORTHAND II. Introduction of literary, jury charge, and testimony dictation. Students must pass five minutes of dictation with a minimum of 95 percent accuracy in transcription of literary at 100 wpm and jury charge and testimony at 120 wpm. Prerequisite: C minimum in 106. (6 class hours). (4).

202. ELEMENTARY MACHINE SHORTHAND III. Dictation practice on literary, jury charge, and testimony dictation. Students must pass five minutes of dictation with a minimum of 95 percent accuracy in transcription of literary at 120 wpm and jury charge and testimony at 140 wpm. Prerequisite: CR 201. (6 class hours). (4).

301. INTERMEDIATE MACHINE SHORTHAND I. Dictation practice on literary, jury charge, and testimony. Students must pass five minutes of dictation with a minimum of 95 percent accuracy in transcription of literary at 140 wpm and jury charge and testimony at 160 wpm. Prerequisite: CR 202. (6 class hours). (4).

302. INTERMEDIATE MACHINE SHORTHAND II. Dictation practice on literary, jury charge, and testimony. Students must pass five minutes of dictation with a minimum of 95 percent accuracy in transcription of literary at 160 wpm and jury charge and testimony at 180 wpm. Prerequisite: CR 301. (6 class hours). (4).

401. ADVANCED MACHINE SHORTHAND I. Dictation practice on literary, jury charge, and testimony. Students must pass five minutes of dictation with a minimum of 95 percent accuracy in transcription of literary at 180 wpm and jury charge and testimony at 200 wpm. Prerequisite: CR 302. (6 class hours). (4).

402. ADVANCED MACHINE SHORTHAND II. Dictation of literary, jury charge, and testimony. Students must pass three five-minute tests with a minimum of 95 percent accuracy in transcription of literary at 180 wpm, jury charge at 200 wpm, and testimony at 225 wpm. Prerequisite: CR 401. (6 class hours). (4).

405. GRAMMAR, PUNCTUATION, AND VOCABULARY DEVELOPMENT FOR COURT REPORTERS. Mastery of grammar and punctuation principles and proofreading skills and introduction to medical, Latin, and legal terminology for court reporters. Prerequisite: CR 301 and/or consent of instructor. (3).

412. COURT ORIENTATION. Study of the court system, trial procedures, transcription preparation, reporter-related technology, professional ethics, and internship responsibilities. Prerequisite: CR 401 and/or consent of instructor. (3).

413. INTERNSHIP IN COURT REPORTING. 50 hours of participation in internship under the direction of a practicing reporter with a minimum of 40 hours of actual writing time. Internship site must be approved by faculty. Prerequisites: CR 401, 405, and 412. (6).

CRIMINAL JUSTICE ADMINISTRATION *See Political Science department.*

CROFT INSTITUTE FOR INTERNATIONAL STUDIES *See International Studies.*

CURRICULUM AND INSTRUCTION

Professor Fannye Love, chair • 121A Education Building

Professors Chambless, Love, Payne, and Sumrall • Associate Professors Arnold, Blackburn, Erdim, Hanshaw, Ingham, Leigh, Rock, and Tyler • Assistant Professors Chessin, Pepper, Rowland, Sullivan, Thomas, and Vinson • Visiting Assistant Professors Holmes, Moore, Thompson, and Wiggers • Instructors Blackwell, Gary, Watson, and Whitwell

Curriculum and Instruction—EDCI

201. AMERICAN SIGN LANGUAGE 1. Designed for students with no previous knowledge of American Sign Language; introduces the basics of ASL; receptive and expressive skills; fingerspelling and information about the community and culture of the deaf and hard-of-hearing. (3).

202. AMERICAN SIGN LANGUAGE II. An intermediate-level course, including common communicative events and interactions expressing abstract ideas. Emphasis is on the comprehension and production of increasingly complex linguistic structures using dialogues and conversational expressions without voice. Prerequisite: EDCI 201, American Sign Language I. (3)

300. CAREER EDUCATION. The process of teaching career education and economic awareness to students in elementary and secondary schools. (3).

303. DESIGN OF INSTRUCTION: EFFECTIVE TEACHING. Design of effective instruction through analysis of tasks, application of the principles of learning, selection of methods, and use of instructional decision-making skills based on student performance. (3).

351. FOUNDATIONS FOR PROFESSIONAL GROWTH. Exploration of selected components of the education profession; careers; purposes of education; developing an individual philosophy; ethical issues; professional literature; American education history; portfolio development; school organization; collegiality/cooperation; education and the legal system. (To be taken concurrently with 352.) (3).

352. HUMAN DEVELOPMENT AND DIVERSITY. Development, diversity, disabilities, and inclusive education; a holistic view of human development, including normative and dynamic perspectives with focus on practical application to K-12 classrooms. (To be taken concurrently with 351.) Pre- or corequisite: PSY 201. (3).

353. EFFECTIVE CLASSROOM PRACTICE. Reflection, research, and application of current and emerging trends in education; teacher evaluation; curriculum design; effective school research; evaluation and assessment; use of technology across the curriculum. (To be taken concurrently with 354.) (3).

354. INTRODUCTION TO INSTRUCTIONAL STRATEGIES. Introduction to teaching strategies and models such as direct instruction, discovery and inquiry, cooperative learning, and concept teaching in a developmental-constructivist context; attention to taxonomies for cognitive, affective, and psychomotor domains. (To be taken concurrently with 353.) (1).

403. EVALUATION AND COMMUNICATION IN THE ELEMENTARY SCHOOL. Overview of evaluative procedures in the elementary school. Practice in constructing tests. Emphasis on developing communication techniques for home and school relations. Survey of principles for elementary classroom management. (3).

503. MEASUREMENT AND EVALUATION FOR THE CLASSROOM TEACHER. Standardized achievement tests and evaluation procedures in schools; practice in constructing tests and evaluation instruments. (3).

526. THE MIDDLE YEARS SCHOOL. Characteristics, functions of middle years school; its relation to modern educational practice; role of administrators, teachers, students, curriculum, facilities unique to junior high and middle schools. (3).

542. TEACHING ENGLISH AS A FOREIGN LANGUAGE. Linguistics applied to the teaching of English as a foreign language; program organization and curriculum. (3).

557. COMPUTER CONCEPTS AND APPLICATIONS FOR EDUCATORS. Professional studies in educational computing and technology; computer/technology skills, concepts, and applications for teacher; use of technology to support content areas; integration of teaching methodologies. (3).

558. INTEGRATING THE INTERNET IN EDUCATION. Instructional strategies for integrating the use of the Internet as a teaching and learning tool in education. (3).

Early Childhood Education—EDEC

300. CURRICULUM AND THEORY FOR EARLY CHILDHOOD EDUCATION. Introduction to the theoretical background of early childhood education and to methods and materials used in teaching young children. (3).

301. EXPERIENCES IN EARLY CHILDHOOD EDUCATION. Observation and supervised practical experiences teaching young children. (3).

302. ORIENTATION TO EARLY CHILDHOOD EDUCATION. Introduces prospective teachers of young children to principles and practices in early childhood education; offers opportunities to observe and practice using relevant instructional, organizational, and methodological competencies in a multicultural early childhood setting. (6).

303. SCIENCE AND NUMBERS. Methods and experiences appropriate for nursery school through early elementary. (3).

500. INTRODUCTION TO EARLY CHILDHOOD EDUCATION. Principles, curriculum construction, methods, and materials in early childhood education. (Same as FCS 523). (3).

551. SCIENCE AND NUMBER CONCEPTS IN EARLY CHILDHOOD EDUCATION. Development of number and science concepts for nursery school through early elementary; emphasis on content, method, laboratory techniques. (Same as FCS 525). (3).

553. LANGUAGE CONCEPTS AND LITERATURE IN EARLY CHILDHOOD EDUCATION. Language development as communicative skill and expressive art through creative experiences from nursery school through early elementary; childhood literature as stimulus for language and conceptual growth. (3).

555. ART AND MUSIC IN EARLY CHILDHOOD EDUCATION. Development of creative expression through art and music in nursery and early elementary years; relationship between creative process and developmental stages. (Same as FCS 527). (3).

557. SEMINAR: SOCIAL LIVING IN EARLY CHILDHOOD EDUCATION. Sociological aspects of the family; meeting nutritional and medical needs; techniques of working with parents, community resources; development of social concepts. (3).

570. PROGRAM DEVELOPMENT AND ADMINISTRATION IN EARLY CHILDHOOD EDUCATION. Planning and administering a preschool program: setting goals, physical facilities, program development, scheduling, finances, staff selection and supervision, policy development, and parent involvement. (Same as EDLD 570). (3).

Education–EDUC

EFS 100. ENGLISH FOR FOREIGN STUDENTS. Speaking, comprehension, reading, and writing skills for foreign students. Class and laboratory sessions. Graduate and undergraduate sections. (Non-degree credit). (Z grade). (3).

333. SPECIAL TOPICS IN EDUCATION. A special topics course that has been designed to meet staff needs of public school districts in Mississippi. (1-6).

523. GROUP STUDY OF PROBLEMS IN SCHOOL SYSTEMS. Areas/problems approved by instructor. (For groups of teachers interested in improving subject areas of working on problems within system). (Z grade).(1-6; may be repeated for credit to a maximum of 6 hours).

555, 556. SPECIAL TOPICS IN EDUCATION. A special topics course designed to meet the in-service needs of school districts of Mississippi. Graduate students may use 6 semester hours toward a degree. Z grade for EDUC 556 only. (May be repeated for credit.) (1-6).

Educational Media–EDAV

427. EDUCATIONAL TECHNOLOGY. Basic principles of educational technology in teaching. The use of educational media and its specific applications to the subjects in educational settings. (3).

573. ORGANIZATION AND DIRECTION OF THE INSTRUCTIONAL MEDIA CENTER. Problems in directing the media center. Evaluation of needs for media programs, their organization in colleges, schools, and school systems. (3).

Elementary Education–EDEL

301. LANGUAGE ARTS IN THE ELEMENTARY SCHOOL. Modern methods and techniques in teaching language as forms of expression. Emphasis on defining objectives, planning and developing activities and materials, and evaluating instruction in elementary school language arts. (3).

303. SCIENCE IN THE ELEMENTARY SCHOOL. Practical instructional experiences as they relate to concepts, curriculum, and evaluation in science education. Emphasis on objectives, content, materials, and methods of science teaching in elementary schools supervised experiences with children. Prerequisite: admission to teacher education. (3).

305. CHILD DEVELOPMENT. The child from infancy through childhood; emphasis on developmental characteristics and interpersonal relationships. (3).

401. SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. Practical instructional experiences as they relate to concepts, curriculum, and evaluation in social studies. Emphasis on objectives, content, materials, and methods of social studies teaching in elementary schools; supervised experiences with children. Prerequisite: admission to teacher education. (3).

403. ARITHMETIC IN THE ELEMENTARY SCHOOL. Modern methods and techniques for teaching computation, measurement, geometry, problem solving, and consumer arithmetic; diagnosis of error patterns; practicum experience included. (3).

414. INTEGRATED INSTRUCTION: A SOCIAL CONSTRUCTIVIST APPROACH TO TEACHING LANGUAGE ARTS, SOCIAL STUDIES, AND THE ARTS. Overview of child development and learning principles for language arts, social studies and arts instruction with teaching through an integrated curriculum; methods compatible with a social constructivist philosophy. Prerequisites: admission to teacher education, EDCI 351, 352, 353, 354. (Z grade). (9).

416. MATHEMATICS AND SCIENCE IN THE ELEMENTARY SCHOOL. Selected concepts, skills, and materials for teaching of mathematics and science to elementary students; use of materials; related applications and field experiences. (Z grade). (3).

420. SEMINAR IN ELEMENTARY EDUCATION. Seminar in elementary education taken simultaneously with the elementary education internship. (2).

519. TECHNIQUES AND PRINCIPLES FOR CLASSROOM MANAGEMENT. Basic behavior management principles available to the classroom teacher for effective classroom management. (3).

531. METHODS FOR REMEDIATION IN LANGUAGE ARTS AND ARITHMETIC. Techniques for assessment and remediation of elementary students with learning problems in language arts and arithmetic; selection and proper use of appropriate teaching materials. (3).

Field and Laboratory Experiences—EDLE

Instructor Theopolis Vinson, director • 163-A Education Building

417. ACTION LABS IN THE ELEMENTARY SCHOOL. Laboratory experience designed to support elementary methods courses. (Z grade). (3).

464. STUDENT TEACHING: ELEMENTARY EDUCATION. Full-time, full-semester student teaching; preparation of portfolio of teaching and interview materials, staff development activities at PDS sites. (Z grade). (12).

467. STUDENT TEACHING: EXCEPTIONAL STUDENTS. Directed observation and participation in teaching. Prerequisite: admission to student teaching. (Z grade). (12).

471. STUDENT TEACHING: ART EDUCATION. (12).

473. STUDENT TEACHING: MUSIC EDUCATION. (12).

482. STUDENT TEACHING: ENGLISH. (12).

483. STUDENT TEACHING: FOREIGN LANGUAGES. (12).

485. STUDENT TEACHING: MATHEMATICS. (12).

486. STUDENT TEACHING: SCIENCE. (12).

487. STUDENT TEACHING: SOCIAL STUDIES. (12).

Library Science—EDLS

101. INTRODUCTION TO LIBRARY RESEARCH AND ELECTRONIC RESOURCES. Overview of information structures, library resources, systematic methods of research; research projects as learning strategies. (1)

301. CHILDREN'S LITERATURE, K-8. Selection, examination, and effective use of literature for children from kindergarten through grade 8. (3).

432. SPECIAL METHODS: LIBRARY SCIENCE. Methods in librarianship. (3).

519. SELECTION OF MEDIA FOR CHILDREN. Evaluating and using both print and nonprint materials for children (K-8); emphasis on contemporary titles, trends and issues, and book reviews and talks. (3).

525. LITERATURE FOR TODAY'S TEENAGERS. Selection and evaluation of current titles appropriate for ages 13-19; extensive reading of contemporary fiction and nonfiction; emphasis on interests of teenagers, trends and issues, and book reviews and book talks. (3).

Reading Education—EDRD

300. FOUNDATIONS OF READING INSTRUCTION. Survey of the knowledge base necessary for teaching reading; emphasis on basics, word recognition, comprehension, and study skills. (2).

317. DIAGNOSIS AND REMEDIATION OF READING DISABILITIES. Fundamentals of diagnosis and remediation of reading disabilities and application in a practicum setting of the principles studied with emphasis on causes of reading disabilities. Prerequisite: EDRD 300. (3).

350. COMPUTER TECHNOLOGY AND READING INSTRUCTION. Survey of basic concepts related to computer technology and reading/language arts: theory, history, process, and reading styles and skills in an integrated approach. (3).

414. READING INSTRUCTION AND DIAGNOSIS. Survey of the knowledge base necessary for teaching reading; emphasis on basics; focus on fundamentals of diagnosis and remediation of reading disabilities. (3).

415. METHODS AND MATERIALS FOR TEACHING READING IN ELEMENTARY SCHOOL. The reading process as it applies to the elementary curriculum. Methods and materials for teaching word recognition, comprehension, and reading study skills. Management of instruction, learners, and the schedule for the reading program. (Lab hours required). Prerequisite: admission to teacher education, EDRD 300. (3).

429. READING IN THE SECONDARY SCHOOL. The reading process as it applies to junior and senior high school curricula. Emphasis on preparing pre-service content area teachers to meet the needs of students with widely varying levels of reading achievement. (3).

500. BASIC SKILLS IN READING. Introduction to reading; history, overview of the field, and basic instructional procedures. (3).

Secondary Education—EDSE

400. PRINCIPLES OF EDUCATION. Microteaching, teacher appraisal processes, and concerns of first-year teachers. Prerequisite: Admission to student teaching. To be taken concurrently with special methods course in teaching area. (3).

401. SEMINAR ON CURRENT ISSUES. Prerequisite: admission to student teaching. To be taken concurrently with methods of teaching in area and student teaching. (1).

Methods of Teaching

442. SPECIAL METHODS I: ENGLISH. (3).

443. SPECIAL METHODS: FOREIGN LANGUAGE. (3).

444. SPECIAL METHODS: VOCATIONAL HOME ECONOMICS. (Same as FCS 409). (3).

445. SPECIAL METHODS I: MATHEMATICS. (3).

446. SPECIAL METHODS I: SCIENCE. (3).

447. SPECIAL METHODS I: SOCIAL STUDIES. (3).

452. SPECIAL METHODS II: ENGLISH. (2).

453. SPECIAL METHODS II: FOREIGN LANGUAGE. (2).

455. SPECIAL METHODS II: MATH. (2).

456. SPECIAL METHODS II: SCIENCE. (2).

457. SPECIAL METHODS II: SOCIAL STUDIES. (2).

500. PRINCIPLES OF SECONDARY CLASSROOM INSTRUCTION. Educational principles applied to classroom motivation, learning, instruction, behavior management, and teaching strategies. (3).

501. CONTENT METHODOLOGY AND EVALUATION I. The selection and development of content area methods, resources, and evaluation. (3).

502. MULTICULTURAL FIELD EXPERIENCES. Field experiences in a variety of multicultural educational settings. (3).

Special Education–EDSP

308. INTRODUCTION TO SPECIAL EDUCATION. Introduction to and overview of the various exceptionalities receiving special education services. An inclusive approach is presented with strategies for accommodating students with disabilities in regular education settings. An emphasis is placed on the role of technology and its uses with students with learning and behavioral problems. (3).

327. NATURE AND NEEDS OF STUDENTS WITH MILD/MODERATE DISABILITIES. Introduction to the education of students with mild/moderate disabilities. Emphasis on the characteristics and assessment of students with mild/moderate disabilities as related to instruction. (3).

329. NATURE AND NEEDS OF STUDENTS WITH SEVERE DISABILITIES. Introduction to the education of students with severe disabilities. Emphasis on the characteristics and assessment of students with severe disabilities. (3).

335. ASSESSMENT OF EXCEPTIONAL STUDENTS. Formal and informal individualized assessment techniques used in instructional planning of students with disabilities. Practice in test administration, scoring, interpretation, and application. (3).

339. ORAL LANGUAGE METHODS AND MATERIALS WITH EXCEPTIONAL STUDENTS. Study of oral language skills and problems of educationally disabled students. Emphasis on methods and materials for instruction. Prerequisites: CD 201, EDSP 327, 329. (3).

401. COLLABORATION AND CONFERENCE STRATEGIES. Development of professional skills for collaboration between educators and families of students; strategies for effective conferencing with parents. (1).

402. ORGANIZATION AND ADMINISTRATION OF SPECIAL EDUCATION. The referral to placement process. Federal, state, and local laws, policies, and procedures. Financial bases, community resources, service delivery systems, program development, and models of instructional implementation. Prerequisite: EDSP 308. (3).

403. INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH SEVERE DISABILITIES. Strategies and procedures for instruction of students with severe disabilities. (3).

405. INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH MILD TO MODERATE DISABILITIES. Strategies for instruction of students with mild/moderate disabilities. (3).

407. SURVEY OF EXCEPTIONAL STUDENTS. An overview of the legal bases for special education services and mainstream education, the referral-to-placement process, and strategies for accommodating the exceptional student. Prerequisite: EDCI 301. (1).

410. SEMINAR IN INSTRUCTION. Issues and techniques in the evaluation of effective instruction. Prerequisite: senior standing and concurrent enrollment in EDSP 403, 405, and 452. (1).

411. SEMINAR IN SELECTED SPECIAL EDUCATION TOPICS. Dissemination and discussion of information on current topics and issues in the field of special education. (1).

452. PRACTICUM AND FIELD EXPERIENCES WITH EXCEPTIONAL CHILDREN. Supervised application of concepts and techniques in the education of exceptional students. (3).

541. EDUCATIONAL ASSESSMENT, METHODS AND MATERIALS I. Basic assessment procedures of individual levels of functioning for pre-academic, elementary, and secondary programming levels. (3).

543. EDUCATIONAL ASSESSMENT, METHODS AND MATERIALS II. Selection and application of specialized instructional methods and materials for the educationally disabled at the pre-academic, elementary, and secondary levels. (3).

545. EDUCATIONAL ASSESSMENT, METHODS AND MATERIALS III. Development of individualized educational plans (IEP's), implementation of individualized programming and evaluation of programming effectiveness for the educationally disabled at the pre-academic, elementary, and secondary school levels. (3).

585. EDUCATION OF GIFTED STUDENTS. Overview of the field of gifted education including identification, assessment, learning characteristics, education, and models for delivery of services. (3).

590. METHODS AND MATERIALS FOR THE GIFTED. Teaching strategies, selection of materials, the development of special programs, and evaluation procedures for the gifted. (3).

DEVELOPMENTAL STUDIES—DS

Instructor Patricia C. Treloar, director

(Enrollment in developmental studies courses is restricted to students who meet criteria outlined on page 71.)

089. LEARNING SKILLS LAB. Part of the Summer Developmental Program. (3, nondegree).

090. DEVELOPMENTAL READING. Part of the Summer Developmental Program. (3, nondegree).

091. DEVELOPMENTAL ENGLISH. Part of the Summer Developmental Program. (3, nondegree).

092. DEVELOPMENTAL MATHEMATICS. Part of the Summer Developmental Program. (3, nondegree).

093, 094. ACADEMIC SUPPORT LAB. Year-long academic support for students who successfully complete the Summer Developmental Program. (3, 3, nondegree).

095, 096. DEVELOPMENTAL SUPPORT LAB. Tutoring, counseling, and learning skills development for students enrolled in DS 097, DS 098, and/or DS 099. Students enrolled in two or more intermediate courses must successfully complete two semesters of Developmental Support Lab. (2, 2, nondegree).

097. INTERMEDIATE READING. A remedial course designed to help students improve basic reading skills, vocabulary, and comprehension. Students whose ACT reading subscore is less than 17 or SAT verbal score is less than 390 must enroll in DS 097 during their first semester of enrollment and continue in the course until receiving a passing grade. Students with ACT reading subscores of 17, 18, or 19 are strongly encouraged to take Intermediate Reading. Students enrolled in Intermediate Reading are not allowed to enroll in social science or literature courses. (3, nondegree).

098. INTERMEDIATE ENGLISH. A course for students not yet prepared to take English 101. Students whose ACT English subscore is less than 17 or SAT verbal score is less than 390 must enroll in DS 098 during their first semester of enrollment and continue in the course until receiving a passing grade. Students with ACT English subscores of 17, 18, or 19 are strongly encouraged to enroll in Intermediate English. Students enrolled in Intermediate English are not allowed to enroll in other English courses. (3, nondegree).

099. INTERMEDIATE ALGEBRA. A remedial course for students not yet prepared to take college mathematics. Students with ACT mathematics subscores less than 17 or SAT mathematics scores less than 390 are required to enroll in DS 099 during their first semester of enrollment and continue in the course until receiving a passing grade. Students with ACT mathematics subscores of 17, 18, or 19 are strongly encouraged to enroll in Intermediate Algebra. Students enrolled in Intermediate Algebra are not allowed to enroll in other mathematics courses. (3, nondegree).

EARLY CHILDHOOD EDUCATION *See the Department of Curriculum and Instruction.*

ECONOMICS

Associate Professor William Chappell, area coordinator • 245 Holman Hall

Professors Belongia, Shughart, Smith, and Tollison • Visiting Professors Davis and Terasawa • Associate Professors Boylan, Conlon, Dorsey, Hanes, Mayer, Moen, Razzolini, and Van Boening • Assistant Professor Archibald • Visiting Assistant Professor Karahan

Economics–ECON

202. PRINCIPLES OF MICROECONOMICS. The nature of economics, economic concepts, and institutions; the role of the price system in directing the production of goods and services; distribution of income; and comparative economic systems. (3).

203. PRINCIPLES OF MACROECONOMICS. Resources and goals of the economy; national income; unemployment; money and banking; fiscal and monetary policy; contemporary problems; economic growth; and international economics. Prerequisite: ECON 202. (3).

303. MONEY AND BANKING. Nature and functions of money and banking; relation of money and credit to the American political system, the Federal Reserve System, and national economic goals. Prerequisite: C minimum in ECON 203. (Same as FIN 303). (3).

305. CURRENT ECONOMIC TOPICS. Relevant social, political, and economic issues: air pollution, urban renewal, the gold problem, population growth, consumerism, inflation, unemployment. (3).

307. MANAGERIAL ECONOMICS. The economic analysis of managerial decision making. Emphasis on pricing, investment, resource allocation, compensation, and organizational structure. Prerequisite: C minimum in ECON 202, 203; C minimum in MATH 267 or corequisite MATH 262. (3).

308. OPERATIONS RESEARCH. Probability, Bayesian analysis and statistical experience in matrix algebra, linear programming, PERT, and inventory analysis. Prerequisite: C minimum in BUS 230. (Same as BUS 308). (3).

320. CURRENT GLOBAL ECONOMIC ISSUES. The application of microeconomic and macroeconomic tools to analyze current global economic issues, including market interdependence, trade disputes and liberalization, currency realignments, and economic policy coordination. The course also examines the 1990s Asian economic crisis, including underlying causes and consequences. (3).

323. INTRODUCTION OF MANPOWER ECONOMICS. Foundations of labor market analysis for manpower policy and program decisions. Development of manpower policies with emphasis on development since 1960; manpower forecasting, planning, and evaluation concerned with the analysis of human resources. (3).

329. AN ECONOMIC HISTORY OF THE SOUTH SINCE THE CIVIL WAR. A survey of the major economic developments in the South since the Civil War, with special emphasis on Southern economic growth and its effects on the United States generally. (Same as HIS 335). (3).

401. GOVERNMENT AND BUSINESS. Economic analysis of public policies affecting the structure, behavior, and performance of firms and industries; antitrust legislation; other aspects of the market process. Prerequisites: C minimum in ECON 202 and ECON 203. (3).

403. INTERMEDIATE MICROECONOMICS. Factors influencing prices, resource allocation, and income distribution with emphasis on demand, supply, technology, and market structure. Prerequisite: C minimum in ECON 202, and C minimum in MATH 267 or corequisite MATH 262. (3).

404. INTERMEDIATE MACROECONOMICS. Aggregate economics; effect of key economic variables on employment, production, consumption, investment, saving, money, government expenditures, and price levels. Prerequisite: C minimum in ECON 203 and C minimum in MATH 267 or MATH 261. (3).

406. NATURAL RESOURCE ECONOMICS. Analysis of economic problems associated with optimum use of land and natural resources with emphasis on energy. Prerequisite: C minimum in ECON 202 and ECON 203. (3).

417. LABOR ECONOMICS. A theoretical and institutional examination of labor markets, including wage theories, unionism, and problems of security. Prerequisite: C minimum in ECON 202 and ECON 203. (3).

422. ECONOMIC GROWTH AND DEVELOPMENT OF THE SOUTH. Investigates current economic and business environment of the South. Examines interaction of social and economic factors affecting discrimination, poverty, and economic development. Prerequisites: C minimum in ECON 202 and ECON 203. (3).

423. MANPOWER INTERNSHIP. Internship in manpower open only to those with a major field in manpower. A summer field experience of six weeks is required. Prerequisites: C minimum in ECON 202 and ECON 203. (3).

504. ECONOMIC ISSUES IN AMERICAN HISTORY. Trends and issues in American economic history from the Colonial Period to the present. Prerequisite: C minimum in both ECON 202 and ECON 203. (3).

505. PUBLIC FINANCE. Economics of taxation and government spending. Impact of government fiscal operations on employment, price levels, resource allocation, income distribution, and economic growth. Prerequisites: C minimum in ECON 202 and ECON 203. (3).

506. PUBLIC FINANCE ADMINISTRATION. Federal budgeting practices and policies, intergovernmental fiscal relations, cost-benefit studies, economics of state and local governments. Prerequisite: ECON 505. (3).

510. INTERNATIONAL TRADE AND COMMERCIAL POLICY. Reason for trade; analysis of United States exports and imports; balance of trade; commercial policy, foreign exchange, gold problems; changing trends. Prerequisites: ECON 307, as well as a C minimum in both ECON 202 and ECON 203. (3).

520. SPECIAL TOPICS IN ECONOMICS. Selected issues, problems, research techniques, materials, and policies; content varies. Prerequisite: Consent of instructor. (Credit not available for degrees in economics or business administration). (3).

530. STATISTICAL METHODS FOR ECONOMICS AND FINANCE. A coverage of statistical methods to prepare students for future study of econometrics. ECON 530 is the prerequisite for ECON 630. Prerequisite MATH 262. (3).

540. SEMINAR IN ECONOMICS. Selected topics in economics; content varies. (May be repeated once for credit). Prerequisite: Consent of instructor. (3).

545. GAME THEORY AND STRATEGIC THINKING. Basic principles of strategic thinking and game theory. Applications to strategic firm interaction, incentives, and bargaining are emphasized. Prerequisite: ECON 307 or ECON 403; a C minimum in MATH 267; or consent of instructor.

581. COLLECTIVE BARGAINING. Prerequisite: MGMT 383, and senior standing or higher. (3). (Same as MGMT 581).

583. LABOR RELATIONS. Prerequisite: MGMT 581 and senior standing or higher. (3). (Same as MGMT 583).

EDUCATIONAL LEADERSHIP AND EDUCATIONAL PSYCHOLOGY

Professor Eugene Anderson, chair • 200 Education Building

Professors J. Chambless and Cooker • Associate Professors Burnham, Horine, Letzring, Mullins, O'Quinn and Sullivan • Assistant Professors Bates, Boyd, Finn, Fulton, Showalter, Smothers, Trott, and Webster • Adjunct Professors Papasan and Weeks • Instructors Minor and Reardon

Educational Leadership–EDLD

101. ACADEMIC SKILLS FOR COLLEGE. The development of academic skills, including time management, note taking, reading textbooks, preparing for and taking examinations, and orientation to University life. Students who take EDLD 101 may not also receive credit for EDLD 105. (3).

105. THE FIRST YEAR SEMINAR. Designed to help first-year students adjust to the University, develop a better understanding of the learning process, acquire essential survival skills, and begin the major/career exploration process. Prerequisite: freshman standing. Students who take EDLD 105 may not also receive credit of EDLD 101 or 201. (2).

110/111. CHANCELLOR'S LEADERSHIP CLASS I, II. Is intended for freshman students elected from a pool of candidates nominated by high school principals and guidance counselors. The course meets weekly for one hour. Programs are presented by persons in leadership capacities in government, education, journalism, business, sports, and religion. Additionally, students participate in prescribed leadership exercises and activities. Students also attend a yearly retreat and take a field trip to Jackson and the state capitol. (Z grade). (1, 1).

120. INTRODUCTION TO LEADERSHIP STUDIES. Seminar to broaden the student's recognition of his or her ability to affect the community. Emphasis on personal identity, the development of leadership skills, and the development of confidence in self and in relationships. (3).

201. CAREER DECISION-MAKING. The development of self-awareness and career/life planning skills through exposure to theories of career development, self-assessment instruments, decision-making models, and occupational exploration. Limited to freshmen and sophomores or consent of instructor. Students who take EDLD 105 may not also receive credit for EDLD 201. (3).

220. FOUNDATIONS OF LEADERSHIP STUDIES. Broaden the student's understanding of leadership by an in-depth study of the concept and practice of leadership as a way to maximize the student's ability to affect the community. EDLD 120 is not a prerequisite. (3).

301. CAREER AND LIFE PLANNING. The development of career and life planning skills through exposure to occupational information, decision-making models, job search techniques, professional literature, leadership roles, values clarification, and career ladder strategies. Limited to junior and senior students or consent of instructor. (3).

320. THE UNIVERSITY OF MISSISSIPPI SERVICE ORGANIZATION LEADERS. Seminar in service learning and assignment as a University of Mississippi student leader. Prerequisites: EDLD 120, EDLD 220, consent of instructor. (3).

420. EXERCISING LEADERSHIP: MOBILIZING GROUP RESOURCES. Advanced study of the concepts of leadership and authority especially seen as distinguishable characteristics. Mobilization of group action is the framework for this study. Prerequisites: EDLD 120, EDLD 220, consent of instructor. (3).

500. PERSPECTIVES ON EDUCATIONAL ADMINISTRATION. Organization and structure of American education at the national, state, and local levels. (3).

501. THE EFFECTIVE PRINCIPAL. The principal as an instructional leader and unit manager. (3).

504. INSTRUCTIONAL IMPROVEMENT. Promoting teacher improvement through clinical supervision and awareness of the elements of effective teaching. Staff development through clinical supervision; improvement of instruction through observation of teaching, supervisor-teacher conferences, and support activities. (3).

505. SCHOOL LAW SEMINAR. Instruction in and discussion of current legal problems confronting school administrators. (Z grade). (3).

Educational Psychology–EDPY

301. CHILD PSYCHOLOGY. Behavior of infants and children with reference to growth and learning as they influence individual development. (3).

303. MEASUREMENT AND EVALUATION. Nature of measurement evaluation; basic statistical concepts; evaluation as used in the instructional process; types of evaluation devices; teacher-made evaluation instruments. (3).

307. EDUCATIONAL PSYCHOLOGY. Application of principles of general and developmental psychology to the science of teaching; learning, motivation, psychological testing. (3).

309. PSYCHOLOGY OF ADOLESCENCE. Psychological principles underlying the mental, emotional, and socio-moral stresses of the preadolescent and adolescent. (3).

333. PSYCHOLOGY OF HUMAN GROWTH AND DEVELOPMENT. General survey of all aspects of psychological development from infancy through adolescence emphasized and additional focus on concepts and principles of learning. Prerequisite: PSY 204 recommended. (3).

503. PSYCHOMETRIC PRINCIPLES. Introduction to the principles and concepts basic to measurement. Test construction evaluation procedures, interpretation, and ethics related to testing are emphasized. Knowledge of basic statistical principles is required. Prerequisite: EDRS 501 or equivalent. (3).

523. GROUP STUDY OF PROBLEMS. Areas/problems approved by instructor. (For groups interested in improving areas/problems within an agency/system.) (Same as EDFD and EDSE 523). (Z grade). (3 or 6).

539. INTRODUCTION TO THE COUNSELING PROFESSION. History and overview of counseling as a profession. An introduction to philosophical foundations, multicultural factors, services, theories and systems, contributors, and ethics. (3).

545. LABORATORY: INTERPERSONAL COMMUNICATION SKILLS. Experimental seminar in communication skills and group methods; emphasis on dynamics of interpersonal relationships with consideration of current theoretical perspectives. (Z grade). (3).

551. INDIVIDUAL STUDY. Development of special projects under supervision. Prerequisite: consent of instructor. (1-6).

557. DATA PROCESSING IN SCHOOLS. Principles and administration of data processing in school systems. (Same as EDRS 557). (3).

570. MULTICULTURAL ISSUES IN COUNSELING. Introduction to cultural diversity issues and exploration of multicultural concepts related to the counseling profession. (3).

575. PSYCHOSOCIAL ASPECTS OF AGING. Introduction to gerontology with a foundation in biological, psychosocial and behavioral aspects of aging; emphasis on current research and experience working with older adults. (3).

593. TOPICS IN COUNSELING. Topical format to address areas of interest to professional counselors. May be repeated for credit. (3).

Foundations of Education—EDFD

507. CONTEMPORARY ISSUES IN AMERICAN EDUCATION. Significant current questions under discussion in American education. (3).

521. RECENT DEVELOPMENTS IN EDUCATIONAL PRACTICE. Investigation and evaluation of selected contemporary innovations in teaching and conducting educational programs. (3).

Educational Research—EDRS

405. INTRODUCTION TO EDUCATIONAL RESEARCH. An introduction to the research process and an investigation of the tools for conducting research with an emphasis on types of research design. (3).

501. EDUCATIONAL STATISTICS I. An introduction to descriptive and inferential statistical techniques with a particular emphasis on conceptual, computational, and computer applications. (3).

557. COMPUTERS IN EDUCATION. Principles and administration of data processing in school systems. (Same as EDPY 557). (3).

EDUCATIONAL MEDIA *See the Department of Curriculum and Instruction.*

EDUCATIONAL PSYCHOLOGY *See the Department of Educational Leadership and Educational Psychology.*

EDUCATIONAL RESEARCH *See the Department of Educational Leadership and Educational Psychology.*

ELECTRICAL ENGINEERING—EL E

Professor Charles E. Smith, chair • 302 Anderson Hall

Professors Daigle, Elsherbeni, Glisson, and Kishk • Associate Professors Goggans, Gordan, Hanson, Holmes, and Tew • Assistant Professor Yakovlev

100. INTRODUCTION TO ELECTRICAL ENGINEERING. Relevant perspective on the entire electrical field with review of professional careers. (1).

101. SURVEY OF ELECTROTECHNOLOGY. Applications of electricity in modern society: consumer electric and electronic equipment, computers, medical electronics, industrial electronics, communications. Lectures, films, demonstrations. (For nonengineering students). (3).

301. APPLIED ELECTRONICS. Introduction to electronic devices and systems: electric circuit and system analysis, diodes, transistors, integrated circuits, amplifiers, digital circuits, measurement techniques. Prerequisite: knowledge of elementary algebra and trigonometry. (May not be counted toward major in electrical engineering). (3).

302. APPLIED COMMUNICATION SYSTEMS. Introduction to general communication principles and systems including transmission media, modulation, detection, and system applications. Prerequisite: EL E 301 or consent of instructor. (May not be counted toward a major in electrical engineering). (3).

331. LINEAR SYSTEMS. General concepts and descriptions of linear systems, signal flow graphs and block diagrams, Fourier and Laplace transforms, state-variable methods, Z transforms, transfer functions, impulse response, analog computation. Prerequisites: ENGR 310, 360. (3).

333. SYSTEMS LABORATORY. Corequisites: EL E 431, 447. (3 lab hours). (1).

335. PRINCIPLES OF DIGITAL SYSTEMS. Binary numbers, number system conversion, coding schemes; Boolean algebra, axioms, theorems, Karnaugh map; logic design, Boolean functions, minimization; implementation of transform methods; asynchronous systems. Prerequisite: CSCI 251 or 111. Corequisite: EL E 336. (3).

336. DIGITAL SYSTEMS LABORATORY I. Corequisite: 335. (3 lab hours). (1).

337. DIGITAL SYSTEMS LABORATORY II. Self-paced laboratory. Prerequisite: EL E 335 and 336. (3 lab hours). (1).

341. THEORY OF FIELDS. Field concepts, vector algebra and calculus, Laplace's equations, wave equation, diffusion equation and their solutions; electric and magnetic fields, Maxwell's equations. Prerequisite: MATH 264. Corequisite: ENGR 410. (3).

351, 352. MODELS AND CIRCUITS I, II. Terminal characteristics of devices, graphical analysis, linear piece-wise analysis, two-port parameters, equivalent models, and circuits. Prerequisite: ENGR 360. (3, 3).

353. ELECTRONICS LABORATORY. Prerequisite: ENGR 361. Corequisite: EL E 352. (3 lab hours). (1).

354. PC-BASED INSTRUMENTATION LABORATORY. Self-paced laboratory on the development of data acquisition and test and measurement systems based on personal computers. Prerequisite: EL E 353 and 386 or consent of instructor. (3 lab hours). (1).

357, 358. ELECTRICAL ENGINEERING PROBLEMS I, II. Analytical procedures and numerical techniques in basic electrical engineering. Corequisites: EL E 351, ENGR 361, 310. (1, 1).

367, 368. COMPUTER-AIDED DESIGN IN ELECTRICAL ENGINEERING I, II. Computer-Aided Design (CAD) and analytical procedures in electrical engineering. Corequisites: 351, ENGR 361, 310. (2, 1).

385. ADVANCED DIGITAL SYSTEMS. Organization and design of digital computing systems. Register transfer language and hardware aspects of computing systems. Prerequisites: EL E 335, 336. (2).

386. ADVANCED DIGITAL SYSTEMS LABORATORY. Prerequisite: EL E 385. (3 lab hours, self-paced). (1).

431. THEORY OF CONTROL SYSTEMS. Analysis and design of servo-mechanisms, control systems; stability analysis; complex plane, root locus, attenuation-phase, and compensation; multiple-loop, multiple-input systems; analog simulation. Prerequisite: EL E 331. (3).

- 432. ROBOTICS LABORATORY.** Self-paced experiments in the study of robot technology, including programming, control, and applications. Prerequisite: Consent of instructor. (3 lab hours). (1).
- 433. HIGH FREQUENCY AND MICROWAVE LABORATORY.** Prerequisites: 333, 441. (1).
- 434. FIBER OPTICS LABORATORY.** Self-paced experiments covering measurement of characteristics of optical fibers, light-emitting diodes and photodetectors. Prerequisite: EL E 441. (3 lab hours). (1).
- 441, 442. ELECTROMAGNETIC THEORY I, II.** Transmission-line theory, electric and magnetic properties of matter, plane waves, guided waves; wave propagation in anisotropic media, microwave networks, radiation, antennas. Prerequisite: EL E 341. (3, 3).
- 443. NETWORK ANALYSIS AND SYNTHESIS.** Properties of network functions, synthesis of passive and active RC networks. Prerequisites: EL E 351, ENGR 310, 360, 410. (3).
- 447. MODULATION, NOISE, AND COMMUNICATIONS.** Spectral analysis, sampling theory, analog and digital modulation techniques, information, communication systems, and noise. Prerequisites: EL E 331, 352. (3).
- 449. ANALOG COMMUNICATIONS LABORATORY.** Self-paced experiments covering measurement of characteristics of analog communications systems, AM and FM modulation, and demodulation. Prerequisite: EL E 353. Corequisite: EL E 447. (3 lab hours). (1).
- 450. DIGITAL COMMUNICATIONS LABORATORY.** Self-paced experiments covering measurement of characteristics of digital communication systems, modulation, and demodulation. Prerequisites: EL E 353, 386. Corequisite: EL E 447. (3 lab hours). (1).
- 451. ELECTRICAL ENERGY CONVERSION.** Basic principles of electrical energy conversion; fundamentals of electromechanical devices and applications. DC and AC motors and generators. Transformers and electric power transmission. Prerequisites: EL E 331, 341; ENGR 360. (3).
- 452. ELECTRIC POWER TRANSFORMER LABORATORY.** Self-paced experiments covering principles of electric power transmission using transformers including magnetic and equivalent circuits, efficiency, and losses. Corequisite: EL E 451. (1).
- 453. SOLID STATE DEVICES.** Crystals, conduction, semiconductors, dielectric and magnetic materials, energy band theory applied to junction devices, transistors. Prerequisite: PHYS 317 and ELE351 or PHYS 321. (Same as PHYS 453). (3).
- 461, 462. SENIOR DESIGN IN ELECTRICAL ENGINEERING I, II.** Prerequisites: EL E 353, 368 and senior status. (3 and 6 lab hours, respectively). (1, 2).
- 485. MICROPROCESSOR SYSTEMS ENGINEERING.** Microcomputer systems. Programming, software aids, and principles of microprocessor interfacing. Prerequisites: EL E 352, 353, 385, 386. Corequisite: EL E 486. (2).
- 486. MICROPROCESSOR SYSTEMS ENGINEERING LABORATORY.** Design and application of digital integrated circuits. Digital system realization. Programming and interfacing microprocessors and electronic systems. Corequisite: EL E 485. (3 lab hours). (1).
- 487. DIGITAL SIGNAL PROCESSING LABORATORY.** Self-paced laboratory on the fundamentals of data acquisition and digital signal processing. Prerequisite: EL E 354 or consent of instructor. (3 lab hours). (1).
- 521, 522. ELECTRICAL ENGINEERING PROJECTS I, II.** Approved investigation of problem under direction of a member of the staff. (May be repeated for credit). (3, 3).
- 523. MICROWAVE ENGINEERING.** Microwave integrated circuits, scattering matrix description of microwave circuit elements, computer analysis of cascade two-ports, microwave semiconductor devices. Prerequisite: EL E 441. (3).
- 525. INTRODUCTION TO ANTENNAS.** Linear antennas and use of computer programs for antenna analysis and design. Arrays of antennas, beam shaping methods, and mathematical techniques. Prerequisite: EL E 441. (3).
- 533. ELECTRONIC PROPERTIES OF MATERIALS.** Theories of electron/atom interactions and electron transport are examined to explain the electronic properties of solids. Junctions, magnetic, and optical properties are also discussed with special emphasis on semiconducting materials. (3).
- 561. MICROWAVE CIRCUIT DESIGN.** Design projects on passive and active microwave circuits (self-paced). Prerequisite: EL E 433, 523, or consent of instructor. (6 lab hours). (2).

ENGINEERING—ENGR

Professor Allie M. Smith, dean • 101 Carrier Hall

207. GRAPHICS I. Microcomputer-based sketching and drafting, interpretation of graphics, flow and circuit diagrams, graphical representation of data. (1).

208. GRAPHICS II. Continuation of engineering graphics tailored to suit individual needs in areas of structural and architectural detailing, perspective drawing, shadow designation, descriptive geometry, etc. Prerequisite: ENGR 207 or permission of instructor. (2).

301. ENVIRONMENTAL ENGINEERING LABORATORY I. The application of common techniques used in the analysis of natural waters and domestic and industrial wastes is emphasized. The laboratory includes gravimetric, volumetric, electrometric and colorimetric methods of analysis. Laboratory is project oriented. Corequisite: CE 471. (1).

302. FLUID MECHANICS LABORATORY. Prerequisite: ENGR 321. (3 lab hours) (1).

307. TECHNICAL COMMUNICATIONS. Fundamentals of speech and oral presentation, business communications, technical reporting, and problem solution layout. (2).

309. INTRODUCTORY MECHANICS. Force systems and equilibrium; vector algebra. Kinematics and kinetics of particles in three dimensions and rigid bodies in a plane. Prerequisite: PHYS 211. Corequisite: MATH 263. (3).

310. ENGINEERING ANALYSIS I. Solution of differential equations by Laplace transform and series methods, linear algebra and matrix theory, Fourier series and transforms, solution of partial differential equations, numerical analysis. Prerequisite: MATH 353. (4).

311. INTERMEDIATE MECHANICS. Equilibrium of frames and machines; concepts of work and energy, impulse and momentum; friction, rotating frames of reference, kinetics and kinematics of rigid bodies; free and forced vibrations. Prerequisite: ENGR 309. (3).

312. MECHANICS OF MATERIALS. Mechanics of deformable bodies: stress, strain, Hooke's Law; axial loading, bending, torsion, and column problems; introduction to statically indeterminate problems. Laboratory demonstrations of buckling of columns and deflection of beams, plane stress analysis. Prerequisite: ENGR 309. (3).

313. INTRODUCTION TO MATERIALS SCIENCE. Fundamental concepts of materials science including the structure and properties of materials and their relationship to material selection and system design. The internal structures of metals, ceramics, and polymers are examined to develop an understanding of their mechanical, electrical, physical, and chemical properties. Prerequisite: CHEM 106. (3).

314. MATERIALS SCIENCE LABORATORY. Laboratory investigation of crystal structure, defects, and diffraction theory; solidification of solids; microstructurally controlled physical and mechanical properties. Corequisite: ENGR 313. (1).

321. THERMODYNAMICS. Equilibrium, thermodynamic variables, equations of state, first and second laws of thermodynamics, single and multiphase systems. Prerequisite: PHYS 211, MATH 262, CHEM 105. (3).

322. TRANSPORT PHENOMENA. Conservation of momentum, energy and mass, transport coefficients, balances in differential form. Prerequisite: ENGR 321. (3).

330. ENGINEERING SYSTEMS ANALYSIS AND DESIGN. Mathematical modeling and solution techniques to determine system response and design parameter selection to meet the performance and stability considerations of basic engineering systems including: mechanical, electrical, electromechanical, thermal, hydraulic, and feedback control systems. Case studies. Prerequisite: PHYS 212. Corequisite: MATH 353. (3).

351, 352. SOCIO-TECHNOLOGY I, II. Social-technological-environmental systems, problems; natural laws, their impact on the socioeconomic structure, decision making, optimization; lectures, films, demonstrations; for nonengineering students. (3, 3).

360. ELECTRIC CIRCUIT THEORY. Fundamental circuit concepts and laws, network analysis and theorems, forced and transient response, steady-state response, coupled circuits, two-port networks. Prerequisite: PHYS 212. Corequisite: MATH 353. (4).

361. ELECTRIC CIRCUIT LABORATORY. Circuit elements and instruments; experiments dealing with series and two-port networks, voltage, current power, vars. Prerequisite: ENGR 360. (1).

- 401. ENVIRONMENTAL ENGINEERING LABORATORY II.** Development of environmental analytical techniques and supporting skills; collection of high quality data and appropriate analysis and presentation is emphasized. Computer use is required. Prerequisite: ENGR 301. Corequisite: ENGR 537. (1).
- 407. LEGAL AND MORAL ASPECTS OF ENGINEERING.** Professional conduct, registration and licensing, contracts, regulations, and responsibilities to society. (1).
- 410. ENGINEERING ANALYSIS II.** Review of vector algebra; functions of several variables; multiple integrals; line integrals and vector integral calculus; complex numbers, limits, analytical functions, and derivatives; line integrals; Cauchy's theorem and formula; Taylor and Laurent series; residue theory. Prerequisites: MATH 264, 353. (4).
- 415. ENGINEERING ACOUSTICS I.** Development of analytical basis for acoustic wave production and propagation. Specific attention will be devoted to governing equations, energetics, propagation, and production of three-dimensional acoustic waves. Prerequisites: PHYS 212, MATH 353. (3).
- 501. FUNDAMENTALS OF COMPUTER SCIENCE.** Survey of fundamental topics in computer science including machine, assembler and high-level languages, design of assemblers, loaders, macro processors and compilers, operating system concepts, and other material essential for graduate work in computer science. (3).
- 551. ENGINEERING THERMODYNAMICS.** Advanced classical thermodynamics of systems of constant composition; emphasis on topics particularly useful to thermodynamic analysis in engineering. (3).
- 553. HEAT TRANSFER.** Transient and multidimensional heat conduction, free and forced convection, thermal radiation; design of heat transfer systems; analytical and numerical methods. Prerequisite: ENGR 322 or equivalent. (3).
- 558. VIBRATION ANALYSIS.** This course is intended to establish a systematic treatment of problems in the vibration of linear systems. Topics covered include systems with multiple degrees of freedom, properties of vibrating systems, vibration of continuous systems, and approximate numerical methods for finding natural frequencies. (3).
- 559. ELEMENTS OF ROBOTICS.** This course will concentrate on the mechanical aspects of robotic manipulators, including manipulator kinematics, dynamics and trajectory generation. This course will provide a thorough treatment of the fundamental skills underlying the use and mechanics of manipulators. (3).
- 561. SPACECRAFT SYSTEMS DESIGN I.** Introduction to space flight and spacecraft design; the space environment; basic orbital relationships; orbit control requirements; maneuvers and staging. Propulsion system design considerations. Prerequisite: consent of instructor. (3).
- 562. SPACECRAFT SYSTEMS DESIGN II.** Spacecraft design methods; systems approach. Attitude determination and control systems; subsystem technologies and interfaces; payloads; communications; deep space. Support, test, and interface equipment. Prerequisite: ENGR 561. (3).
- 572. ADVANCED SANITARY ANALYSIS.** Introduction to advanced theoretical concepts in sanitary engineering with special emphasis on inorganic, organic, and physical chemistry. Prerequisite: CE 471. (3).
- 577. GEOPHYSICS I.** Gravity and magnetic theory and methods. Prerequisite: consent of instructor. (Same as GE 577). (3).
- 579. GEOPHYSICS II.** Seismic and electrical theory and methods of subsurface investigation. Prerequisite: consent of instructor. (Same as GE 579). (3).
- 581. APPLICATIONS IN GEOPHYSICS.** Design and analysis of geophysical field problems. Prerequisite: ENGR 577 or 579 or consent of instructor. (4 lab hours). (May be repeated for a maximum of 6 hours). (3).
- 582. INTERDISCIPLINARY FIELD PROJECTS.** Interdisciplinary field projects for geologists, geological engineers, and civil engineers. For example, the course may cover waste management design, or offshore drilling and sampling, or mineral recovery projects. Prerequisites: Consent of instructor. (1-6).
- 585. MECHANICS OF COMPOSITE MATERIALS I.** Development of constitutive laws governing the hygro-thermo-mechanical response of composite material systems. Micromechanical and macromechanical modeling, laminate theory, definition and comparison of failure criteria. Damage modeling and fatigue studies. Prerequisite: ENGR 312 or equivalent. (3).

590. FINITE ELEMENT ANALYSIS I. Basic concepts and principles of the finite element method; discretization and interpolation techniques; element formulations; applications for analysis of engineering problems. Prerequisite: Consent of instructor. (3).

591, 592. ENGINEERING ANALYSIS I, II. Application of higher mathematics to engineering problems; special emphasis on the expression of engineering problems in mathematical terminology. Prerequisite: MATH 353. ENGR 591 is not a prerequisite for ENGR 592. (3, 3).

593, 594. APPROXIMATE METHODS OF ENGINEERING ANALYSIS I, II. Application of approximate methods to solve boundary value and eigen-value problems; approximate analytical methods (series solutions); variational principles and numerical methods (finite difference, finite element, computer simulation). Prerequisite: MATH 353 or consent of instructor. (3, 3).

597. SPECIAL PROJECTS. Approved investigation of original problem under direction of a staff member. (May be repeated for credit). (1-3).

ENGLISH—ENGL

Professor Joseph Urgo, chair • 128 Bondurant

Professors Barbera, Fisher, Fisher-Wirth, J.R. Hall, Kartiganer, Kullman, McClelland, Schirmer, Urgo, Walton, and Williams • Associate Professors Barker, Dean, Galef, Kamps, Robinson, N. Schroeder, R. Schroeder, and Watson • Assistant Professors McKee, Raber, Smith, and Young-Minor • Instructors J.W. Hall, Hobbs, and Wirth • Writer-in-Residence Hannah and the John and Renee Grisham Southern Writer-in-Residence

101, 102. ENGLISH COMPOSITION I, II.⁴ Instruction in composition, grammar, and reading with particular emphasis on actual practice in writing. (3, 3).

200. INTRODUCTION TO LITERATURE. Survey of techniques and terminology of literary analysis, including practice with poetry, prose, and drama. Prerequisites: ENGL 101, 102 or 102, 321. (3).

205. MASTERWORKS OF ENGLISH LITERATURE. Readings in nine English writers from Chaucer to the present. Prerequisite: ENGL 200 or equivalent. (3).

206. MASTERWORKS OF AMERICAN LITERATURE. Readings in nine American writers from Franklin to the present. Prerequisite: ENGL 200 or equivalent. (3).

207H. READING AND WRITING ABOUT FACT AND FICTION. This course introduces students to reading and writing about texts, such as essays, nonfiction books, short stories, book-length fiction, and films. The course will focus on various forms of interpretation and critique, namely, studying life as it is represented in factual and imaginative prose, and cinematic works. (3).

208H. READING AND WRITING ABOUT POETRY, DRAMA, AND FICTION. This course introduces students to reading and writing about texts, such as poems, plays, novels, and films. The course will focus on various forms of interpretation and critique, namely, studying life as it is represented in poetic, dramatic, fictional, and cinematic works. (3).

210. MASTERWORKS OF WORLD LITERATURE. Readings in literary texts from antiquity to major works and authors in modern literature with emphasis on the Western tradition. Prerequisite: ENGL 200 or equivalent. (3).

303. SURVEY OF AMERICAN LITERATURE TO THE CIVIL WAR. Prose and poetry from the Colonial beginnings to the end of the New England dominance in the 19th century. (3).

304. SURVEY OF AMERICAN LITERATURE SINCE THE CIVIL WAR. Prose and poetry from Walt Whitman to the present. (3).

305. GREEK AND ROMAN MYTHOLOGY. (Same as CLC 305). (3).

306. THE MASK OF DIONYSUS. Readings in ancient Greek tragedy and comedy in translation, the theatrical, social, and literary contexts. Supplemented by critical writings on theatre, ancient and modern. (Same as CLC 306). (3).

⁴ Students scoring 26 or above on the English portion of the ACT test or 650 or above on the verbal portion of the SAT may take the regular freshman ENGL 101-102 sequence or may elect to take ENGL 102 and ENGL 321 (Advanced Composition) to satisfy English composition course requirements in all University degree programs.

- 307. SURVEY OF GREEK LITERATURE.** (Same as CLC 307). (3).
- 308. SURVEY OF ENGLISH LITERATURE FROM THE BEGINNING THROUGH THE 18th CENTURY.** Selected prose and poetry from the beginning through the 18th century. (3).
- 309. SURVEY OF ENGLISH LITERATURE FROM THE ROMANTIC PERIOD TO THE PRESENT.** Selected prose and poetry from the Romantic Period to the present. (3).
- 310. WOMEN IN THE SOUTH.** A study of the experience of women in the South as revealed primarily through their writings and other expressions. (Same as S ST 303, G ST 310, and HIS 336). (3).
- 311. BEGINNING FICTION WORKSHOP.** An introduction to fiction through reading and writing short stories. (3).
- 312. THE SOUTH IN FILM.** A historical examination of Southern culture as perceived in the American film. Comparative analysis of motion pictures, television plays, and their literary sources. (3).
- 313. INTRODUCTION TO LINGUISTIC SCIENCE.** (Same as ANTH 313 and LING 313). (3).
- 314. PHONOLOGY.** An introduction to the principles of articulatory and acoustic phonetics; also generative and nongenerative phonology. (Same as MLLL 314 and LING 314). (3).
- 315. MORPHOLOGY.** An introduction to the intersection and overlap of morphology with the study of distinctive sounds and sentence elements. (Same as MLLL 315 and LING 315). (3).
- 316. SYNTAX.** Introduction to traditional approaches to sentential analysis and a comparative examination of syntactic models. (Same as MLLL 316 and LING 316). (3).
- 317. BEGINNING POETRY WORKSHOP.** An introduction to poetry through reading and writing poems. (3).
- 321. ADVANCED COMPOSITION.** A practical course for students who desire additional instruction and experience in writing. Special emphasis on developing techniques of effective written communication. (3).
- 322. SURVEY OF AFRICAN AMERICAN LITERATURE FROM THE BEGINNING TO THE 20th CENTURY.** Selected African American prose, poetry, and drama from early settlement to the 20th century. (Same as AFRO 341). (3).
- 323. SURVEY OF AFRICAN AMERICAN LITERATURE OF THE 20th CENTURY.** Selected African American prose, poetry, and drama of the 20th century. (Same as AFRO 342). (3).
- 333. POETRY AND POLITICS AT ROME.** The relationship between politics and literature in ancient Rome, focused on works of central importance in the history of Latin literature. Readings to include drama, lyric, elegy, and satire as well as Vergil's Aeneid in English. (Same as CLC 333). (3).
- 351. CONTEMPORARY LITERATURE.** Readings in American and British literature since 1945. (3).
- 352. SELECTED TOPICS IN POPULAR LITERATURE.** Studies in less traditional literary forms and themes which reflect popular culture, such as science fiction, the "Western," the literature of war, etc. Content varies. (3).
- 353. INTRODUCTION TO FILM.** Study of film technique and terminology, as well as various approaches to film criticism. A lecture course with weekly showing of films. (3).
- 354. LITERATURE AND THE PROFESSIONS.** A study of the treatment of particular professions in literature of various nations and periods. Content varies. (3).
- 359. INTRODUCTION TO FOLK LITERATURE.** The proverb, myth, legend, epic, ballad, and folk drama. (3).
- 360. WOMEN IN LITERATURE.** A study of the images of women in British and American literature. Content will vary. (Same as G ST 360). (3).
- 368. SURVEY OF SOUTHERN LITERATURE.** The development of regional culture will be traced through Southern writers, with special emphasis on 20th century literature. (3).
- 401. ADVANCED ENGLISH GRAMMAR.** Morphology and syntax, with emphasis on traditional scholarly approaches to usage. (Same as LING 401). (3).
- 403, 404. BACKGROUND OF AMERICAN LITERARY CULTURE, 1800 TO THE PRESENT I, II.** American cultural ideas as reflected in literature. (3, 3).
- 405. CHAUCER.** The major works. (3).

- 406. SHAKESPEARE I.** Representative plays written before 1600. (3).
- 407. SHAKESPEARE II.** The plays written after 1600. (3).
- 408. SHAKESPEARE ON FILM.** The study of Shakespeare's plays in action through an analysis of film. (3).
- 410. THE NOVEL.** Representative novels, from the 18th century to the present, with attention to development of the form. (3).
- 412. 20th CENTURY POETRY.** English and American poetry since 1900. (3).
- 414. RENAISSANCE POETRY.** Survey of English nondramatic poetry of the 16th and 17th centuries. (3).
- 418. WRITING EXPOSITORY PROSE.** Emphasis on nonfiction writing (for those who have shown some talent as writers). Prerequisite: consent of instructor. (3).
- 419. WRITING OF POETRY AND DRAMA.** Prerequisite: consent of instructor. (3).
- 420. LITERARY CRITICISM.** Introduction to the primary works of critical treatment of literature. (3).
- 422. SEMINAR IN THE WORKS OF A MAJOR AUTHOR.** Intensive study of the works of a major literary figure. Content varies; may be repeated for credit. (3).
- 424. WRITING OF THE SHORT STORY.** Prerequisite: consent of instructor. (3).
- 425. MODERN AMERICAN DRAMA.** A lecture/discussion course on American Drama of the 20th century. (3).
- 430. DISCOURSE PRAGMATICS.** Linguistic study of the context of an utterance, including an analysis of speech styles and discourse markers, as well as the anatomy of a conversation and idiomatic expressions. The language of focus will be English, although other languages also will be examined. (Same as LING 430 and MLLL 430). (3).
- 431. MILTON.** The chief poetic achievements of Milton, with special emphasis on *Paradise Lost*. (3).
- 466. THE FICTION OF FAULKNER'S YOKNAPATAWPHA COUNTY.** Reading and study of selected novels by William Faulkner. (3).
- 470. IRISH LITERATURE.** The development of a distinctively Irish literature in the 20th century, studied in the context of Irish history and of the political, social, and cultural forces that have shaped modern Ireland. (3).
- 474. DEVELOPMENT OF MODERN LITERATURE.** Trends in modern literary thought in Western Europe. (3).
- 494. SEMINAR ON LITERATURE AND GENDER.** Images of women and men in literature by women and men, the special role of the woman writer, recurrent formal and contextual convention in literature written by women, and feminist critical theory. Content varies; may be repeated for credit. (Same as G ST 494). (3).
- 496. DIRECTED READING.** Independent study restricted to advanced majors. Topics, texts, and requirements will vary; substantial reading list and significant writing component required. See director of undergraduate English for further requirements. Prerequisite: consent of instructor. (3).
- 497. SEMINAR: COMPREHENSIVE EXAMINATION PROJECT.** Culminating study for English majors. Prerequisite: consent of instructor. (1).
- 498. SEMINAR IN ENGLISH.** Intensive study of a major figure, theme, or movement in English or American literature. Content varies; may be repeated for credit. (3).
- 499. SENIOR THESIS.** A significant investigation under the supervision of a major professor. Prerequisite: senior standing. (3 or 6).
- 501. DESCRIPTIVE GRAMMAR.** A structural examination of English grammar, with special attention to usage on different levels, formal and informal, standard and nonstandard, written and spoken; emphasis on phonology, morphology, and descriptive theories of grammar. (Same as LING 501). (3).
- 502. HISTORICAL LINGUISTICS.** Study of words, speech languages, and language changes from the point of view of evolution in the course of time, particularly in Indo-European languages. (Same as LING 502). (3).
- 503, 504. OLD ENGLISH I, II.** The Old English language, with some attention to development of Modern; translation of Old English prose and poetry, including *Beowulf*. (3, 3).

- 505. HISTORY OF THE ENGLISH LANGUAGE.** The development of the language from Old English to the present with particular attention to phonology and morphology. (3).
- 506. SEMANTICS.** Study of word meaning in human languages, especially English, history, issues, and theories of semantics. Prerequisite: ENGL 401, 501, or 592. (Same as LING 509). (3).
- 507. MEDIEVAL ENGLISH LITERATURE.** A survey of Old and Middle English literature in translation (excluding Chaucer and medieval drama). (3).
- 511. ENGLISH LITERATURE OF THE RENAISSANCE.** The literature exclusive of the drama from 1500 to 1625. (3).
- 513. PRE-SHAKESPEAREAN DRAMA.** The cycles, the moralities, and the early comedies and tragedies. (3).
- 514. ELIZABETHAN DRAMA.** The major playwrights other than Shakespeare. (3).
- 519. THE ENGLISH LYRIC.** The development of the short poem from the origin to the present. The development of the genre. (3).
- 520. TEACHING WRITING FOR THINKING.** This course examines current theories and practices of teaching writing. The course focuses on the process theory of writing to foster thinking and learning in subject areas, collaborative learning, and error analysis and grammar instruction. (3).
- 521. WRITING WORKSHOP.** Direction of individual writing projects. Prerequisite: consent of instructor. (May be repeated once for credit). (3).
- 522. RESTORATION DRAMA.** Drama of the Restoration and 18th century; examination of critical and historical problems. (3).
- 524. AMERICAN DRAMA: TO 1900.** A historical-critical survey of American drama before 1900, with attention to themes, characterization, and dramatic techniques. (3).
- 531. ENGLISH LITERATURE OF THE 17th CENTURY.** (3).
- 541. ENGLISH LITERATURE OF THE 18th CENTURY.** (3).
- 554. ENGLISH LITERATURE FROM SENSIBILITY TO ROMANTICISM.** Selected poetry, prose, and fiction of the late 18th century (pre-Romantic) and the early Romantic periods. (3).
- 555. ENGLISH LITERATURE OF THE ROMANTIC PERIOD.** (3).
- 557. ENGLISH LITERATURE OF THE VICTORIAN PERIOD.** (3).
- 558. ENGLISH LITERATURE OF THE 20th CENTURY.** (3).
- 559. ANGLO-AMERICAN FOLK BALLAD.** (3).
- 561. EARLY AMERICAN POETRY.** A study of the development of American poetry from the Colonial period through the 19th century. (3).
- 562. MODERN AMERICAN POETRY.** Survey of American poetry from Edward Arlington Robinson to the present, with emphasis on such major poets as Frost, Stevens, Pound, Eliot, and W.C. Williams. (3).
- 563. WRITERS OF THE AMERICAN RENAISSANCE.** The major works of Emerson, Thoreau, Hawthorne, Melville, and others. (3).
- 566. FAULKNER WORKSHOP.** A study of the relationship between Faulkner's novels and the geography, history, and people of North Mississippi. (3).
- 567. AMERICAN LITERATURE OF THE COLONIAL PERIOD.** American literature of the 17th and 18th centuries. (3).
- 568. LITERATURE OF THE OLD SOUTH.** Survey of Southern writing from Jefferson through Murfree, with particular attention to Poe, Simms, the humorists, Hayne, Timrod, Lanier, Cable, and local color. (3).
- 569. SOUTHERN LITERATURE OF THE 20th CENTURY.** Selected novels, short stories, plays, and essays surveying the work of Southern writers in the 20th century. (3).
- 573. THE AMERICAN NOVEL BEFORE 1914.** Development of the American novel, including the work of Brown, Cooper, Simms, Hawthorne, Melville, Mark Twain, Howells, James, Crane, Norris, and others. (3).
- 574. THE AMERICAN NOVEL AFTER 1914.** Continuation of 573. Wharton, Garland, Dreiser, Glasgow, Wolfe, Anderson, Lewis, Fitzgerald, Hemingway, Dos Passos, Farrell, Faulkner, and others. (3).
- 575. RECENT AMERICAN LITERATURE.** Selected novels, short stories, and essays of the 20th century, with emphasis on the contemporary scene. (3).

576. DEVELOPMENT OF THE SHORT STORY. Consideration of stories and critical documents influential in shaping the short story, with emphasis on post-Chekhovian stories. (3).

579. THE 18th CENTURY ENGLISH NOVEL. A survey of the history and development of the English novel from its inception in the early decades of the 18th century through the end of the century. (3).

580. THE ENGLISH NOVEL IN THE ROMANTIC PERIOD. A survey of the history and development of the English novel from its inception in the early decades of the 18th century to the end of the Romantic Period. (3).

581. THE ENGLISH NOVEL, 1820-1920. Major English fiction from the 1820s to the 1920s. (3).

582. THE ENGLISH NOVEL, 1920-PRESENT. Major English novels of the modern period. (3).

587. THE HISTORY OF RHETORIC. A selective review of rhetorical theory and practice in the Greek, Roman, early Christian, medieval, scholastic, English Renaissance, 19th century, modern, and contemporary periods. (3).

588. WRITING THEORY. This course examines theories of rhetoric and composing as they conflict and converge to form our prevailing theories of writing. Following a brief survey of rhetorical theory, ancient to modern, the course focuses on contemporary theories of composing written discourse. (3).

589. THE THEORY AND PRACTICE OF THE CRITICISM OF POETRY. A practical course in the interpretation and evaluation of poems. (3).

590. CLASSICS OF LITERARY CRITICISM. Examination of the principal documents and practical application of critical theories. (3).

591. RECENT LITERARY CRITICISM. Examination of the principal documents and practical application of critical theories. (3).

592. MODERN ENGLISH GRAMMAR. Advanced treatment of syntactic structures with special attention to current interpretations; emphasis on morphology and generative transformational theories of syntax. Prerequisite: ENGL 313 or 401. (Same as LING 592). (3).

593. AFRO-AMERICAN LITERATURE. Selected Afro-American prose, poetry, fiction, and drama, with emphasis on major figures, themes, periods, and movements. Prerequisite: ENGL 303, 304, 308, or 309. (May be repeated once for credit). (Same as AFRO 593). (3).

595. SEMINAR IN LINGUISTICS. Content varies. (Same as ANTH 595 and LING 595). (3).

EXERCISE SCIENCE AND LEISURE MANAGEMENT—ESLM

Associate Professor Linda F. Chitwood, chair • 215 Turner Complex

Associate Professors Acevedo, Beason, Cheek, Cole, and Gilbert • Assistant Professors Coker, Dupper, Hallam, Kaufman, and Kinzey • Instructors Boon, Mullins, and Wright

Exercise and Leisure Activities—EL

UNIFORMS AND EQUIPMENT. All students in the exercise and leisure classes must wear the attire prescribed for the activity in which they are engaged.

PASS-FAIL OPTION. Students may elect to take exercise and leisure activity courses either on a standard letter grade basis or a pass-fail basis.

Unless otherwise indicated, each of the following courses carries one (1) semester-hour credit.

100. WILDERNESS LIVING TECHNIQUES. Basics of outdoor living skills focusing on camping, orienteering, basic survival, cooking, natural food identification and preparation and trip planning. (1).

103. ROPES COURSES AND CLIMBING BASICS. An introduction into low ropes adventure courses, high ropes adventure courses, and basic climbing techniques such as rappelling, tyrolean traverse and team climbing. (1).

105. SELF-DEFENSE ACTIVITIES.

- 111. CYCLING.**
- 117. VOLLEYBALL.**
- 119. ARCHERY.**
- 120. INTRODUCTION TO LIFETIME LEISURE ACTIVITIES.** Selected individual and group leisure activities suitable for all age groups and ability levels. (1).
- 124. RACQUETBALL.**
- 129. BODY CONTOURING AND CONDITIONING.**
- 132. CANOEING.** Principles of canoeing to include canoeing skills proficiency, basic water safety, small craft safety, and trip planning. Prerequisites: minimum of EL 170: Beginning Swimming or equivalent skill level. Must pass a swimming pre-test.
- 133. BACKPACKING.**
- 137. BOWLING.**
- 139. GOLF.**
- 142. OPEN WATER SCUBA DIVING.**
- 147. TENNIS.**
- 151. WEIGHT LIFTING.**
- 153. SPORTS CONDITIONING.**
- 154. COACHING SOCCER. (2)**
- 156. JOGGING.**
- 158. LOW IMPACT AEROBICS.** A form of aerobic exercise in which one foot remains in contact with the floor at all times.
- 159. HIGH IMPACT AEROBICS.**
- 160. VARSITY SOCCER.** For varsity athletes only.
- 169. AQUA EXERCISE.** Forms of aquatic exercise including aqua-aerobics, deep water running, shallow water running, and swimming.
- 170. BEGINNING SWIMMING.**
- 171. INTERMEDIATE SWIMMING.**
- 172. ADVANCED SWIMMING.**
- 173. LIFEGUARDING.** Techniques of lifeguarding skills, training, aquatic facility management, and emergency care. American Red Cross Certification. Prerequisite: Must have HS 203 or current American Red Cross Certification in Standard First Aid and Adult Basic CPR. Must pass pre-test. (2).
- 174. WATER SAFETY INSTRUCTOR.** Techniques of aquatic instruction to include basic water safety, emergency water safety and progression swimming. Red Cross Certification is possible. Prerequisite: Proficient swimming skills to include: front crawl, back crawl, elementary backstroke, breaststroke, sidestroke. Must pass pretest. Must be Lifeguard certified or possess Emergency Water Safety Certification. (2).
- 175. LIFEGUARDING INSTRUCTOR.** Techniques and applications of practical and teaching skills for individuals qualified to become an American Red Cross lifeguarding instructor. (2).
- 176. VARSITY VOLLEYBALL I.**
- 177. VARSITY RIFLERY I.**
- 179. VARSITY BASEBALL I.**
- 180. VARSITY SOFTBALL I.**
- 181. VARSITY BASKETBALL I.**
- 183. VARSITY FOOTBALL I.**
- 185. VARSITY GOLF I.**
- 187. VARSITY TENNIS I.**
- 189. VARSITY TRACK I.**
- 217. ADVANCED VOLLEYBALL.**
- 219. ADVANCED ARCHERY.**
- 224. ADVANCED RACQUETBALL.**
- 229. ADVANCED BODY CONTOURING AND CONDITIONING.**
- 233. SPORTS OFFICIATING I. (2).**

234. **SPORTS OFFICIATING II.** (2).
237. **ADVANCED BOWLING.**
239. **ADVANCED GOLF.**
242. **ADVANCED OPEN WATER SCUBA DIVING.** Course is designed to provide additional diving skills for those who have been certified as open water divers. Scuba diving knowledge, skills, and experience is further developed to enhance diving safety and enjoyment. Prerequisite: EL 142.
247. **ADVANCED TENNIS.**
251. **ADVANCED WEIGHT LIFTING.**
253. **ADVANCED SPORTS CONDITIONING.**
255. **COACHING TENNIS.** (2).
260. **VARSITY SOCCER I.** For varsity athletes only.
269. **ADVANCED AQUA EXERCISE.** This course will systematically review and expand the concepts of aquatic exercises introduced in EL 169 (Aqua Exercise). The exercises will improve cardiovascular endurance, flexibility, strength, and muscle tone.
276. **VARSITY VOLLEYBALL II.**
277. **VARSITY RIFLERY II.**
279. **VARSITY BASEBALL II.**
280. **VARSITY SOFTBALL II.**
281. **VARSITY BASKETBALL II.**
283. **VARSITY FOOTBALL II.**
285. **VARSITY GOLF II.**
287. **VARSITY TENNIS II.**
289. **VARSITY TRACK II.**
342. **MASTER DIVER.** Familiarizes the participant with advanced materials, knowledge, and experience in preparation for certification as a dive expert. (2).
352. **COACHING FOOTBALL.** (2).
353. **ADVANCED SPORTS CONDITIONING.**
354. **COACHING BASKETBALL.** (2).
355. **COACHING BASEBALL–SOFTBALL.** (2).
357. **COACHING VOLLEYBALL.** (2).
359. **COACHING TRACK AND FIELD.** (2).
360. **VARSITY SOCCER II.** For varsity athletes only.
376. **VARSITY VOLLEYBALL III.**
377. **VARSITY RIFLERY III.**
379. **VARSITY BASEBALL III.**
380. **VARSITY SOFTBALL III.**
381. **VARSITY BASKETBALL III.**
383. **VARSITY FOOTBALL III.**
385. **VARSITY GOLF III.**
387. **VARSITY TENNIS III.**
389. **VARSITY TRACK III.**
442. **DIVE SUPERVISOR.** To develop an understanding of the cognitive and psycho-motor skill necessary in the preparation of SCUBA diving programs. (2).
453. **ADVANCED SPORTS CONDITIONING.**
460. **VARSITY SOCCER III.** For varsity athletes only.
476. **VARSITY VOLLEYBALL IV.**
477. **VARSITY RIFLERY IV.**
479. **VARSITY BASEBALL IV.**
480. **VARSITY SOFTBALL IV.**
481. **VARSITY BASKETBALL IV.**
483. **VARSITY FOOTBALL IV.**

- 485. VARSITY GOLF IV.
- 487. VARSITY TENNIS IV.
- 489. VARSITY TRACK IV.

Exercise Science–ES

104. SPORTS IN THE ANCIENT WORLD. Introduction to sports and culture in the history of ancient Greece and Rome. (Same as CLC 104). (3).

300. INTRODUCTION TO EXERCISE SCIENCE. An overview of the field of exercise science; its development, professional activities, and subdisciplines. (3).

319. SPORT AND SOCIETY. A comprehensive view of past, present, and future directions of sport and fitness in American society. (3).

338. MOTOR DEVELOPMENT/LEARNING. The study and analysis of life span motor development, learning, and performance with emphasis on sensory, perceptual, and muscular components of human movement. (3).

346. KINESIOLOGY. Analysis and study of human movement with special reference to anatomical principles underlying human movement. Students dropping ES 346 must also drop ES 347. Corequisite: ES 347. Prerequisite: BISC 206. (3).

347. KINESIOLOGY LABORATORY. Experimental laboratory to accompany kinesiology lecture. Students who withdraw from the lecture must withdraw from the laboratory. Corequisite: ES 346. (1).

348. PHYSIOLOGY OF EXERCISE. Study of body systems affected by exercise; functions of these systems during exercise; effects of age, sex, body type, and nutrition on capacity for exercise; techniques of assessing physical work capacity, and a critical analysis of research literature. Students dropping ES 348 must also drop ES 349. Prerequisite: BISC 206. Corequisite: ES 349. (3).

349. PHYSIOLOGY OF EXERCISE LABORATORY. Laboratory to accompany ES 348. Students dropping ES 349 also must drop ES 348. Corequisite: ES 348. (1).

351. PSYCHOMOTOR ASSESSMENT. Evaluation of health status, physical fitness and other psychomotor parameters using appropriate laboratory and field techniques and focusing on administration and interpretation of results. (3).

394. THERAPEUTIC EXERCISE AND FITNESS. An overview of therapeutic exercise and fitness components for at-risk populations with emphasis on preventive and corrective programming. (3).

402. EXERCISE LEADERSHIP. An overview of the educational concepts, performance techniques, program design, and leadership skills needed to teach individual and group-led exercise programs. (3).

446. BIOMECHANICS OF HUMAN MOVEMENT. Quantification of the forces acting on the human body during selected activities. Prerequisites: ES 346, 347; MATH 121, 123, or 125. (3).

456. FITNESS ASSESSMENT AND EXERCISE PRESCRIPTION. Scientific foundations of conditioning, a life-span approach with specific attention to exercise prescription. Students dropping ES 456 also must drop ES 457. Prerequisites: MATH 121, 123, or 125; ES 348 and ES 349. Corequisite: ES 457. (3).

457. FITNESS ASSESSMENT AND EXERCISE PRESCRIPTION AND LABORATORY. Laboratory to accompany ES 456. Students dropping ES 457 also must drop ES 456. Corequisite: ES 456. (1).

471. MANAGEMENT OF HEALTH, FITNESS AND SPORT PROGRAMS. An analysis and study of management principles used in health, fitness, and sport programs. (3).

473. PRACTICUM. Supervised experience in an approved professional setting to total 200 clock hours. Prerequisites: Senior rank; 2.5 GPA in professional core; 24 professional core hours complete; consent of adviser. (3).

512. FOUNDATIONS OF BIOMECHANICS. Biomechanical bases of human movement, focusing on the mechanical interaction between the human body and the external environment. (3).

- 490. INDEPENDENT STUDY.** Prerequisite: instructor's approval. (1-3).
- 540. BEHAVIORAL ASPECTS OF EXERCISE.** Behavioral considerations related to establishing and maintaining personal, commercial, corporate, or clinical-based exercise programs. Emphasis on strategies for increasing adherence and reducing attrition. Prerequisites: senior rank, 24 core hours completed; 2.5 GPA in core, consent of instructor. (3).
- 542. SPORTS PSYCHOLOGY.** Examination of motivation, personality, and other personal performance-related issues affecting sports. (3).
- 544. THE AMERICAN WOMAN IN SPORTS.** A comprehensive, multidisciplinary analysis of the problems, patterns, processes, and potentials associated with the sport involvement of women in our culture. (3).
- 574. SELECTED PROBLEMS IN SPECIAL POPULATIONS.** Selected problems confronting individuals with special needs in the areas of physical development, therapeutic activities, physiological performance, and leisure management. Prerequisite: ESLM 394. (Same as LM 573). (3).

Leisure Management—LM

- 194. FOUNDATIONS OF LEISURE.** Analysis of the leisure field to provide a basic understanding of leisure as an increasingly important component of our society. (3).
- 200. LEISURE PROGRAMS LEADERSHIP.** Planning and leadership techniques for conducting organized leisure programs for all age groups. (3).
- 201. PRE-INTERN FIELD PRACTICUM.** Practical experience in local recreation agencies. (1).
- 301. PLANNING AND EVALUATION OF LEISURE SYSTEMS.** Principles of assessment, planning, and evaluation of leisure services, resources, areas, and facilities. (3).
- 302. PROGRAM PLANNING AND DEVELOPMENT.** Techniques and processes in program planning, implementation, development, and evaluation in recreation settings. (3).
- 332. OUTDOOR RECREATION.** Roles and responsibilities of local, state, and federal governments in providing appropriate locations, facilities, programs, and leadership. Prerequisite: majors and minors only, or with instructor approval. (3).
- 362. RECREATION FOR PERSONS WITH DISABILITIES.** A focus on the provision of inclusive recreation services for persons with disabilities, with emphasis placed on the content areas of attitude, legislation, programming, accessibility/usability, and the characteristics and implications of varied disabling conditions. (3)
- 371. CAMP LEADERSHIP.** Training for camp counseling: program; campcraft skills; survey of the field of camping. Prerequisite: Majors and minors only or with instructor's approval. (3).
- 401. INTERNSHIP IN LEISURE PROGRAMS.** Supervised internship in leisure programs to total 400 clock hours. Prerequisite: LM 194, 200, 201, 302, and 471. Senior rank; 2.50 GPA in professional core and a score of 70% or higher on the LM 401 pre-internship qualifying exam. (6). (Z grade).
- 425. DESIGN AND MAINTENANCE OF FACILITIES.** Application of principles for design and maintenance of physical and/or natural resources in leisure programs. (3).
- 471. ADMINISTRATION OF LEISURE, FITNESS, AND SPORT PROGRAMS.** A study of administrative concepts in personnel organizational and fiscal management in leisure, fitness, and sports environments. (Same as ES 471). Prerequisite: Senior standing and adviser's consent. (3).
- 490. INDEPENDENT STUDY.** A course designed to allow individual educational pursuit in selected areas of interest in the field of leisure management. Prerequisite: instructor's approval. (1-3).
- LM 497, 498, 499. COOPERATIVE FIELD PRACTICUM.** Cooperative academic/government outdoor recreation practicum. LM majors only. Prerequisite: approval of program director. Z grade. (3, 3, 3).
- 510. ENTREPRENEURIAL RECREATION.** Application of small business management practices to private recreation enterprises. (3).
- 539. OUTDOOR RESOURCES MANAGEMENT.** Principles of development and management of natural resources, visitors, and maintenance services of outdoor recreation areas. (3).

569. STRATEGIES AND APPLICATIONS IN OUTDOOR EDUCATION. A focus on the application of selected outdoor instructional strategies for use in the areas of recreation and education. (3).

571. RECREATIONAL SPORTS PROGRAMMING. An examination and discussion of the operational uniqueness essential to successfully operate recreational sports programs in a public or institutional setting. (3).

572. INTRODUCTION TO THERAPEUTIC RECREATION. An investigation of special populations, their special needs for recreation, and how community recreation programs can be organized to meet these needs. (3).

573. PRINCIPLES AND PROCESSES OF THERAPEUTIC RECREATION. This course examines the process involved in the delivery of therapeutic recreation services, including assessment, program planning and implementation, documentation, and evaluation methods. (3).

Health and Safety—HS

191. PERSONAL AND COMMUNITY HEALTH. A comprehensive health course including principles and practices of healthful living for the individual and community; major health problems; responsibilities of home, school, health agencies. (3).

203. FIRST AID. Safety instruction and practices in the methods as prescribed in the American Red Cross standard and advanced courses. (3).

303. PREVENTION AND CARE OF ATHLETIC INJURIES. An analysis of injuries most common to each sport, safety procedures, practical procedures for administering first aid. Prerequisite: HS 203. (3).

391. TRENDS AND CURRENT TOPICS IN HEALTH. Identification and analysis of current health problems, particularly those related to lifestyle, socioeconomic and ethnic factors. (3).

403. ADVANCED ATHLETIC TRAINING. Advanced evaluative, rehabilitative, and preventive techniques in athletic training, with practical application under supervision. Prerequisite: HS 203, HS 303, BISC 206.(3).

406. INTRODUCTION TO DRIVER AND HIGHWAY SAFETY EDUCATION. Analysis of automobile operation, traffic law and regulations, attitudes, and safety problems. (Required for teacher certification). Prerequisite: driver's license. (3).

407. HIGHWAY SAFETY AND DRIVER EDUCATION. Methods, techniques, and materials designed for prospective teachers in the development of a driver education program. (Required for teacher certification). Prerequisite: 406. (3).

408. DRIVING SIMULATION. Methods of teaching driver education and highway safety in school, home, and community. (3).

Wellness—WL

507. SAFETY EDUCATION. Principles, procedures, and materials for teaching safety in school, home, and community. (Required for teaching endorsement. (3).

515. ORGANIZATION AND ADMINISTRATION OF WELLNESS PROGRAMS. Emphasis on designing, implementing, and administering wellness programs. (3).

FAMILY AND CONSUMER SCIENCES—FCS

Associate Professor Erskine R. Smith, chair • 110 Elma Meek Hall

Associate Professors Bomba and Knight • Assistant Professors Endo, Palan, Tidwell, West, Wachter • Instructor Gary

102. INTRODUCTION TO MERCHANDISING. An overview of the producers, manufacturers, and retailers of goods and services. Includes career exploration. (3).

150. INTRODUCTION TO THE FAMILY AND CONSUMER SCIENCES PROFESSION. Exploring personal philosophy, career choices, history, philosophy and mission of family and consumer sciences. (3).

201. TEXTILES. Study of textiles for specific uses. Emphasis on fiber, yarn, fabric, finish, design, care, performance, identification, rules, and regulations as applied to finished products. (3).

205. SOFT GOODS MARKETING. Evaluation of the basic components, material, construction of soft goods. Assessment of price/quality relationships in design, manufacture, promotion and distribution of soft goods. Prerequisite: FCS 201. (3).

211. PRINCIPLES OF FOOD PREPARATION. Food principles and preparation techniques and their effects on food products. (1 lecture, 2 two-hour labs).

215. INTRODUCTION TO HOSPITALITY MANAGEMENT. An overview of the hospitality industry from its beginning to projections for the future. A systems approach is used to survey each segment of this industry. (3).

302. CLOTHING AND CONSUMER SOCIETY. Examine and discuss the impact of culture, society, the economy and psychology on the clothing consumption practices of individuals and groups in society. (3).

306. COSTUME HISTORY. A survey of costume and the social, cultural, political, and technological developments that affected fashion changes, from antiquity to the present. (3).

310. NON-STORE RETAILING. Investigation of goods and services, offered by nonstore retail formats such as telemarketing, catalogs, television, and the Internet in meeting consumer needs and wants. Prerequisites: MKTG 351 and 367. (3).

311. NUTRITION. Fundamental principles of human nutrition; application to needs of individuals and families at all stages of the life cycle. (3).

321. CHILD CARE AND DEVELOPMENT. The physical, mental, social, and emotional development of the child from birth to six years; nursery school observation and participation. (2 lecture, 2 lab hours). (3).

323. HUMAN DEVELOPMENT ACROSS THE LIFE SPAN. Life span of human development including physical, intellectual, emotional, and social development; the needs of individuals throughout the life span; and the formation and maintenance of human relationships. (3).

325. MARRIAGE AND FAMILY RELATIONSHIPS. A functional approach to the interpersonal relationships of courtship, marriage, and family life. (3).

327. TOPICS IN CHILD AND FAMILY STUDIES. A study of the internal and external social processes impacting families, including public policies and ethical issues. Prerequisites FCS 323 and 325. (3).

343. SOCIOECONOMIC ASPECTS OF HOUSING. Alternatives, decisions and constraints in meeting family housing needs. Relationship of housing to the social, economic, and political systems of the culture. (3).

360. LEGAL ISSUES IN THE HOSPITALITY INDUSTRY. Application of management theory and techniques to the hospitality industry as applied to the issues of law. Includes topics such as discrimination, tort, innkeeper liability to guests and contracts in the hospitality industry. Prerequisites FCS 215 and BUS 250. (3).

361. FRONT OFFICE ADMINISTRATION. To provide students with a comprehensive working knowledge of hotel operations, policies and procedures. (3).

370. THE HOSPITALIZED CHILD. Examine and discuss issues regarding child life in hospitals. (3).

403. NEW YORK TOUR. New York tour targets trade associations, producers, manufacturers, retailers, and allied sectors that support merchandising careers. Student paid experience. Prerequisites: junior or senior standing, permission of instructor.

411. ADVANCED NUTRITION. Scientific principles underlying specific nutrients and their functions in human metabolism. Review of current professional literature in nutrition. Prerequisites FCS 311, CHEM 371, and BISC 330 (3).

- 412. MEDICAL NUTRITION THERAPY.** Modification of the normal diet to meet nutritional needs in the prevention and treatment of disease. Prerequisite FCS 411. (3).
- 415. EXPERIMENTAL FOOD STUDY.** Experimental study of chemical and physical factors affecting standard food preparation procedures. (1 lecture, 2 two-hour labs.) Prerequisites FCS 211. (3).
- 410. FUNDAMENTALS OF CLINICAL DIETETICS.** An orientation to the profession of dietetics; includes types of services, nutrition assessment, introduction to therapeutic nutrition, requirements for dietetic registration, and responsibilities of practitioners. Prerequisites FCS 311, junior or senior standing. (3).
- 421. GLOBAL TEXTILES AND APPAREL MARKETING.** Examination of trade in fiber, textile, and apparel within the global marketplace. Prerequisites: FCS 102, 201, 205; MKTG 367. (3).
- 422. NURSERY SCHOOL—DAY CARE PROCEDURES.** Program planning, methods, equipment, and materials for teaching children under age five: directed experiences with groups of children (2 lecture, 2 lab hours.) Prerequisite: FCS 321 or PSY 301. (3).
- 424. INTERNATIONAL CONSUMER RETAILING.** The macro and micro factors associated with a retail strategy in pursuing international markets. Prerequisites: FCS 102; BUS 271; ECON 202 and 203; MKTG 351 and 361. (3).
- 425. ADOLESCENTS AND THE FAMILY.** The social processes, changes, experiences, expectations, and requirements of families with adolescents in our society. (3).
- 426. MALL MANAGEMENT.** Study of shopping malls in the United States from a sociocultural and business perspective. Prerequisites: MKTG 351 and 361.
- 427. AGING AND THE FAMILY.** This is a study of the social processes, changes, experiences, expectations, and requirements of families with aging members.
- 443. CONSUMER PROBLEMS.** Budgeting income and purchasing consumer goods to achieve family goals. (3).
- 444. STRATEGIC MERCHANDISING ISSUES.** Merchandising strategy in a dramatically changing, intensely competitive marketplace, focuses on key concepts in strategic retailing, success requirements, environment, and consumer tastes. Prerequisites: junior or senior standing, FCS 102, BUS 271, MKTG 361 and 367, MGMT 371. (3).
- 451. PARENTING ACROSS THE LIFE SPAN.** A study of how parents teach, guide, and influence throughout the life span. Topics include parenting as a process, parental rights, and responsibilities, parental roles over the life cycle, and variations in parenting practices. Prerequisite: FCS 325.
- 461. FOODSERVICE SYSTEMS MANAGEMENT I.** Management of foodservice systems and the interrelationships among foodservice systems components. (3).
- 462. QUANTITY FOOD PRODUCTION AND SERVICE.** Principles and fundamentals of quantity food production and service in commercial and institutional operations. menu planning, recipe standardization, human resource utilization, hazard analysis of critical control points, and costing. (2 lectures and 1 four-hour lab.) Prerequisite FCS 211. (3).
- 463. FOODSERVICE PROCUREMENT.** Purchasing methods based on standards of quality, grade, care, and storage for food and nonfood supplies. Purchasing, installation, operation and care of large foodservice equipment. (3).
- 464. HOSPITALITY SERVICES PROMOTION.** Application of marketing theory and practices to the hospitality industry. Prerequisite MKTG 351. (3).
- 465. FOODSERVICE SYSTEMS MANAGEMENT II.** A continuation of the study of foodservice systems began in FCS 461. Prerequisite FCS 461. (3).
- 466. HUMAN RESOURCES DEVELOPMENT IN THE HOSPITALITY INDUSTRY.** Application of human resource theory and techniques as it applies to the hospitality industry. Prerequisites FCS 361, 462, and MGMT 383. (3).
- 467. HOSPITALITY SERVICES FINANCIAL MANAGEMENT.** Application of financial management theory and techniques to the hospitality industry.

471. INTRODUCTION TO MARRIAGE AND FAMILY THERAPY. This is an introductory study of 1) the historical, conceptual, and contemporary contexts of family therapy, and 2) the more prominent models of family therapy, including the structural model, Bowenian model, strategic and systemic models, and others. (3).

473. FAMILY LIFE EDUCATION. A study of the general philosophy and broad principles of family life education. Prerequisites FCS 323 and 325, FCS majors with senior standing. (3).

475. INTRODUCTION TO FAMILY LIFE EDUCATION II. Planning, implementing, and evaluating family life education programs. Prerequisite FCS 473. (3).

481. MERCHANDISING INTERNSHIP. Individually obtained work experience in one or more facets of the merchandising industry. The work experience must be approved by the student's adviser. Prerequisites: Career Services Orientation, résumé, mock interview, FCS 102, 201, 205, 421, 444; MKTG 351, 361, 367; MGMT 371; instructor consent, and 2.00 GPA in prerequisite courses. (3).

482. PRACTICUM IN CHILD AND FAMILY LIFE. Individually planned work in business or agency relating to child and family life. Prerequisites include senior standing as an FCS major in the child and family life emphasis area, the consent of the instructor, and a minimum GPA of 2.5 in FCS course work. (3).

483. PRACTICUM IN DIETETICS AND NUTRITION. Individually planned work/field experience in one or more facets of the dietetics and nutrition area. Experiences must be approved by the student's adviser. Prerequisite FCS 311, 417, 461, 462, consent of instructor and GPA of 2.00 in prerequisite courses. (3).

484. PRACTICUM IN HOSPITALITY MANAGEMENT. Individually planned work experience in one or more facets of the hospitality industry. The work experience must be approved by the student's adviser. Prerequisite Senior standing and completion of four of the following courses with GPA of 2.00 or higher in FCS 361, 461, 462, 463, 467, and MGMT 371. (3).

493. INDIVIDUAL/GROUP STUDY. Development of special projects under supervision. Prerequisite permission of instructor. (1-6).

515. NUTRITION, WEIGHT CONTROL, AND WELLNESS. Principles of human nutrition applied to weight control, physical performance, wellness, and disease prevention. (3).

516. NUTRITION OF THE AGED. Nutritional needs of the aged, including concepts of menu selection and preparation. Psychological, physiological, and socioeconomic factors affecting dietary problems and practices among the elderly. Prerequisite FCS 311 or equivalent. (3).

517. COMMUNITY NUTRITION. Nutrition services and problems in the community. Supervised experience in methods for determining and implementing action programs in nutrition education. Prerequisite FCS 311. (3).

518. MATERNAL, INFANT, AND CHILD NUTRITION. Principles of human nutrition applied to the pregnancy, infant, and child stages of the life cycle. Characteristics of normal growth and development are presented, as well as special needs and problems. (3).

521. FAMILY SEMINAR. Examination of issues that face families across the life cycle, as well as public policy issues that impact families. (3).

535. HUMAN SEXUALITY. The physiological, psychological, sociological, and ethical aspects of sexuality are addressed. Topics include, but are not limited to, the human sexual system, sexual response, gender identity and sexuality, sexual behavior and fulfillment, sexual expression, sexual value systems, sexual diseases, and sexual ethics. (3).

550. SEMINAR IN MERCHANDISING. Implementation of a business plan. Requires student-paid overnight travel to a regional market center. Limited enrollment and instructor permission required. Prerequisites: FCS 102; MKTG 361, 367; BUS 271; ACCY 201, 202; senior standing. (3).

593. INDIVIDUAL STUDY. Development of special projects under supervision. Prerequisite: permission of instructor. (1-6).

595. INTERNATIONAL STUDY TOUR. A student paid tour of major European centers, related industries, markets, museums, cultural and historical points of interest. Requires permission of instructor, passport, visa (if applicable) and immunization shots. Prerequisites: junior or senior standing, permission of instructor.

FINANCE

Associate Professor M. Mark Walker, area coordinator • 237 Holman Hall

Professor Edmister • Associate Professors Cook, Cox, Hawley, Malone, Rayburn, and Tosh • Assistant Professor Schwartz • Visiting Assistant Professor Bin • Instructor Handforth

Finance–FIN

303. MONEY AND BANKING. Prerequisite: C minimum in ECON 203. (Same as ECON 303). (3).

331. BUSINESS FINANCE I. Principles of business finance, with emphasis on financial analysis, investment decisions, cost of capital, and procurement of funds. Prerequisite: C minimum in ECON 202 and ECON 203, C minimum in BUS 230, and completion of ACCY 202. (3).

333. MONETARY AND BANKING POLICY. Commercial and central bank functions in monetary management. Also, principles and practices involved in the asset management, liability management, and capital planning areas of the commercial bank. Corequisite: FIN 303 or ECON 303. (3).

334. INVESTMENTS. Survey of securities and securities markets; risk and yield; valuation; forecasting; and portfolio management. Prerequisite: C minimum in BUS 230. Corequisite: 331. (3).

339. PERSONAL FINANCE. Financial decisions confronting individuals: budgeting; taxes; credit and borrowing; insurance; housing and investing. (3).

341. RISK AND INSURANCE. Basic principles of risk management and insurance; recognition, evaluation, and treatment of risk. An overview of the field. (3).

342. LIFE AND HEALTH INSURANCE. Addresses the concepts and analytical tools necessary to protect against the economic catastrophe caused by loss of life or health. Special emphasis is placed on business insurance and estate planning. Offered only during the fall semester. Prerequisite/corequisite: FIN 341. (3).

351. PRINCIPLES OF REAL ESTATE. A study of principles of land economics, the law dealing with property rights, agency, contracts and transfer of title; Mississippi Licensing Law, the Code of Ethics, and basic mathematics pertaining to the real estate industry. (3).

353. REAL ESTATE VALUATION AND APPRAISAL. A study of the theories of value as applied to both residential and income properties, determinants of value, underlying principles of valuation, and consideration of selected problems in appraisal with emphasis on residential property. Offered only during the fall semester. (3).

355. REAL ESTATE FINANCE AND MORTGAGE BANKING. A study of principles and methods of financing real estate, sources of funds, types and contents of financing instruments, and the role of various institutions, both private and governmental. Offered only during the spring semester. Prerequisite: C minimum in FIN 331. (3).

431. BUSINESS FINANCE II. Problems and cases in financial decision making with attention given to acquisition and management of assets, cost of capital, and procurement of funds. Prerequisites: C minimum in FIN 331 and completion of ACCY 301. (3).

441. COMMERCIAL PROPERTY INSURANCE. Managing the corporate risks of destroyed or damaged property and resulting losses of business income. Loss control and commercial and commercial insurance are the primary risk management methods studied. Offered only during the fall semester. Prerequisite/corequisite: FIN 341. (3).

442. COMMERCIAL LIABILITY INSURANCE. Addresses corporate losses caused by liability lawsuits. Legal liability for on-premises accidents or illnesses, transportation accidents, product defects, employee disability and professional errors. Risk-handling techniques include loss control, retention funds, and insurance. Prerequisite/corequisite: FIN 341. Offered only during the spring semester.

445. INTERNSHIP IN INSURANCE AND RISK MANAGEMENT. On-the-job experience with a firm engaged in insurance and/or risk management. As well as performing job duties, students will analyze the firm's operations, management, strategic plans, and growth prospects. Prerequisites: FIN 341 and consent of instructor. (3-6).

451. REAL ESTATE LAW. A consideration of the aspects of law and regulation at various levels of government applicable to real estate transactions, types of property interests, transfer instruments, and the role of the real estate agent. Prerequisite: BUS 250. (3).

531. BUSINESS FINANCETOPICS. Theory and advanced principles of finance with emphasis upon the use of modern techniques in making business decisions. Prerequisite: C minimum in FIN 331. May be repeated once for credit with the consent of the chair. (3).

533. SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT. Impact of economic factors and security markets upon security value; risk and return in efficient portfolios. Prerequisites: C minimum in FIN 331, and completion of FIN 334 and ACCY 301. (3).

534. MANAGING FINANCIAL INSTITUTIONS. Loan, investment, and fund-raising problems of commercial finance companies and factors, savings and loan associations, mutual savings banks, personal loan companies, and public lending agencies. (3).

537. BANK MANAGEMENT I. Principles, problems, practices, procedures, and regulations involved in the commercial, real estate, and installment lending areas of the commercial bank. Lecture and case problems. Offered only during the fall semester. Prerequisite: FIN 333. (3).

538. BANK MANAGEMENT II. Principles, problems, practices, and procedures involved in the investment, trust, safekeeping, safe deposit, auditing, operations, marketing, and international areas of the commercial bank. Lecture, case problems, and bank simulation. Offered only during the spring semester. Prerequisite: FIN 537. (3).

542. CORPORATE RISK MANAGEMENT. Corporate risks and the methods for handling them. Covers losses caused by natural disasters, legal liability suits, and financial price changes. Risk management methods include self-retention funding, loss prevention, insurance, and hedging contracts. (3).

553. ADVANCED INCOME APPRAISAL. An advanced study of appraising principles, procedures, and applications with emphasis on income property capitalization techniques. Offered only during the spring semester. Prerequisite: C minimum in FIN 331 and completion of FIN 351. (3).

555. REAL ESTATE INVESTMENT ANALYSIS. An application of investment principles and techniques of real estate, concentrating on the determination of the economic feasibility of real estate investments and the effects of financing and income taxes upon investment profitability. Offered only during the fall semester. Prerequisite: C minimum in FIN 331 and completion of FIN 351. (3).

561. FINANCIAL STATEMENT ANALYSIS. Theory and advanced principles of finance with emphasis upon the use of the modern techniques in making business decisions. Prerequisites: C minimum in FIN 331; ACCY 201, 202, and 301, ECON 202, 203, and C minimum in BUS 230. (3).

568. INTERNATIONAL FINANCE. Introduction to the financial problems of foreign operations. Foreign exchange, transfer of funds, banking services, international financial institutions, and investment decisions with major emphasis upon operational and financial problems of multinationals. Prerequisite: consent of instructor. (3).

581. FUTURES, OPTIONS, AND SWAPS. Offers a survey of the market for derivative financial instruments, i.e., the market for futures, options, and swaps. Provides a balanced mix of institutional, theoretical, and applied knowledge about how these instruments are designed, priced, and used in practice. Prerequisites: C minimum in FIN 331 and FIN 334. (3)

FORENSIC CHEMISTRY, FORENSIC SCIENCE *See the College of Liberal Arts section on Departmental Major and Minor Requirements.*

FRENCH *See the Department of Modern Languages.*

GENDER STUDIES—G ST

Professor Deborah Barker, director • Sarah Isom Center For Women

103. WOMEN IN ANTIQUITY. An introduction to the history and culture of ancient Greece and Rome through a consideration of the role and status of women in the classical world. Lectures with slides will be supplemented by readings of ancient texts in translation, in addition to textbook assignments. (Same as CLC 103). (3).

201. WOMEN, GENDER, AND SOCIETY. Introduction to the growing body of research available from many disciplines for the study of women. Comparison of traditional and feminist interpretations of the nature of women, their capabilities, and their roles in society. (3).

301. GENDER AND CULTURE. A study of gender roles within traditional and popular culture. The specific content of the course may vary in different semesters. Possible emphases might include women in the arts, women in film, women in the media, and women in popular culture. (3).

302. HISTORY OF CULTURE. Origins of culture traced by means of archaeological evidence and presented to show the continuity of social life from basic human beginnings to present-day civilization. (Same as ANTH 301). (3).

303. THE FAMILY. The American family as an institution and a group of interacting persons; the nature and problems of courtship, husband-wife, and parent-child relationships. Prerequisite: SOC 101, or junior or senior standing. (Same as SOC 301). (3).

310. WOMEN IN THE SOUTH. A study of the experience of women in the South as revealed primarily through their writings and other expressions. (Same as ENGL 310). (3).

311. WOMEN AND THE GODDESS IN EASTERN RELIGION. Exploration of Goddess figures and the social roles of women in the Hindu, Buddhist, and Taoist traditions. (Same as REL 311). (3).

312. WOMEN IN UNITED STATES HISTORY. History of the struggle for equality in U.S. politics and culture. (Same as HIS 312). (3).

333. GENDER THEORY. An interdisciplinary course which analyzes various ways in which western society has constructed gender roles and identities. (3).

336. WOMEN IN SOUTHERN HISTORY. A historical survey of Southern women with emphasis on research through documentary sources and oral history. (Same as HIS 336). (3).

360. WOMEN IN LITERATURE. A study of the images of women in British and American literature. Content will vary. (Same as ENGL 360). (3).

375. THE FAMILY IN EUROPEAN HISTORY. History of the changes in family structure and family life in early modern European society. (Same as HIS 375). (3).

390. PHILOSOPHICAL ISSUES IN THE WOMEN'S MOVEMENT. A survey of contemporary theories and conceptual problems concerning femininity and feminism. (Same as PHIL 390). (3).

494. SEMINAR ON LITERATURE AND GENDER. Images of women and men in literature by women and men, the special role of the woman writer, recurrent formal and contextual convention in literature written by women, and feminist critical theory. Content varies; may be repeated for credit. (Same as ENGL 494). (3).

Cross-listed courses include:

103. WOMEN IN ANTIQUITY. (Same as CLC 103). (3).

302. HISTORY OF CULTURE. (Same as ANTH 301). (3).

303. THE FAMILY. (Same as SOC 301). (3).

310. WOMEN IN THE SOUTH. (Same as ENGL 310). (3).

311. WOMEN AND THE GODDESS IN EASTERN RELIGION. (Same as REL 311). (3).

312. WOMEN IN UNITED STATES HISTORY. (Same as HIS 312). (3).

325. SOCIOLOGY OF GENDER. (Same as SOC 325). (3).

336. WOMEN IN SOUTHERN HISTORY. (Same as HIS 336). (3).

360. WOMEN IN LITERATURE. (Same as ENGL 360). (3).

- 375. THE FAMILY IN EUROPEAN HISTORY.** (Same as HIS 375). (3)
390. PHILOSOPHICAL ISSUES IN THE WOMEN'S MOVEMENT. (Same as PHIL 390). (3).
494. SEMINAR ON LITERATURE AND GENDER. (Same as ENGL 494). (3).

GEOLOGY AND GEOLOGICAL ENGINEERING

Professor R. P. Major, chairman, 118 Carrier Hall

Professors Aughenbaugh and Falconer • Assistant Professors Davidson, Easson, Holt, Kuszmaul, and Panhorst

Geology–GEOL

101. PHYSICAL GEOLOGY. An introduction to Earth science and the physical and chemical processes that affect the earth. (2 lecture, 2 lab hours). (Not applicable to major or minor programs in geology). (3).

102. HISTORICAL GEOLOGY. An introduction to Earth science and the historical development of the earth and its life. (2 lecture, 2 lab hours). (Not applicable to major or minor programs in geology). (3).

103. EARTH DYNAMICS. An integrated study of the process-response relationships between plate tectonics and geological processes through time. Required of geology and geological engineering majors. (4).

104. ENVIRONMENTAL GEOLOGY. Introduction to the relationship between humans and the geologic environment including geologic hazards, natural resources, and waste disposal problems. Satisfies science requirement of core curriculum. (2 lecture, 2 lab). (Not applicable to major or minor programs in geology.) (3).

221. MINERALOGY. Crystallography, crystal chemistry, and minerals; determination by physical and chemical properties. Prerequisite: GEOL 103. Corequisite: CHEM 105. (3 lecture, 2 lab hours). (4).

222. ELEMENTARY PETROLOGY. Petrographic and hand-specimen identification, principles of optical mineralogy and lithologic classification, the role of plate tectonics in petrogenesis. Prerequisite or corequisite: GEOL 221. (3 lecture, 2 lab hours). (4).

303. STRUCTURAL AND TECTONIC GEOLOGY. Geometric and genetic classification of both macro- and micro-structural types and their interrelations with crustal tectonics. Prerequisite: GEOL 222. (2 lecture, 2 lab hours). (3).

305. GEOMORPHOLOGY. Introduction to concepts of landform genesis. Prerequisite or corequisite: GEOL 103. (2 lecture, 2 lab hours). (3).

309. INVERTEBRATE PALEONTOLOGY. The classification, morphology, and paleoecology of invertebrate fossils. Prerequisite: GEOL 103. (3 lecture, 2 lab hours). (4).

313. SEDIMENTOLOGY. Concepts of sediment and sedimentary rock composition and genesis with an introduction to sedimentation process-response model design. Prerequisite: GEOL 221 and 222. (3 lecture, 2 lab hours). (4).

315. STRATIGRAPHY. Bio- and lithostratigraphy; methods used in study and correlation; field studies. (3 lecture, 2 lab hours). (4).

406. PETROLOGY. The genesis of each of the three major rock groups; an in-depth examination using optical methods. Prerequisite: GEOL 222. (2 lecture, 4 lab hours). (4).

410. COASTAL AND REEF DYNAMICS. Taught as study abroad only. An intermediate level course designed to acquaint the student with the dynamics of the physical and biological systems that have formed and are forming the coastal, caye, and reef areas of Belize, Central America. Prerequisite: Consent of instructor. (3).

420. OPTICAL MINEROGY. Use of the petrographic microscope to study the optical properties of rock-forming minerals. Prerequisite: GEOL 222 (2 lecture, 2 lab). (3).

500. GEOGRAPHIC INFORMATION SYSTEMS. Geographic Information Systems are combinations of computer software, hardware, and database (maps). These systems are used to analyze and display geographical information necessary for government and industrial planning. Prerequisite: GEOL 305, or consent of instructor. (4).

505. HYDROGEOLOGY. Groundwater hydrology for geologists. Prerequisite: GEOL 221, 222, 303, 313, or consent of instructor. (4).

506. ADVANCED PETROLOGY. The genesis of each of the three major rock groups by use of general collections and detailed suites of rocks and by classroom lecture. (4).

515. DIRECTED STUDIES. Individual investigation of an original problem either as a senior research problem or a graduate research problem for nonthesis credit. (May be repeated for credit). (1-3).

530. GEOLOGY FIELD STUDIES. Field projects for graduate students. Prerequisite: GEOL 221, 222, 303, 313, or consent of instructor. (3).

531. PHYSICAL MARINE GEOLOGY.⁵ Physical processes at work on the shores of Mississippi Sound. Prerequisite: GEOL 315. (3).

532. CHEMICAL MARINE GEOLOGY.⁶ Supervised research in chemistry of the waters of Mississippi Sound; geochemistry of the bottoms beneath those waters. Prerequisites: GEOL 301 and P CHEM 105, 106, 115, 116. (3).

535. GEOCHEMISTRY. Application of chemical principles to geologic problems; crystal chemistry. Prerequisite: GEOL 221, CHEM 106, 333, or consent of instructor. (3).

545. GEOSYSTEM ANALYSIS. Application of conceptual, geometrical, and mathematical model theory to the analysis of geological systems. Prerequisites: GEOL 222, 309, 313, 315, MATH 475. (Same as G E 545). (3).

555. GEOLOGY AND GEOLOGICAL ENGINEERING SEMINAR. A weekly seminar course in diverse earth science subjects for senior and graduate earth science majors. Prerequisite: senior or graduate status. (May be repeated for credit). (Z grade). (1).

Geological Engineering–GE

234. INTRODUCTION TO GEOLOGICAL ENGINEERING FIELD METHODS. Instruction in the use of geological field instruments and geological engineering field technique. Prerequisite: consent of instructor. (1).

302. THE PROFESSIONAL GEOLOGICAL ENGINEER. Ethics and professionalism; report writing and oral presentation; job opportunities and resumes; geological engineering design. Prerequisites: consent of instructor and junior or senior standing. (1).

400. GEOMECHANICS. Elements of geophysics, including the properties and behavior of earth materials and their geological engineering applications to problems and design in geomechanics, petroleum engineering, and mining. Prerequisite: ENGR 312. (3).

405. ENGINEERING GEOPHYSICS. The application of geophysical methods and techniques to subsurface engineering investigations. (3).

413. GEOSTATISTICS. Introductory probability and statistics. Numerical analysis of geological data. Prerequisite: consent of instructor. (3).

415. PETROLEUM GEOLOGY. Development of petroleum exploration programs based on stratigraphic, structural, and/or geochemical data. Prerequisite: GEOL 313, 411 or consent of instructor. (3).

421. GEOLOGICAL ENGINEERING DESIGN I. Geological engineering design by the application of rock mechanics, soil mechanics, geology, geophysics, remote sensing and hydrology to geological and engineering problems. Prerequisite: senior standing. (3).

422. GEOLOGICAL ENGINEERING DESIGN II. Geological engineering design by the application of rock mechanics, soil mechanics, geology, geophysics, remote sensing, and hydrology to geological and engineering problems. The taking of the national Fundamentals of Engineering (FE) examination is a requirement of this course. Prerequisite: GE 421 or equivalent. (3).

⁵ Offered summers only at Gulf Coast Research Laboratory.

⁶ Offered summers only at Gulf Coast Research Laboratory.

430. GEOLOGICAL FIELD STUDIES I. Application of geological engineering and geology to special study field problems. Prerequisite: consent of instructor. (4).

431. GEOLOGICAL FIELD STUDIES II. Application of geological engineering and geology to special study field problems. Prerequisite: consent of instructor. (4).

435. FIELD CAMP–GEOLOGICAL ENGINEERING. Four weeks of geological engineering mapping of geological formations and man-made excavations in the field. Prerequisite: consent of instructor. (3).

437. GEOLOGICAL ENGINEERING DESIGN FIELD CAMP. Geological engineering design problems at the South Dakota Consortium's Black Hills Field Station. Prerequisite: consent of instructor. (3-6).

440. ROCK MECHANICS. The physical and engineering properties of rocks and rock-like materials; classification, strength, deformation, hydraulic aspects, geostresses, effects of discontinuities and geologic structures. Geological engineering application to geotechnics, petroleum and mining problems and design. Prerequisite: consent of instructor. (2 lecture, 2 lab hours). (3).

450. HYDROGEOLOGY. The theory and geology of the flow of ground water. Engineering principles and the design of wells for the production or injection of fluids from or into subsurface aquifers. Prerequisite: consent of instructor. (3 lecture, 2 lab hours). (4).

460. FUNDAMENTALS OF WASTE MANAGEMENT. The fundamentals of managing and disposing of waste materials. Emphasis on the geological and geotechnical aspects of disposal by burying in the subsurface, and on elements of geophysics. Prerequisite: consent of instructor. (3).

470. INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS). Geographic information systems (GIS) are computer systems of holding and using information describing places on the Earth. These systems used are for industry and government to manage and analyze environmental, engineering, and natural resource information. Prerequisite: consent of instructor. (3 lecture, 2 lab hours). (4).

490. DIRECTED STUDIES AND PROJECTS. Individual studies and/or projects for undergraduates on specific topics. (1-3).

500. INTRODUCTION TO GEOCHEMISTRY I. Application of chemical principles to geological problems. Prerequisite: GEOL 221, 222, CHEM 106, 333 or ENGR 320, 321, or consent of instructor. (3).

501. INTRODUCTION TO GEOCHEMISTRY II. Application of chemical principles to geological problems. Prerequisite: G E 500. (3).

502. CONSTRUCTION GEOLOGICAL ENGINEERING. Design and construction procedures for geology-related problems in heavy construction. (3).

503. ENVIRONMENTAL GEOCHEMISTRY. Chemical interaction between water and aquifer minerals, organic minerals, and contaminants. Prerequisite: CHEM 106. (3).

504. ENVIRONMENTAL GEOCHEMISTRY LAB AND FIELD METHODS. Water quality measurement and evaluation for natural, contaminated, and industrial waste water. Prerequisite: CHEM 106. (1-2).

506. GEOMECHANICS FOR GEOLOGISTS. Application of geomechanics to geological problems. Prerequisite: consent of instructor. (3).

507. REGIONAL GEOLOGICAL ENGINEERING. Geological engineering problems associated with each area of the United States. Prerequisite: consent of instructor. (3).

510. REMOTE SENSING. Theory and principles of remote sensing technology; mission design and analysis of remotely sensed data, given cost and technological constraints, for geologic applications. Prerequisite: consent of instructor. (1 lecture, 4 lab hours). (3).

511. SPATIAL ANALYSIS. GIS analysis of the relationships of mapped features. Course will include application and integration of GIS, image processing, and mathematical models. Prerequisite: GEOL 500 or GE470 or consent of instructor. (3).

513. ECONOMIC GEOLOGY. Study of the stratigraphic and genetic aspects; exploration techniques; and evaluation of reserves, material quality, and economic potential of ore deposits. Prerequisites: GEOL 303, GEOL 315 and G E 413, or MATH 475. (1 lecture, 4 lab hours). (3).

520. GEOLOGY AND GEOLOGICAL ENGINEERING COMPUTER APPLICATIONS. The use of computer programs for earth science applications. Prerequisite: GEOL 221, 222, 313, 315, or consent of instructor. (3).

525. ENGINEERING SEISMOLOGY. Origin of earthquakes, their effects on structures and the selection of ground-motion parameters for earthquake-resistant design. Prerequisite: consent of instructor. (3).

530. ADVANCED GEOMECHANICS. Applications of the principles of geomechanics to engineering problems dealing with earth materials. (3).

535. ADVANCED ROCK MECHANICS. The application of mechanics to solving problems in rock engineering for both surface and underground conditions. (3).

545. GEOSYSTEM ANALYSIS. Application of conceptual, geometrical, and mathematical model theory to the analysis of geological systems. Prerequisite: GEOL 222, 309, 313, 315, MATH 475. (Same as GEOL 545). (3).

560. WASTE DISPOSAL I. An introduction to the growing problem of managing and disposing of waste products generated by society. (3).

577. GEOPHYSICS I. Gravity and magnetic theory and methods. Prerequisite: consent of instructor. (Same as ENGR 577). (3).

579. GEOPHYSICS II. Seismic and electrical theory and methods of subsurface investigation. Prerequisite: consent of instructor. (Same as ENGR 579). (3).

GERMAN *See the Department of Modern Languages.*

GOVERNMENT *See the Department of Political Science.*

GREEK *See the Department of Classics.*

GUIDANCE *See the Department of Educational Leadership and Educational Psychology.*

HEALTH INFORMATION MANAGEMENT *See the College of Liberal Arts section on Pre-professional Studies.*

HISTORY—HIS

Associate Professor Robert J. Haws, chair • 310 Bishop Hall

Professors Eagles, Jordan, Landon, Metcalf, Namorato, E. Payne, Skemp, and Wilson • Associate Professors Esposito, Field, Gispén, Laurenzo, Ownby, J. F. Payne, Sullivan-Gonzalez, and Watt • Assistant Professors Bercaw, Bertrand, Grayzel, Howard, Neff, Ross, and Ward

101. WESTERN CIVILIZATION FROM THE EARLIEST TIMES TO 1648. Political, cultural, social, and economic development. (3).

102. WESTERN CIVILIZATION SINCE 1648. Continuation of 101. (3).

105. THE UNITED STATES TO 1877. Political, cultural, social, and economic development. (3).

106. THE UNITED STATES SINCE 1877. Continuation of 105 to the present. (3).

301. COLONIAL AMERICA. The development of the American colonies to 1750. (3).

302. AMERICA IN THE AGE OF REVOLUTION, 1740-1789. Political, social, and economic development. (3).

- 303. U.S. HISTORY, 1789-1850: THE EMERGING NATION.** Social, political, economic, and cultural history from the founding of the nation through the expansion of the frontier, market revolution, rise of plantation slavery, and the era of reform. (3).
- 304. U.S. HISTORY, 1877-1918: THE NATION REDEFINED.** Social, political, economic, and cultural history of America in the age of industrialization, urbanization, and globalism. (3).
- 305. THE UNITED STATES, WORLD WAR I-1945.** Major developments in the age of normalcy, depression, and global war. (3).
- 306. THE UNITED STATES SINCE 1945.** Major developments in age of Cold War, domestic reform, and world power responsibilities. (3).
- 307. AFRICAN AMERICAN HISTORY TO 1865.** Black American history from West Africa to 1865, emphasizing the role of black leaders and their struggle against oppression. (Same as AFRO 325.) (3).
- 308. AFRICAN AMERICAN HISTORY SINCE 1865.** A survey of the history of black Americans from the Emancipation Proclamation to the present, emphasizing the role of black leaders, the struggle against oppression, and the evolution of race relations. (Same as AFRO 326.) (3).
- 309. UNITED STATES DIPLOMACY TO 1898.** The evolution of U.S. foreign policy from the French and Indian War through the Spanish-American War. (3).
- 310. UNITED STATES DIPLOMACY SINCE 1898.** United States foreign policy from McKinley's second administration to the present, emphasizing the role of the United States as a world power. (3).
- 312. WOMEN IN UNITED STATES HISTORY.** History of the struggle for equality in U.S. politics and culture. (Same as G ST 312). (3).
- 313. U.S. INTELLECTUAL HISTORY TO 1900.** An exploration of ideas in American society, including religion, republicanism, liberalism, nationalism, domesticity, the self, science, and race. (3).
- 314. U.S. INTELLECTUAL HISTORY SINCE 1900.** An exploration of ideas in American society, including pragmatism, liberalism, fundamentalism, conservatism, the sciences, and liberation theory. (3).
- 315. THE AMERICAN DREAM.** An examination of American optimism, and the changes in American hopes and dreams as they developed and were modified by particular historical events from the 18th through the 20th centuries. (3).
- 316. UNITED STATES ECONOMIC HISTORY.** A survey of the economic development of the U.S. from colonial times to the present. (3).
- 317. BIOGRAPHICAL HISTORY OF THE UNITED STATES.** History of the U.S. through the lives of representative personalities. (3).
- 318. UNITED STATES LABOR HISTORY.** History of the labor movement in the U.S. in the 19th and 20th centuries. (3).
- 319. UNITED STATES RELIGIOUS HISTORY.** The role of religious ideas and institutions in the development of the U.S. (3).
- 320. UNITED STATES MILITARY HISTORY.** The development of the armed forces of the U.S. since 1775. Military institutions will be viewed in terms of their relationships to the wider context of U.S. history. (Same as MSC 340). (3).
- 321. UNITED STATES LEGAL AND CONSTITUTIONAL HISTORY.** Major developments in law and legal institutions since Blackstone. (3).
- 327. HISTORICAL PERSPECTIVES ON SLAVERY IN THE AMERICAS.** The roles of Europeans, Africans and the nations of North and South America in the international slave trade and the institution of slavery, and the intellectual history of the race issues and the enslavement of African Americans. (Same as AFRO 438). (3)
- 328. HISTORY OF AFRICAN AMERICANS IN SPORTS.** A historical survey of African Americans and their roles in various sports, beginning with the black participation in the late 19th century and chronicling that involvement into the 21st century. (Same as AFRO 440). (3)
- 329. THE CIVIL RIGHTS ERA.** The African American struggle for civil equality emphasizing the role of African Americans, the resistance of other racial and ethnic groups, the role of federal and state agents/agencies from the perspective of political and social history. (Same as AFRO 443.) (3)

- 330. THE HISTORY OF MISSISSIPPI.** Political, economic, and cultural developments from Indian settlement through contemporary society. (3).
- 331. THE SOUTH THROUGH THE NINETEENTH CENTURY.** Social, political, economic, and cultural developments through the 19th century, including slavery, the plantation system, western migration, the Civil War, and its aftermath. (3).
- 332. THE SOUTH IN THE TWENTIETH CENTURY.** A survey of developments in agriculture, industry, music, literature, politics, and race. (3).
- 333. THE ERA OF THE CIVIL WAR, 1850-1877.** Major developments from the sectional tensions of the 1850s through Reconstruction. (3).
- 334. THE BLUE AND THE GRAY.** A military history of the Civil War. (3).
- 335. ECONOMIC HISTORY OF THE SOUTH.** A survey of the major economic developments in the South since the Civil War with special emphasis on Southern economic growth and its effects on the United States generally. (Same as ECON 329). (3).
- 336. WOMEN IN SOUTHERN HISTORY.** A historical survey of Southern women with emphasis on research through documentary sources and oral history. (Same as G ST 336). (3).
- 337. HISTORY OF RELIGION IN THE SOUTH.** Southern religion and its cultural, racial, and political impact from the Great Awakening to the present. (Same as REL 303). (3).
- 338. MASCULINITY AND FEMININITY IN AMERICAN CULTURE.** An analysis of changing views of the masculine and the feminine in American culture since 1607. Class, racial and ethnic differences will be emphasized. (Same as GST 338). (3).
- 348. THE GOLDEN AGE OF ATHENS.** A detailed examination of the history and culture of Athens in the 5th century B.C. centering on the life of Pericles. The course will begin with the birth of democracy under Cleisthenes and end with the death of Socrates. (Same as CLC 340). (3).
- 349. ALEXANDER THE GREAT.** An examination of the rise of Macedonia under Philip, the accession of Alexander's conquest of the Persian Empire. Topics discussed include Macedonia's domination of Greece, Greek opposition, the destruction of Olynthus, the Persian Empire, and differing modern interpretations of Philip and Alexander (Same as CLC 341). (3).
- 350. GREEK HISTORY.** The history of the Greek world from the earliest times to 146 B.C.; influence of Greek institutions on modern civilization. (Same as CLC 311). (3).
- 352. ROMAN REPUBLIC.** A survey of the history of the Roman Republic from the founding of the city in 735 B.C. to the end of the Second Triumvirate in 31 B.C. (Same as CL 313). (3).
- 353. ROMAN EMPIRE.** A survey course in the history of the Roman Empire from the reign of Augustus beginning in 31 B.C. through the fall of the Western Roman Empire in 476 A.D. (Same as CLC 314). (3).
- 354. THE MIDDLE AGES.** History of Europe from the fall of the Roman Empire to the Renaissance. (3).
- 355. EUROPE IN THE LATE MIDDLE AGES AND RENAISSANCE.** Politics, society, and culture, 1300-1517. (3).
- 356. REFORMATION EUROPE, 1517-1648.** European politics, society, and culture from the Reformation through the Thirty Years' War. (3).
- 357. THE AGE OF ABSOLUTISM AND ENLIGHTENMENT, 1648-1789.** Major developments in the Europe in the Age of Absolutism and Enlightenment. (3).
- 358. EUROPE IN THE AGE OF REVOLUTION, NATIONALISM AND EMPIRE, 1789-1890.** Major developments in European history from the French Revolution to 1890. (3).
- 359. EUROPE IN AGE OF IMPERIALISM AND WORLD WAR, 1890-1945.** Major developments in European history to the end of World War II. (3).
- 360. EUROPE IN THE AGE OF COLD WAR, DETENTE, AND ECONOMIC INTEGRATION.** Major developments in European history since 1945. (3).
- 361. HISTORY OF THE HOLOCAUST.** Causes, evolution, and significance of the Holocaust in Nazi Germany. (3).
- 363. FRANCE, 1789-PRESENT.** Survey of major developments in French history. (3).
- 364. GERMANY IN THE AGE OF UNIFICATION, BISMARCK AND IMPERIALISM 1815-1914.** Survey of the major developments of German history. (3).
- 365. GERMANY FROM WORLD WAR I TO THE PRESENT.** Survey of the major developments in German history in the 20th century. (3).

- 366. IMPERIAL RUSSIA FROM PETER THE GREAT TO THE BOLSHEVIK REVOLUTION, 1682-1917.** Survey of the major developments of Russian history in the 18th and 19th centuries. (3).
- 367. 20th CENTURY RUSSIA.** Origins of the Bolshevik Revolution, development of the Soviet state, collapse of the USSR and emergence of CIS. (3).
- 368. ITALY FROM CAVOUR AND GARIBALDI TO THE PRESENT.** Survey of Italian history from the Age of Unification to the present. (3).
- 369. MEDIEVAL ENGLAND, 1066-1509.** Political, social, and cultural history of England from the Norman Conquest through the reign of Henry VII. (3).
- 370. EARLY MODERN ENGLAND, 1509-1688.** Political, social, and cultural history of England from the Reign of Henry VIII to the Glorious Revolution. (3).
- 371. GREAT BRITAIN FROM ARISTOCRACY TO DEMOCRACY.** Political, social, and cultural history of Britain from 1688 to the mid-19th century. (3).
- 372. GREAT BRITAIN IN THE MODERN AGE.** Political, social, and cultural history of Britain from the mid-19th century to the present. (3).
- 373. HISTORY OF THE CHRISTIAN RELIGION.** History of doctrine and theologies from apostolic times to the Reformation. (3).
- 374. MEDIEVAL CHURCH AND EMPIRE.** History of the two dominant institutions of the Early and High Middle Ages. (3).
- 377. THE FRENCH REVOLUTION, 1789-1815.** The coming of the French Revolution, its social, economic, diplomatic, and cultural effects; the rise and fall of the Napoleonic Empire. (3).
- 378. EUROPEAN SOCIETY AND ECONOMY IN THE AGE OF IMPERIALISM 1750-1914.** Major developments in the social and economic history of Europe. (3).
- 379. EUROPEAN SOCIETY AND ECONOMY IN 20th CENTURY.** Major developments in the social and economic history of Europe. (3).
- 380. SOCIETY AND THE SEXES IN MODERN EUROPE.** An Exploration of the changing roles of European women and men since the French Revolution in 1789. (Same as GST 380). (3)
- 381. HISTORY OF MEDICINE.** The evolution of medical thought from the Greeks to the 20th century and the development of the medical profession will be presented along with changing conceptions and definitions of disease and the evolution of methods for treating and preventing illness. (3).
- 382. THE COLD WAR.** Survey of major developments and consequences of the U.S.-Soviet rivalry from World War II to the present. (3).
- 383. FOUNDATIONS OF THE COMMON LAW.** English legal history from the earliest times to Blackstone. (3).
- 384. BRITISH EMPIRE AND COMMONWEALTH.** The history of British expansion from the age of exploration through the establishment of the Empire to the commonwealth of the 20th century. (3).
- 386. MIDDLE EAST AND NORTH AFRICA.** North Africa and the Middle East from the Middle Ages to the present, with an emphasis on developments since 1919. (3).
- 387. SUB-SAHARAN AFRICA.** History of Africa and African cultures from the earliest times to the present. (Same as AFRO 392). (3).
- 388. MEXICO AND CENTRAL AMERICA.** A political, economic, and social history of 19th and 20th century Mexico and Central America. (3).
- 390. LATIN AMERICAN SOCIAL REVOLUTIONS.** Major social upheavals since 1900 in Mexico, Bolivia, Brazil, Cuba, Chile, and Central America. (3).
- 392. LATIN AMERICA: THE COLONIAL EXPERIENCE.** Examines the nature of diverse societies emerging in colonial Latin America from the European conquest of indigenous peoples and the subsequent conflicts that resulted in 19th century movements for independence. (3).
- 393. LATIN AMERICA: THE NATIONAL EXPERIENCE.** Political, social, and cultural history of Latin America since independence. Emphasis on nation-formation, the conflict between economic development and social justice, race and class, and U.S. relations. (3).
- 394. LATE IMPERIAL AND MODERN CHINA.** Surveys the political, social, economic and intellectual history of China since 1600. Emphasis on the buildup and disintegration of China's last dynastic empire, and on the concept of revolutionary change in the 20th century. (3)

395. CHINA IN REVOLUTION. History of socialism and revolution in China, emphasizing risk of the Chinese Communist Party, its victory in 1949, and post-1949 People's Republic of China. (3)

396. MODERN JAPANESE HISTORY. Beginning with Japan's early modern past and its forced emergence from isolation, the course will explore Japan's rise as a modern state, its plunge into militarism and war, and its subsequent economic "miracle." (3)

397. CHINA AND THE UNITED STATES SINCE 1784. History of contacts between the two peoples since 1784, with focus on the 20th century. Includes all aspects of cultural, economic and political relations. (3)

399. PROBLEMS IN HISTORY. Special topics course; content varies; may be repeated for credit with consent of department chair. (1-3).

400. UNDERGRADUATE RESEARCH SEMINAR IN UNITED STATES HISTORY. Closed to nonmajors except with instructor's permission. (3).

450. UNDERGRADUATE RESEARCH SEMINAR IN EUROPEAN HISTORY. Closed to nonmajors except with instructor's permission. (3).

460. UNDERGRADUATE RESEARCH SEMINAR IN AFRICAN HISTORY. Closed to nonmajors except with instructor's permission. (3).

470. UNDERGRADUATE RESEARCH SEMINAR IN LATIN AMERICAN HISTORY. Closed to nonmajors except with instructor's permission. (3).

490. UNDERGRADUATE READING SEMINAR IN HISTORY. Reading and writing seminar for majors; content varies, may be repeated for credit. May substitute for any 400-level course to meet major requirements. (3).

509. HISTORIOGRAPHY OF AFRICAN-AMERICAN HISTORY. An introduction to the research methodology and principles of historiography as applied to specific events and issues in African-American history. The course will focus on how African-American history has been, and is being written. Topics include the major historians, philosophies of history, types and uses of evidence and fields in investigation. (3) (May not be used to complete History Department M.A. 500-level historiography requirements.)

HOME ECONOMICS *See the Department of Family and Consumer Sciences.*

HONORS COLLEGE *See the McDonnell-Barksdale Honors College.*

INTERNATIONAL RELATIONS *See the Department of Political Science.*

INTERNATIONAL STUDIES—INST

Professor Michael F. Metcalf, executive director, Croft Institute for International Studies • Croft Institute

Professors Gutierrez and M. Metcalf • Visiting Professor Terasawa • Associate Professors Boylan, Cooper, Gispén, Sullivan-Gonzalez, and Zarzeski • Assistant Professors Brower, Cozad, Howard, E.-M. Metcalf, Reynolds, and Yang • Acting Assistant Professor Landry • Visiting Assistant Professor Steinberg

101. INTRODUCTION TO INTERNATIONAL STUDIES. Exploration of ways of knowing, themes and concerns of international studies, and current issues and events in their global context. (3).

103. INTRODUCTION TO CHINESE LANGUAGE AND CULTURE. An introduction to Chinese language and culture, providing a foundation for further study in the field. (3).

107. INTRODUCTION TO LATIN AMERICA. An introduction to Latin American societies, with emphasis upon the political, economic, and cultural issues facing the region. (3).

110. INTERCULTURAL COMMUNICATION: PREDEPARTURE. Prepares students to cope with cross-cultural issues before studying abroad. Prerequisite: consent of instructor. (1).

111. INTERCULTURAL COMMUNICATION: REENTRY. Designed to help students acquire the knowledge, skills, and attitudes that enable them to understand their study abroad experience and their readjustment to American culture in light of current intercultural theory and principles. (1).

203. EAST ASIAN STUDIES. a multidisciplinary study of Asia, with emphasis on the development of ideas and institutions in the region. (3).

205. EUROPEAN STUDIES. A multidisciplinary study of Europe, with emphasis on the development of ideas and institutions in the region. (3).

207. LATIN AMERICAN STUDIES. A multidisciplinary study of Latin America, with emphasis on the development of ideas and institutions in the region. (3).

211. READING SEMINAR. Discussion of selected texts from journals, magazines, and newspapers chosen to challenge students in their analysis of current debates regarding core concerns within the international studies major. Content varies; may be repeated once for credit. Prerequisite: consent of instructor. (1).

212. FRENCH NEWS COVERAGE. Structured discussion of French-language media designed to apply students' language skills to the study (in French) of current events that touch upon core concerns within the international studies major. Content varies; may be repeated once for credit. Prerequisite: Third-year French or the equivalent and consent of the instructor. (1).

213. GERMAN NEWS COVERAGE. Structured discussion of German-language media designed to apply students' language skills to the study (in German) of current events that touch upon core concerns within the international studies major. Content varies; may be repeated once for credit. Prerequisite: Third-year German or the equivalent and consent of the instructor. (1).

214. LATIN AMERICAN NEWS COVERAGE. Structured discussion of Latin American media designed to apply students' language skills to the study (in Spanish) of current events that touch upon core concerns within the international studies major. Content varies; may be repeated once for credit. Prerequisite: Third-year Spanish or the equivalent and consent of the instructor. (1).

310. TOPICS IN EAST ASIAN STUDIES. Studies in modern Asia. Examination of the histories and cultures, the social, political, and economic systems of the region. Content varies. Each course offering will draw upon relevant disciplines. (May be repeated once for credit.) (3).

312. TOPICS IN EUROPEAN STUDIES. Studies in modern Europe. Examination of the histories and cultures, the social, political, and economic systems of the region. Content varies. Each course offering will draw upon relevant disciplines. (May be repeated once for credit.) (3).

314. TOPICS IN LATIN AMERICAN STUDIES. Studies in Latin America. Examination of the histories and cultures, the social, political, and economic systems of the region. Content varies. Each course offering will draw upon relevant disciplines. (May be repeated once for credit.) (3).

316. TOPICS IN INTERNATIONAL STUDIES. Examination of specific issues in international studies drawing upon cultural, economic, political, and social modes of inquiry. Each course offering will draw upon relevant disciplines. Content varies; may be repeated once for credit. (3).

318. TOPICS IN GLOBAL STUDIES. Examination of theoretical and practical aspects of specific global issues of an over-arching nature, such as international human rights and population movements. Each course offering will draw upon relevant disciplines. Content varies; may be repeated once for credit. (3).

322. ACCOUNTING: THE LANGUAGE OF INTERNATIONAL BUSINESS. A multidisciplinary study of the interdependence of accounting, economics, finance, management, and marketing in the global environment. Analysis of corporate financial statements in light of the cultural, historical, and economic environment. (3).

324. INTRODUCTION TO INTERNATIONAL LAW. Introduction to fundamental notions of public international law and international trade law. (3).

325. GLOBAL ECOLOGY AND CONSERVATION. This course explores how the science of ecology relates to environmental, cultural, political, and economic issues of global and international significance. Prerequisite: BISC 104. (3).

401. RESEARCH COLLOQUIUM. Senior thesis writing seminar required of all majors. (3).

JOURNALISM—JOUR

Professor Stuart James Bullion, chair • 331 Farley Hall

Professors Husni and Johnson • Associate Professors I.E. Atkins, J.B. Atkins, Manning-Miller, and Morris • Assistant Professors Boutwell, Braseth, Caldwell, Raiteri, and Wickham • Instructor Street

101. INTRODUCTION TO MASS COMMUNICATION. An introduction to the various forms of mass communication (newspapers, magazines, television, radio, public relations, and advertising) and their importance to and impact on modern society. (3).

102. WRITING FOR THE MEDIA. Introduction to writing for print and broadcast journalism, advertising and public relations. Major emphasis on language skills and style conventions. Prerequisites: ENGL 101 and typing proficiency of 30 wpm. (3).

271. NEWS REPORTING. Development of basic news-gathering and writing for newspapers and magazines. Prerequisites: JOUR 102 and typing proficiency of 30 wpm. Prerequisite or corequisite: JOUR 101. (3).

272. BROADCAST NEWSWRITING AND REPORTING. Introduction to basic newsgathering and writing for the broadcast media. Audio production techniques. Prerequisites: JOUR 102 and typing proficiency of 30 wpm. Prerequisite or corequisite: JOUR 101. (3).

273. EDITING BY DESIGN. An introduction to visual communication, layout and design, typography, and editing with direct application to specific journalism projects. Prerequisite: JOUR 271 or instructor's permission. (3).

301. HISTORY OF MASS MEDIA. Growth and development of the mass media and their role as participants in and chroniclers of U.S. history. Attention to ideological, political, technological, economic and cultural factors. (3).

351. MAGAZINE SERVICE JOURNALISM. Surveys trends in service journalism magazine publishing. Students prepare a prospectus for a new venture, including concept, editorial philosophy, competition, staff, audience, content, and budget. Prerequisite: JOUR 271. Prerequisite or corequisite: JOUR 273. (3).

371. COMMUNICATIONS LAW. Legal rights and responsibilities of print and broadcast journalists. Attention to Constitutional law, Mississippi statutes and precedent, and FCC regulation. Prerequisite: JOUR 101 or instructor's permission. (3).

375. PHOTOJOURNALISM. Photographic theory; techniques in the use of cameras and darkroom procedures; interest factors in photography. Prerequisite: JOUR 271 or instructor's permission. (3).

376. TELEVISION TECHNOLOGY. Fundamentals of television production and electronic news gathering through operation of portable cameras and editing of news stories. Prerequisite: JOUR 272. (3).

377. ADVANCED REPORTING. Development of skills in conceiving, documenting, organizing, and presenting information. Emphasis on covering government institutions and using public records. Prerequisite: JOUR 271. (3).

378. TELEVISION REPORTING. Writing and field producing news stories with an introduction to production of news programs. Prerequisite: JOUR 376. (3).

379. EDITING. A comprehensive workshop in language usage: Headline, cutline, and billboard writing; style, libel, and taste; accuracy and fairness. Laboratory. Prerequisite: JOUR 271. (3).

381. NEWSPAPER MANAGEMENT. Managing and integrating the news, advertising, production and circulation functions in the newspaper industry; analysis of problems and opportunities presented by economic, social, political and technological change. Prerequisite: JOUR 271. (3).

383. ADVERTISING LAYOUT AND DESIGN. Preparation of copy and graphics for advertising layouts. Prerequisite: JOUR 273. (3).

386. BROADCAST ADVERTISING SALES. Basic advertising techniques for broadcasting, including planning, selling, and servicing clients at the local and national levels. (3).

388. BROADCAST MANAGEMENT. Policies, procedures, and responsibilities involved in radio and television management. Prerequisite: JOUR 274 or instructor's permission. (3).

389. MAGAZINE EDITING. Fundamentals of magazine editing, production, design, and management. Production of laboratory magazine. Prerequisite: consent of instructor. (3).

390. INTRODUCTION TO WRITING FOR ADVERTISING. Types of advertising; concepts of creativity, copy structure and style; emphasis on creative thinking and clear, precise writing in preparation of advertising for print and broadcast media and copy for presentations and direct mail. Prerequisite: JOUR 102 or instructor's permission. (3).

391. PUBLIC RELATIONS. Basic problems in public relations; publicity and development in the community, industry, and government. (3).

399. SCHOOL PUBLICATIONS. Problems and purposes of school newspapers and other scholastic publications; production techniques; selecting and directing a staff; financial and ethical problems. Limited to students earning a secondary teaching certificate. Laboratory. (Same as EDSE 528). (1-3).

400. INTERNATIONAL JOURNALISM. An in-depth examination of the international media in a rapidly changing world, how journalists in other nations view and report the news and how that coverage compares to United States journalism. (3).

451. MAGAZINE SERVICE JOURNALISM PUBLISHING. Conceptualization, market research and production for a prototype and media kit for a service journalism magazine. Prerequisite: JOUR 351. (3).

472. MAGAZINE AND FEATURE WRITING. Conceiving, marketing, researching and writing nondeadline articles for newspapers and service journalism publications. Prerequisite: JOUR 271. (3).

475. EDITORIAL AND OPINION WRITING. The editorial and opinion function in contemporary news media. researching and writing editorials, opinion columns, and reviews. Prerequisite: JOUR 271 or 272. (3).

477. SPECIALIZED REPORTING. Advanced reporting focused on one or more areas of specialization (e.g., business, science, health, sports), based on instructor's interest and expertise. Prerequisite: JOUR 377 and instructor's permission. (3).

480. ADVANCED BROADCAST REPORTING. Writing and gathering of in-depth stories and an introduction to the magazine piece and news documentary. Prerequisite: JOUR 378. (3).

491. PUBLIC RELATIONS TECHNIQUES. Practical analysis and development of specialized communication approaches to achieve specific objectives on behalf of a client. Application of public relations techniques inside and outside the classroom. Prerequisite: JOUR 271 or 272 and JOUR 391. (3).

492. PUBLIC RELATIONS CASE PROBLEMS. Research, decision processes, and program design in addressing public relations problems at the management level. Application of public relations principles and techniques in programs of profit and nonprofit institutions. Role of mass media. Ethical considerations. Prerequisite: JOUR 491 or instructor's permission. (3).

495. JOURNALISM PRACTICUM. Internship experience in print or electronic news media or related media agencies, such as public relations and advertising. Prerequisites: junior standing, minimum 2.5 departmental GPA, and approval of department chair. (1-3). (Z grade).

553. SERVICE JOURNALISM MANAGEMENT. Business aspects of magazine publication. Personnel management with emphasis on getting productivity and quality results from creative people. Prerequisite: JOUR 351. (3).

573. MASS COMMUNICATIONS, TECHNOLOGY, AND SOCIETY. The theory of mass communications technology in relation to media functions, responsibilities, and influence in society. (3).

574. PUBLIC OPINION AND THE MASS MEDIA. Effects of language, culture, and ideology. Communication in the formation and action of crowds, masses, and publics. Mass and personal persuasion and propaganda techniques. The diffusion of ideas. Community power structures. Public opinion measurement. (3).

575. MASS MEDIA ETHICS AND SOCIAL ISSUES. Formulation and discussion of professional ethics for journalists. Analysis of social forces affecting media performance. (3).

577. DEPTH REPORTING. Investigative and interpretative news writing; coverage of courts and legislative bodies; use of public records. Prerequisite: JOUR 377 or instructor's permission. (3).

578. TELEVISION DOCUMENTARY REPORTING. Development of skills in conceiving, documenting, recording, and presenting information at broadcast standards as mini-documentaries in television newscasts or as 30-minute and 60-minute documentary programs. Prerequisite: JOUR 378 or instructor's permission. (3).

580. TOPICS IN JOURNALISM. Perspectives on issues such as international mass communication, media and society, journalism ethics, diversity, etc. Prerequisite: consent of instructor. (May be repeated for credit.) (3).

599. MEDIA PROBLEMS. Directed individual study or professional project. Prerequisite: Permission of faculty supervisor and department chair. (1 - 3).

LABORATORY EXPERIENCES *See the Department of Curriculum and Instruction.*

LATIN *See the Department of Classics.*

LATIN AMERICAN STUDIES—LAS

Associate Professor Edward B. Sisson, adviser • 23W Bondurant

315. AN INTRODUCTION TO LATIN AMERICAN STUDIES I. A multidisciplinary survey of the prehistory, history, literature, art, music, politics and government of the Spanish- and Portuguese-speaking countries of Latin America. Taught in English. (This course may not be used to fulfill the language requirement). (Same as ANTH 315 and SPAN 315). (3).

316. INTRODUCTION TO LATIN AMERICAN STUDIES II. A multidisciplinary survey of the prehistory, history, literature, art, music, politics, and government of the Spanish- and Portuguese-speaking countries of Latin America. (This course may not be used to fulfill the language requirement). (Same as ANTH 316 and SPAN 316). (3).

351. TOPICS IN LATIN AMERICAN STUDIES. Selected topics in Latin American studies. Content varies. (May be repeated for credit). (Same as ANTH 351, SPAN 351, and W ST 351). (3).

LAW ENFORCEMENT *See the Department of Political Science.*

LEISURE MANAGEMENT *See Exercise Science and Leisure Management.*

LIBERAL ARTS—LIBA

Professor Glenn W. Hopkins, dean • Ventress Hall

101. INTRODUCTION TO OCCUPATIONAL/PHYSICAL THERAPY. Group study of the roles and responsibilities of allied health professionals in providing care for special populations; review of legal and ethical considerations; supervised observation and hands-on experience as required for application to professional programs. Meets at the North Mississippi Regional Center. (Z grade). (1).

201. INTERDISCIPLINARY STUDIES IN CULTURE. Courses offered at other institutions and that involve the techniques or interests of more than one of the arts, social sciences, or humanities may be transferred as elective credit under this designation. The amount of credit to be awarded is at the discretion of the dean. (Z grade). (1-6).

301. FOREIGN STUDY. Independent study projects undertaken in foreign cultures or foreign institutions with prior approval of department and dean. (Z grade). (1-24).

401. TOPICS IN THE LIBERAL ARTS. This course serves as a vehicle for instruction, often interdisciplinary in nature, by distinguished visiting faculty with the College. Content and format vary. Prerequisite: consent of the dean. (May be repeated for credit). (Z grade). (1-3).

LINGUISTICS—LING

Associate Professor Donald L. Dyer, adviser • 210B Bondurant Hall

Professors Arico, Arrington, Gutierrez, Hall, Johnson, Lawhead, and Robinson • Associate Professors Capps, Coles, Dyer, Erdim, Everett, and Walton • Assistant Professors Dussias and Major

103. LOGIC: CRITICAL THINKING. (Same as PHIL 103). (3).

205. ANATOMY AND PHYSIOLOGY OF THE SPEECH AND HEARING MECHANISMS. (Same as CD 205). (3).

211. INTRODUCTION TO PHONOLOGY. (Same as CD 211). (3).

216. NORMAL DEVELOPMENT OF COMMUNICATION. (Same as CD 216). (3).

313. INTRODUCTION TO LINGUISTIC SCIENCE. (Same as ANTH 313, ENGL 313, and MLLL 313). (3).

314. PHONOLOGY. An introduction to the principles of articulatory and acoustic phonetics; also generative and nongenerative phonology. (Same as MLLL 314 and ENGL 314). (3).

315. MORPHOLOGY. An introduction to the intersection and overlap of morphology with the study of distinctive sounds and sentence elements. (Same as MLLL 315 and ENGL 315). (3).

316. SYNTAX. Introduction to traditional approaches to sentential analysis and a comparative examination of syntactic models. (Same as MLLL 316 and ENGL 316). (3).

317. PHILOSOPHY OF LANGUAGE. (Same as PHIL 519). (3).

350. STRUCTURE OF LESS COMMONLY TAUGHT LANGUAGES. Linguistic study of a language or a set of languages including but not limited to Albanian, Bulgarian, Cameroon Basaa, Finnish, Indo-European, Lao, Moldavian, Old Norse, Quechua, Romanian, Turkish, and Uzbek. Theoretical approach and emphasis of study may vary. Prior study of a foreign language or linguistics is required. May be repeated once for credit if content changes. (3).

353. LANGUAGE AND CULTURE. (Same as ANTH 353). (3).

359. MANUAL COMMUNICATION. (Same as CD 359). (3).

401. ADVANCED ENGLISH GRAMMAR. (Same as ENGL 401). (3).

410. DIALECTOLOGY. Discussion of American English Dialects related to social status, gender, ethnicity, and region. Prerequisite: 313. (3).

430. DISCOURSE PRAGMATICS. Linguistic study of the context of an utterance, including an analysis of speech styles and discourse markers, as well as the anatomy of a conversation and idiomatic expressions. The language of focus will be English, although other languages also will be examined. (Same as ENGL 430 and MLLL 430). (3).

499. RESEARCH THESIS. The researching and writing of an undergraduate thesis on some aspect of linguistics. Consent of a member of the linguistics faculty who will serve as director of the thesis is required. (3).

501. DESCRIPTIVE GRAMMAR. (Same as ENGL 501). (3).

502. HISTORICAL LINGUISTICS. (Same as ENGL 502). (3).

503. HISTORY OF THE ENGLISH LANGUAGE. (Same as ENGL 505). (3).

504. HISTORY OF THE FRENCH LANGUAGE. (Same as FR 504). (3).

505. NEUROPHYSIOLOGY OF COMMUNICATION. (Same as CD 505). (3).

506. HUMAN LEARNING AND COGNITION. (Same as PSY 506). (3).

508. SYMBOLIC LOGIC. (Same as PHIL 508). (3).

- 509. SEMANTICS.** (Same as ENGL 506). (3).
- 513. SPEECH SCIENCE.** Prerequisite: CD 205 or consent of instructor. (Same as CD 513). (3).
- 519. HISTORY OF THE GERMANIC LANGUAGES.** (Same as GERM 519). (3).
- 541. ADVANCED STUDY OF NORMAL LANGUAGE DEVELOPMENT.** Prerequisite: consent of instructor. (Same as CD 541). (3).
- EDCI 542. TEACHING ENGLISH AS A FOREIGN LANGUAGE.** (3).
- 552. HISTORY OF SPANISH LANGUAGE.** (Same as SPAN 552). (3).
- 592. MODERN ENGLISH GRAMMAR.** Prerequisite: ENGL 317 or 401. (Same as ENGL 592). (3).
- 595. SEMINAR IN LINGUISTICS.** (Same as ENGL 595 and ANTH 595). (3).

MANAGEMENT

Associate Professor Dwight D. Frink, area coordinator • 327 Holman Hall

Professors Gardner and Paolillo • Associate Professors Martin, Robinson, and Wiebe • Assistant Professors Canty, Davis, Krapels, Mero, Schwab, and C. Walker • Visiting Assistant Professor Littlejohn

Management–MGMT (*See Management Information Systems/ Production-Operations Management for additional management courses.*)

- 371. PRINCIPLES OF MANAGEMENT.** Principles and concepts of planning, organizing, controlling, and operating a business enterprise with emphasis on these problems in production. Prerequisite: junior standing. (3).
- 383. HUMAN RESOURCE MANAGEMENT.** Principles and procedures relating to human resource management including staffing, appraisal, training, compensation, and other programs for organizations. Prerequisites: MGMT 371 or consent of instructor. (3).
- 391. ORGANIZATIONAL BEHAVIOR.** An integration of behavioral science concepts as applied to business and industry; theories dealing with individuals, small groups, and communications in organizations. Prerequisite: junior standing. (3).
- 392. INTERCULTURAL BUSINESS COMMUNICATION.** Study of the importance of business communication to conducting global business effectively. Emphasis on organizational and interpersonal communication and negotiation skills in an integrated world economy. Prerequisites: BUS 271 and MGMT 371, or consent of instructor. (3)
- 484. TRAINING AND DEVELOPMENT.** Theory and application of training and development process for organizations. Topics include scientific issues, such as learning theory, and applied issues, such as needs analysis, cost benefit analysis, program analysis, and training methodologies. Prerequisite: MGMT 383 or consent of instructor. (3)
- 485. SELECTION AND PLACEMENT.** Theory and application of selection processes for organizational staffing. Topics include scientific issues such as validity and reliability, legal issues such as affirmative action and civil rights, and applied issues such as selection methodology and techniques. Prerequisite: MGMT 383 or consent of instructor. (3)
- 493. MANAGEMENT OF STRATEGIC PLANNING.** A theory-based course which is designed to integrate the various functional areas of business through the study and discussion of actual strategic planning situations, including their ethical and global implications. Prerequisites: FIN 331, MKTG 351, MGMT 372, and senior standing. (3).
- 494. COMPENSATION MANAGEMENT.** Examination and evaluation of the compensation subsystem as a vital component in establishing a workplace system that stimulates employee performance. Includes job analysis, job evaluation, and wage payment methods. Prerequisites: MGMT 383. (3).
- 495. LEADERSHIP AND GROUP DYNAMICS.** The study of leadership and group processes in organizations with an emphasis on developing interpersonal skills, teamwork and a keen awareness of how to lead and work with groups. Prerequisites: MGMT 371 and MGMT 391. (3)

496. SMALL BUSINESS MANAGEMENT. Focus is on the special problems and skills involved in small business. The course will integrate the skills and concepts developed in accounting, finance, marketing, management, personnel and production. Prerequisite: ACCY 301, FIN 331, MGMT 371, MKTG 351, or consent of instructor. Senior standing only. (3).

527. ADVANCED HUMAN RESOURCE MANAGEMENT. The study of personnel management at the advanced level necessary for professional preparation. Course topics will include selection, placement, training, compensation, incentives, performance evaluation and counseling, with an emphasis on legal and practical problems. Prerequisites: MGMT 383 and senior standing or graduate, or consent of instructor. (3).

578. HISTORY OF MANAGEMENT THOUGHT. Contrasting philosophy of management, historical development of management theory, and current issues in management practices. Prerequisites: MGMT 371, senior standing or graduate. (3).

581. COLLECTIVE BARGAINING. An introductory course to the field of collective bargaining in the private and public sectors covering such topics as the history of unionism in America, the organizing process, the negotiating process, and administration of the collective bargaining agreement. Emphasis on pragmatic problems confronted by employers, employees, and unions. (Same as ECON 581). Prerequisites: MGMT 383 and senior standing or graduate. (3).

582. EMPLOYEE RELATIONS. Study of the federal regulation of private and public sector human resource management practices. Emphasis on recruiting, selection, employee discipline, equal opportunity compliance, workplace privacy, mandatory benefits, and fair labor standards. Prerequisite: MGMT 383 and senior standing or graduate. (3)

583. LABOR RELATIONS. An advanced course analyzing the evolution and impact of labor law in the U.S. The growth of unions, the Railway Labor Act, the Norris-LaGuardia Act, and Fair Employment Law are emphasized using the case approach. (Same as ECON 583). Prerequisites: MGMT 383 and senior standing or graduate. (3).

585. STRATEGIC HUMAN RESOURCE MANAGEMENT. Formulation and implementation of HR policy, at the strategic level of an organization. Emphasis on the impact of organizational strategic policy on human resource acquisition and placement, and environmental factors affecting this process. Also, strategies for maximizing HR productivity are introduced. Prerequisites: MGMT 383, MGMT 527, MGMT 582, and senior standing or graduate, or consent of instructor. (3)

587. ORGANIZATION THEORY. Traditional and contemporary organization theories with emphasis on current research and problem solving. Prerequisite: senior standing or graduate, or consent of instructor. (3).

595. INTERNATIONAL BUSINESS MANAGEMENT. Analysis of international management concepts and practices; environmental interactions, social and cultural constraints, organizational structures, and systems of operation. Prerequisites: MGMT 371 and senior standing or graduate. (3).

MANAGEMENT INFORMATION SYSTEMS/PRODUCTION- OPERATIONS MANAGEMENT

Associate Professor Brian J. Reithel, area coordinator • 340 Holman Hall

Professors Glover, Kochenberger, Womer • Associate Professors Aiken, Alidaee, Conlon, Dula, Johnson, and Rego • Instructor Wakefield

Management Information Systems–MIS

100. MICROCOMPUTER FOUNDATIONS. (No credit) A remedial course for students not yet prepared to take MIS 241. This is a nontechnical microcomputer proficiency course that covers fundamental principles of using operating system software, word processing software, spreadsheet software and common hardware. (0).

241. MANAGEMENT INFORMATION SYSTEMS I. Principles of computer-based information systems and end-user application development in a business environment. This course will focus on current information technology and its impact on individual and organizational performance. Prerequisite: successful completion of MIS Basic Skills Competency Exam. (3).

280. BUSINESS APPLICATION PROGRAMMING I. Study of graphical user interface design, arrays, procedures, database file access, drag-and-drop, graphics, animation, and custom controls and objects. Experience in computer program analysis, design, and implementation for business applications. Prerequisites: CSCI 111 and CSCA 112. (3)

307. SYSTEMS ANALYSIS AND DESIGN. The first course in a two-course sequence in systems analysis and design. The course covers development methodologies, application systems development management, behavioral aspects of the development process, problems and feasibility assessment, information requirements determination, communication skills, interpersonal skills, logical specification, and physical design. Prerequisites: MIS 241 and CSCI 111. (3).

309. MANAGEMENT INFORMATION SYSTEMS II. The study of management information systems and decision support systems with a focus on computer-based model development techniques. This course also covers the relationship among advanced information technologies, business processes, and organizational performance. Prerequisites: MIS 241 and successful completion of MIS Basic Skills Competency Exam. (3).

330. BUSINESS APPLICATION PROGRAMMING II. Advanced study of object-oriented design and programming for business applications. Topics to be covered include classes and objects, applets, containers, multithreading, IO streams and sockets, packages, and scripts. Prerequisite: MIS 280. (3)

408. ADVANCED MANAGEMENT INFORMATION SYSTEMS. A study of data structures, file processing, databases and database management systems within organizations. The course covers all logical models of database, i.e., hierarchical, network, and relational models. Also covered are data analysis, design, implementation, and administration. Prerequisites: MIS 307 and MIS 309. (3).

409. APPLICATIONS OF DATABASE MANAGEMENT. Techniques and concepts obtained in MIS 408 are used in the design, development, implementation and maintenance of files and databases. Prerequisite: MIS 408. (3).

410. DECISION SUPPORT SYSTEMS. A study of decision support systems in terms of the roles an individual assumes in developing the components of a DSS, i.e., DSS builder, intermediary and technical adviser. Included are topics in expert systems and artificial intelligence. Prerequisite: MIS 309. (3).

412. DISTRIBUTED BUSINESS INFORMATION SYSTEMS. Strategies and techniques for development of distributed business applications, with a focus on systems that can scale from very small to very large groups of users. Distributed server management concepts also will be covered. (3).

419. APPLICATIONS OF MANAGEMENT INFORMATION SYSTEMS. A policy course to bring together the concepts and techniques developed in other MIS courses. Emphasis on group and/or individual projects and cases. Prerequisite or corequisite: MIS 410 and MIS 495. (2).

495. APPLIED SYSTEMS ANALYSIS AND DESIGN. An applications course which builds on the concepts and techniques developed in MIS 307 to enable students to design and implement systems in “real-world” organizations. Prerequisite: MIS 307, 309, or consent of instructor. (3).

Production-Operations Management–MGMT

372. OPERATIONS MANAGEMENT I. Survey of production operations functions; basic procedures and techniques in the design and analysis of operating systems. Prerequisite: BUS 230 or equivalent statistics course. (3).

475. OPERATIONS MANAGEMENT II. Advanced procedures and techniques related to operations management; problem identification and feasible solution methods. Prerequisite: MGMT 372 or consent of instructor. (3).

577. OPERATIONS PLANNING AND CONTROL. Planning and control of operating systems; quality control, inventory control, maintenance, and product planning. Prerequisite: BUS 230, MGMT 372, 475, or consent of instructor. (3).

579. DECISION SYSTEMS. Systems models for decision-oriented problems and computer solution methods; description problems and techniques for resource allocation. Prerequisites: BUS 230, MGMT 372, 475, or consent of instructor. (3).

MARINE BIOLOGY *See the Department of Biology.*

MARKETING

Associate Professor Kirk L. Wakefield, area coordinator • 361 Holman Hall

Professors Barnes and Vitell • Associate Professors Blodgett, Gilbert, and Sloan • Assistant Professors Bush, Cousley, and Rose

Marketing–MKTG

351. MARKETING PRINCIPLES. Basic principles and methods of marketing consumer and industrial goods; functions and institutions involved in marketing processes. Prerequisite: junior standing. (3).

353. ADVERTISING & PROMOTION. Planning and analysis of promotion mix, including advertising principles, consumer trends affecting advertising, media selection, layout techniques, and advertising research. Prerequisite: MKTG 351. (3).

354. BUYER-SELLER COMMUNICATIONS. Fundamentals of communication theory and correct sales principles needed for a successful career in sales; insight into the importance of communications in buyer-seller relations. Prerequisite: MKTG 351. (3).

356. ENVIRONMENTAL ISSUES IN MARKETING. Environmental forces that serve as constraints on the business decision maker. Current issues and social and ethical implications of marketing decisions. Prerequisite: MKTG 351. (3).

358. INDUSTRIAL MARKETING. Principles, policies, and methods in the marketing of industrial goods; purchasing procedures and practices, decision making in all phases of industrial marketing systems. Prerequisite: MKTG 351. (3).

361. INTRODUCTION TO RETAILING. Principles underlying the successful operation of retail stores, particularly single-line or independent unit, department, and chain stores. Prerequisite: MKTG 351. (3).

367. CONSUMER AND MARKET BEHAVIOR. Managerial function in market planning, with emphasis on consumer behavior; role of marketing systems in responding to consumer wants and preferences. Prerequisite: MKTG 351. (3).

458. SALES MANAGEMENT. Problems from the viewpoint of the sales executive, case study of sales planning, organization, quotas, and sales control. Prerequisite: MKTG 351. (3).

462. DISTRIBUTION MANAGEMENT. Planning analysis, and the management of physical distribution functions, and the management of institutional intermediaries involved in the distribution task. Prerequisites: MKTG 351, BUS 230, senior standing. (3).

494. PHARMACEUTICAL ECONOMICS. Pharmacoeconomics is the description and analysis of the costs of drug therapy to health-care systems and society. Pharmacoeconomic research identifies, measures, and compares the costs (i.e., resources consumed) and consequences of pharmaceutical products and services. (Same as PHAD 494). (3).

495. TECHNIQUES OF PHARMACEUTICAL SALES. To introduce various strategies and tactics available to those who represent the pharmaceutical industry to therapy decision-makers. (Same as PHAD 495). (2).

496. PRINCIPLES OF PHARMACEUTICAL MARKETING. The nature and scope of the pharmaceutical industry, its marketing practices and environment with emphasis on skills and techniques used in the efficient administration of a pharmaceutical sales program. Prerequisite: junior standing and consent of instructor. (Same as PHAD 496). (3).

525. MARKETING RESEARCH. The role of research in marketing decision making, research design and methodology, appraisal of alternative research methods, concepts of dealing with and collecting primary data. Prerequisites: BUS 230, BUS 302, MIS 309 and MKTG 351 or equivalent courses; senior standing or higher. (3).

551. MARKETING POLICY AND STRATEGY. An integrated analytical approach to the study of a company's marketing management program; emphasis on marketing planning and programming for optimum profitability. Prerequisites: senior standing; 15 hours of marketing courses, to include 351, 367. (3).

552. MULTINATIONAL MARKETING. Study of the initiation and implementation of multinational trade; emphasis on the marketing aspects of foreign market penetration. Prerequisites: MKTG 351; senior standing or higher. (3).

565. ADVANCED ADVERTISING. Problems of the advertising manager; planning, preparation, and evaluation of advertising campaigns. Prerequisites: MKTG 351, 353; senior standing or higher. (3).

MATHEMATICS—MATH

Professor Eldon L. Miller, acting chair • 305 Hume Hall

Professors Alexander, Buskes, Hopkins, Labuda, Paterson, and Staton • Associate Professors Bowman, Cole, Kranz, and Reid • Assistant Professors Denley, and Wu

115. ELEMENTARY STATISTICS. Descriptive statistics; probability distributions; sampling distributions; estimation; hypothesis testing; and linear regression. (3).

120. QUANTITATIVE REASONING. Statistical reasoning, logical statements and arguments, personal business applications, linear programming, estimations, and approximation. (3).

121. COLLEGE ALGEBRA. (3).

123. TRIGONOMETRY. (3).

125. BASIC MATHEMATICS FOR SCIENCE AND ENGINEERING. A unified freshman course designed especially for those students requiring a review of both algebra and trigonometry before beginning the calculus sequence. (3).

245. MATHEMATICS FOR ELEMENTARY TEACHERS I. Introduction to sets: the real number system and its subsystems. (For elementary and special education majors only). (3).

246. MATHEMATICS FOR ELEMENTARY TEACHERS II. Informal geometry; measurement and the metric system; probability and statistics. (For elementary and special education majors only). Prerequisite: MATH 245. (3).

261, 262, 263, 264. UNIFIED CALCULUS AND ANALYTIC GEOMETRY I-IV. Differential and integral calculus; analytic geometry introduced, covered in integrated plan where appropriate. (Four-term sequence for engineering and science majors; 262 terminal course for nonscience major). (3, 3, 3, 3).

267, 268. CALCULUS FOR BUSINESS, ECONOMICS AND ACCOUNTANCY; I, II. Differential and integral calculus with an emphasis on business applications. (3,3).

269. ELEMENTARY MATHEMATICAL ANALYSIS III. Selected topics in quantitative methods with an emphasis on business applications. Topics include Gauss-Jordan elimination, simplex solutions for linear programming models and transportation and assignment algorithms. Prerequisite: MATH 267. (3).

281. COMPUTER LABORATORY FOR CALCULUS I. Investigation of the techniques in Calculus I (Math 261) through the use of a computer. Corequisite: 261. (1).

282. COMPUTER LABORATORY FOR CALCULUS II. Investigation of the techniques in Calculus II (Math 262) through the use of a computer. Corequisite: MATH 262. (1).

283. COMPUTER LABORATORY FOR CALCULUS III. Investigation of the techniques in Calculus III (Math 263) through the use of a computer. Corequisite: MATH 263. (1).

284. COMPUTER LABORATORY FOR CALCULUS IV. Investigation of the techniques in Calculus IV (Math 264) through the use of a computer. Corequisite: MATH 264. (1).

301. DISCRETE MATHEMATICS. Elementary counting principles; mathematical induction; inclusion-exclusion principles; and graphs. Prerequisite: MATH 261. (3).

302. APPLIED MODERN ALGEBRA. Languages, generating functions, recurrence relations, optimization, rings, groups, coding theory, and Polya theory. Prerequisite: MATH 301. (3).

305. FOUNDATIONS OF MATHEMATICS. Set theory with emphasis on functions, techniques used in mathematical problems, cardinal numbers. Prerequisite: MATH 262. (3).

319. INTRODUCTION TO LINEAR ALGEBRA. Vectors, matrices, determinants, linear transformations, introduction to vector spaces. Prerequisite: MATH 262. (3).

353. ELEMENTARY DIFFERENTIAL EQUATIONS. Equations of first and second order; linear equations with constant coefficients; solution in series. Corequisite: MATH 264. (3).

368. INTRODUCTION TO OPERATIONS RESEARCH. An introduction to the mathematics involved in optimal decision making and the modeling of deterministic systems. Major topics to include linear programming, the simplex method, transportation algorithms, integer programming, network theory, and CPM/PERT. Prerequisite: MATH 319. (3).

375, 376. INTRODUCTION TO STATISTICAL METHODS I, II. An introduction to methods useful for analyzing qualitative data (Math 375) and quantitative data (Math 376). Prerequisite: an elementary statistics course or permission of instructor. Math 375 is not a prerequisite for Math 376. (These courses will not count toward a major or minor in mathematics.) (3,3).

397. SPECIAL PROBLEMS. (May be repeated for credit). (1-3).

425. INTRODUCTION TO ABSTRACT ALGEBRA. Real number system, groups, rings, integral domains, fields. Prerequisite: MATH 263. (3).

454. INTERMEDIATE DIFFERENTIAL EQUATIONS. Certain special methods of solution; systems of equations; elementary partial differential equations; equations occurring in physical sciences. Prerequisite: MATH 353. (3).

459. INTRODUCTION TO COMPLEX ANALYSIS. Complex numbers, complex differentiation, the Cauchy-Riemann equations and applications; the Cauchy integral formula, contour integration, series. Prerequisite: MATH 264. (3).

461, 462. NUMERICAL MATHEMATICAL ANALYSIS I, II. (3, 3).

475. INTRODUCTION TO MATHEMATICAL STATISTICS. Data analysis; moment characteristics; statistical distributions, including Bernoulli, Poisson, and Normal; least squares, simple correlation, and bivariate analysis; applications. Prerequisite: MATH 263. (3).

501, 502. GENERAL TOPOLOGY I, II. Metric spaces, continuity, separation axioms, connectedness, compactness, and other related topics. Prerequisite: MATH 556. (3, 3).

513, 514. THEORY OF NUMBERS I, II. Congruences; divisibility; properties of prime numbers; arithmetical functions; quadratic forms; quadratic residues. (3, 3).

519. MATRICES. Basic matrix theory, eigenvalues, eigenvectors, normal and Hermitian matrices, similarity, Sylvester's Law of Inertia, normal forms, functions of matrices. Prerequisite: MATH 319. (3).

520. LINEAR ALGEBRA. An introduction to vector spaces and linear transformations; eigenvalues and the spectral theorem. (3).

525, 526. MODERN ALGEBRA I, II. General properties of groups, rings, and fields; introduction to ideal theory. (3, 3).

533. TOPICS IN EUCLIDEAN GEOMETRY. A study of incidence geometry; distance and congruence; separation; angular measure; congruences between triangles; inequalities; parallel postulate; similarities between triangles; circles area. (3).

537. NON-EUCLIDEAN GEOMETRY. Brief review of the foundation of Euclidean plane geometry with special emphasis given the Fifth Postulate; hyperbolic plane geometry; elliptic plane geometry. (3).

540. HISTORY OF MATHEMATICS. Development of mathematics, especially algebra, geometry, and analysis; lives and works of Euclid, Pythagoras, Cardan, Descartes, Newton, Euler, and Gauss. Prerequisite: Math 305 or consent of instructor.

545. SELECTED TOPICS IN MATHEMATICS FOR SECONDARY-SCHOOL TEACHERS. High school subjects from an advanced point of view and their relation to the more advanced subjects. (3).

555, 556. ADVANCED CALCULUS I, II. Limits, continuity, power series, partial differentiation; multiple, definite, improper, and line integrals; applications. Prerequisite: MATH 305 or consent of instructor. (3, 3).

567, 568. INTRODUCTION TO FUNCTIONAL ANALYSIS I, II. Prerequisite: 556 or consent of instructor. (3, 3).

572. INTRODUCTION TO PROBABILITY AND STATISTICS. Emphasis on standard statistical methods and the application of probability to statistical problems. Prerequisite: MATH 261-264. (3).

573. APPLIED PROBABILITY. Emphasis on understanding the theory of probability and knowing how to apply it. Proofs are given only when they are simple and illuminating. Among topics covered are joint, marginal, and conditional distributions, conditional and unconditional moments, independence, the weak law of large numbers, Tchebycheff's inequality, Central Limit Theorem. Prerequisite: MATH 261-264. (3).

574. PROBABILITY. Topics introduced in MATH 573 will be covered at a more sophisticated mathematical level. Additional topics will include the Borel-Cantelli Lemma, the Strong Law of Large Numbers, characteristic functions (Fourier transforms). Prerequisite: MATH 573. (3).

575, 576. MATHEMATICAL STATISTICS I, II. Mathematical treatment of statistical and moment characteristics; frequency distribution; least squares; correlation; sampling theory. (3, 3).

577. APPLIED STOCHASTIC PROCESSES. Emphasis on the application of the theory of stochastic processes to problems in engineering, physics, and economics. Discrete and continuous time Markov processes, Brownian Motion, Ergodic theory for stationary processes. Prerequisite: MATH 573 or consent of instructor. (3).

578. STOCHASTIC PROCESSES. Topics will include General Diffusions, Martingales, and Stochastic Differential Equations. (3).

590. TECHNIQUES IN TEACHING COLLEGE MATHEMATICS. Directed studies of methods in the presentation of college mathematics topics, teaching and testing techniques. This course is required of all teaching assistants, each semester, and may not be used for credit toward a degree. Z grade. Prerequisite: departmental consent. (1-3).

597. SPECIAL PROBLEMS. (1-3).

MCDONNELL-BARKSDALE HONORS COLLEGE—HON

Professor Elizabeth A. Payne, director • McDonnell-Barksdale Honors College

100. PACE SEMINAR. A humanities course that concentrates on building critical thinking, problem solving and self-initiated discovery. For Project PACE members only. (3).

101, 102. FRESHMAN HONORS I, II. Honors core courses. Required of honors graduates. (3, 3).

201. HONORS COLLOQUIUM. Topics will vary according to the needs and wishes of honors students. (May be repeated for credit for a maximum of 6 hours, as long as content is different). (3).

301, 302. HONORS INDIVIDUAL-BASIS STUDIES. Content varies. (May be repeated for credit to a maximum of 6 hours). (1-6, 1-6).

401, 402. SENIOR HONORS RESEARCH. (3, 3).

MECHANICAL ENGINEERING—M E

Professor Jeffrey A. Roux, chair • 201 Carrier Hall

Professors Smith, Vaughan, and Wang • Associate Professors Mantena, McCarty, and Sinha • Assistant Professor Lackey • Visiting Professor Sharma • Research Assistant Professors Chambers and Ukeiley

324. INTRODUCTION TO MECHANICAL DESIGN. The design process, analysis, synthesis, feasibility including economic and human factors, creativity, computer in design, oral reporting. Prerequisites: ENGR 312. (5).

325. INTERMEDIATE DYNAMICS. Continuation of ENGR 309. Rigid body dynamics, vibrations, Lagrangian formulations; application to mechanical engineering problems. Prerequisite: ENGR 309. (3).

399. THERMODYNAMICS II. Continuation of ENGR 321. Application to vapor and gas cycles; introduction to performance, introduction to statistical thermodynamics. Prerequisite: ENGR 321. (3).

401. THERMO-FLUID DYNAMICS. The conservation equations and laws of thermodynamics are used in formulating and solving problems in compressible gas dynamics, reacting flows, boundary layers, heat transfer, and plasma dynamics. Prerequisites: ENGR 322. (3).

402. ELEMENTS OF PROPULSION. An application of the principles of gas dynamics and physical laws to the analysis, performance estimation, and design of air-breathing propulsion devices, including the ramjet, turbojet, turbofan, and turboprop engines. Prerequisite: ME 401. (3).

404. APPLIED FLUID MECHANICS. Review of hydrostatics and dynamics, dimensional analysis and modeling, analysis and design of fluid mechanical systems including open channels, pipe networks, turbomachinery, and aerodynamic bodies. Prerequisite: ENGR 322. (Same as C E 442). (3).

405. MODERN ENERGY CONVERSION. Consideration of high power density conversion such as magnetohydrodynamics, fuel cells and electro-mechanical conversion. Prerequisite: ME 401. (3).

416. STRUCTURES AND DYNAMICS LABORATORY. Introduction to the basic and latest instrumentation related to static and dynamic measurements and methods of collecting and analyzing experimental data; experiments chosen to reinforce basic static and dynamic theories. Prerequisites: ENGR 312, ME 325. Corequisite: ENGR 310 or consent of instructor. (1).

417, 418. PROJECTS. Approved investigation of original problem under direction of a staff member. Corequisite: ENGR 309, 321. (1-3, 1-3).

419. ENERGY AND FLUIDS LABORATORY. Laboratory experiments demonstrating fundamental laws and use of scientific instruments in thermodynamics, heat transfer and fluid flow. Prerequisite: ENGR 322. (1).

420. EXPERIMENTAL MECHANICAL ENGINEERING II. Experimental laboratory with student-designed experiments, either modification of current experiments or new ones using more general purpose equipment. Prerequisite: ME 419. (1).

421, 422. STRUCTURES I, II. Analysis of structural elements and configurations extending through deflections, statically indeterminate structures; stability; introduction to less conventional structural elements, limit design; matrix methods. Prerequisite: ENGR 309, ENGR 312. (Same as C E 311 and C E 411, respectively). (3, 3).

427. KINEMATIC ANALYSIS AND SYNTHESIS. Lectures introduce the kinematic design of mechanisms such as linkages, cams, gears and gear trains; motion of such mechanisms, their velocities and accelerations are analyzed by graphical, analytical, and computer aided design methods of synthesis and optimization. Lecture and projects. Prerequisite: ME 324. Corequisite: ENGR 330. (4).

428. DYNAMICS OF MACHINERY. Force analysis of machinery; engine dynamics and flywheel design; balancing of rotors and reciprocating masses; single and multicylinder engine design; shafts and cam dynamics. Prerequisite: ME 427. (3).

438. MECHANICAL ENGINEERING DESIGN. Design projects involving the fabrication and testing of a prototype; and/or selection of new design projects addressing realistic constraints such as safety, cost, reliability, aesthetics, ergonomics, ethics, and social impact. Corequisite: ME 428. (3).

521, 522. PROJECTS. Approved investigation of problem under direction of a staff member. (3, 3).

523, 524. SPECIAL TOPICS IN MECHANICAL ENGINEERING. Supervised reading of specialized topics beyond those available in existing courses. Prerequisite: consent of instructor. (3, 3).

525. ADVANCED DYNAMICS. Rigid body dynamics, vibrations, Lagrangian and Hamiltonian formulations; application to mechanical engineering problems. Prerequisite: ME 325. (3).

526. EXPERIMENTAL METHODS. Generalized theory for designing engineering experiments, processing experimental data, including proper procedures for handling time varying quantities and uncertainties. Some state-of-the-art techniques will be used to illustrate the theory. (3).

527. MATERIALS PROCESSING. Metal processing including casting, forging, press operation machining; plastic fabrication including casting, molding, press forming; tool and die designs; coatings. Prerequisite: ME 427. (3).

528. POLYMER PROCESSING. Analytical non-Newtonian fluid mechanical approach to polymer processing techniques: calendars, screw pumps, extruders, mixing, injection molding, and bonding operations. Prerequisite: ENGR 322. (3).

530. PHYSICAL METALLURGY. Application of chemical and microstructural control for understanding material behavior. Topics include a survey of relevant areas of thermodynamics and kinetics, phase diagrams, diffusions, solidifications, solid state transformations, recovery, recrystallization, and grain growth. Prerequisite: ENGR 313. (3).

531. MECHANICAL BEHAVIOR OF ENGINEERING MATERIALS. The dislocation concept of plastic deformation is introduced and used to explain the relationships between microstructure and mechanical properties. The phenomena of strain hardening, creep, fatigue, and fracture are discussed in detail. Prerequisite: ENGR 313. (3).

532. GLASSES AND CERAMICS. The application of atomic structure to a study of physical properties of amorphous systems and ceramics. Topics include classical ceramic bodies, glasses, refractories, cermets, cements, and electronic ceramics. Prerequisite: ENGR 313. (3).

533. ELECTRONIC PROPERTIES OF MATERIALS. Theories of electron/atom interactions and electron transport are examined to explain the electronic properties of solids. Junctions, magnetic and optical properties are also discussed with special emphasis on semiconducting materials. (3).

534. PROPERTIES AND SELECTION OF MATERIALS. Fundamental relationships that govern the properties of materials will be examined and used to optimize the selection of engineering materials. Materials covered will include metals, plastics, ceramics, and composites. (3).

535. EXPERIMENTAL STRESS ANALYSIS. The theories of experimental stress analysis techniques are examined in detail with special emphasis on the application of strain measurement methods, brittle coatings, transmission and reflection photoelasticity. (3).

538. EXPERIMENTAL CHARACTERIZATION OF POLYMER COMPOSITES. Methods for the experimental characterization of polymeric composites. Topics include testing standards, test methods, and data analysis procedures. Prerequisites: ENGR 313, 314. (3).

540. FAILURE ANALYSIS. Tools, techniques, and theories of failure analysis. Topics include failure analysis tools, mechanical aspects of failure analysis, microfractographic features, macrofractographic features, and the role of failure in design. Prerequisites: ENGR 313, 314. (3).

555. HEATING, VENTILATING, AND AIR-CONDITIONING. The theory and design of heating, ventilating, and air-conditioning systems for buildings with emphasis on using the fundamental principles of thermodynamics, heat transfer, and fluid mechanics and current technology to meet energy conservation standards and environmental regulations. Prerequisites: ENGR 321, 322. (3).

MEDICAL TECHNOLOGY *See the College of Liberal Arts section on Departmental Major and Minor Requirements.*

MEDICINAL CHEMISTRY—MEDC

Professor M. Avery, interim chair • 417 Faser Hall

Professors Sindelar and Borne • Associate Professor Williamson • Assistant Professor Rimoldi • Adjunct Professors Temple and Klein

NOTE: A grade of at least C is required on all prerequisite courses.

314. PRINCIPLES OF MEDICINAL CHEMISTRY. An introduction to the chemical and physical properties of medicinal agents. Prerequisites: CHEM 222, 226. (3).

315. LABORATORY PRINCIPLES OF MEDICINAL CHEMISTRY. A laboratory introduction to the chemical and physical properties of medicinal agents. Prerequisites: CHEM 222, 226. (1).

317. PHARMACOGENETICS AND PHARMACOIMMUNOLOGY. A detailed introduction to the basic concepts of molecular genetics, biotechnology and immunology of life processes that provide an essential foundation for rational drug therapy. Prerequisites: BISC 162, PHCL 343. (3).

411. MEDICINAL CHEMISTRY OF THERAPEUTIC AGENTS I. Discussion of relationships of structural properties of drugs to pharmacological properties, absorption, distribution and metabolism profiles, chemical stability, mechanism of action and clinically significant drug interactions. Prerequisite: MEDC 314 (also prerequisite to or co-enrollment with PHCL 443). (3).

412. MEDICINAL CHEMISTRY OF THERAPEUTIC AGENTS II. Continuation of MEDC 411. Prerequisite: MEDC 411 (also prerequisite to or co-enrollment with PHCL 444). (3).

501. ADVANCED MEDICINAL CHEMISTRY I. Advanced study of organic medicinal agents with emphasis on names, synthesis, chemical properties, and pharmacological properties. Readings in the current literature required. Prerequisite: consent of department. (3).

502. ADVANCED MEDICINAL CHEMISTRY II. Continuation of Medicinal Chemistry 501. Readings in the current literature required. Prerequisite: MEDC 501. (3).

503. MEDICINAL CHEMISTRY RESEARCH METHODOLOGY. A hands-on introduction to the practical aspects of the chemical methodology necessary to conduct medicinal chemistry research, including separation and purification technology, spectroscopic techniques, and medicinal chemistry literature searching. (3).

507. ORGANIC CHEMISTRY OF DRUG SYNTHESIS. Discussion of the synthetic approaches to many of the therapeutic classes of drugs studied in medicinal chemistry courses with an accent on the relationship of chemical structure to improved efficacy. Prerequisite: MEDC 501 or equivalent and consent of department. (3).

541, 542. PROBLEMS IN MEDICINAL CHEMISTRY. Investigation of individual problems. Prerequisite: minimum GPA of 2.50 on all professional pharmacy courses attempted and consent of instructor. (1-4, 1-4).

543. SEMINAR ON CURRENT MEDICINAL CHEMISTRY TOPICS. A seminar consisting of presentations by faculty, graduate students, B.S. Pharmaceutical Science/medicinal chemistry track students and invited speakers. (1).

544. SEMINAR ON CURRENT MEDICINAL CHEMISTRY TOPICS. A seminar consisting of presentations by faculty, graduate students, B.S. Pharmaceutical Science/medicinal chemistry track students and invited speakers. (1).

MERCHANDISING (*formerly fashion merchandising*) *See the Department of Family and Consumer Sciences*

MICROBIOLOGY/IMMUNOLOGY *See the Department of Biology.*

MILITARY SCIENCE—MSC

Professor Lieutenant Colonel Kenneth W. Bishop, U.S. Army, chair • 202 Guyton Hall

Assistant Professors Lieutenant Colonel Hollowell, Captain Harvey, and Major Yoste • Instructors Master Sergeant Jones and Sergeant First Class Kavanaugh

101. MILITARY SCIENCE I: TODAY'S ARMY. Organization of the U.S. Army and ROTC, rank structure of the Army, customs and traditions, pay and benefits. Enrollment in this course does not incur a military obligation. (1 lecture, 1 lab). (2).

102. MILITARY SCIENCE I: BASIC LEADERSHIP AND MANAGEMENT. Small unit leadership, basic principles and fundamentals of leadership and management. Enrollment in this course does not incur a military obligation. (1 lecture, 1 lab). (2).

103. MILITARY SCIENCE I: TODAY'S ARMY AND BASIC LEADERSHIP MANAGEMENT. Combination of MSC 101 and MSC 102. Spring semester only. Enrollment in this course does not incur a military obligation. (2 lectures, 1 lab). (3).

200. INTRODUCTORY LEADERSHIP COURSE. Summer leadership training course designed to introduce the student to all facets of military leadership with a focus toward understanding traditional military leadership values. (Will not count for credit if MSC 101 or 102 or 201 or 202 is counted.) (4).

201. MILITARY SCIENCE II: SMALL UNIT LEADERSHIP. A leadership and management course covering small unit leadership, problem analysis and decision making, planning and organizing, delegation and control, and interpersonal skills required for effective military leadership. Enrollment in this course does not incur a military obligation. (2 lectures, 1 lab). (3).

202. MILITARY SCIENCE II: BASIC MILITARY SKILLS. Map reading, land navigation and basic first aid skills. Enrollment in this course does not incur a military obligation. (2 lectures, 1 lab). (3).

301. MILITARY SCIENCE III: SQUAD AND PLATOON TACTICS. A leadership course emphasizing small unit tactics up to the company level, military skills, combat orders, land navigation, and rifle marksmanship. Prerequisites: See military science information on page 137. (3 lectures, 1 lab). (4).

302. MILITARY SCIENCE III: ADVANCED SQUAD AND PLATOON TACTICS. A leadership course emphasizing small unit tactics, further developing the fundamentals learned in MSC 301. Prerequisite: MSC 301. (3 lectures, 1 lab). (4).

340. THE AMERICAN MILITARY EXPERIENCE. (Same as HIS 320). (3).

353. PHILOSOPHY OF WAR. Major philosophical problems in war, e.g., its nature, its justification, pacifism, and the morality of chemical, biological, nuclear weaponry. (Same as PHIL 353). (3).

399. RESEARCH SEMINAR IN MILITARY SCIENCE. Research and practical exercises in one of the following areas: military leadership, tactics, personnel management, information management, training management, logistics, recent military developments. Prerequisites: MSC 302 or instructor's permission. (1-3).

401. MILITARY SCIENCE IV: ADVANCED LEADERSHIP AND MANAGEMENT. A leadership course emphasizing duties and responsibilities of the company grade Army officer. Command and leadership, staff functions, training management, logistics, military correspondence, military justice, law of war, professionalism, and ethics. Prerequisites: MSC 301, 302. (3 lectures, 1 lab). (4).

402. MILITARY SCIENCE IV: THE PROFESSIONAL ARMY OFFICER. A leadership course emphasizing duties and responsibilities of the company grade Army officer, further developing the fundamentals learned in MISC 401. Prerequisites: MSC 301, 302, 401. (3 lectures, 1 lab). (4).

MODERN LANGUAGES

Professor Peggy Sharpe, chair • 103 Bondurant Hall

Professors Arico, Arrington, Danahy, Gaycken, Klein, and Sharpe • Associate Professors Dyer, and Everett • Assistant Professors Buchanan, Coles, Metcalf, and Yang • Instructors Howie, Jones, Santry, and Sisson

PREREQUISITE FOR ALL 500-LEVEL MODERN LANGUAGE COURSES: Completion of 201-202 or the equivalent and completion of 6 hours at the 300 level, unless approved by the instructor and the department chair.

Arabic–ARAB

101, 102. ELEMENTARY ARABIC I, II. Grammar, conversation, and reading. (3, 3).

201, 202. SECOND-YEAR ARABIC I, II. Primarily reading, with review of grammar. (3, 3).
310. SPECIAL TOPICS IN ARABIC. Topics will vary according to the needs and wishes of students who have completed Arabic 202 or its equivalent. (May be repeated for credit for a maximum of 6 hours, as long as content is different). (3).

Chinese–CHIN

101, 102. ELEMENTARY CHINESE I, II. A tutorial/independent-study course in spoken and written Chinese, with proficiency examination. Registration granted only with permission from department chair. (3, 3).

201, 202. SECOND-YEAR CHINESE I, II. A tutorial/independent-study course in spoken and written Chinese, with proficiency examination. Registration granted only with permission from department chair. (3, 3).

301, 302. THIRD-YEAR CHINESE I, II. Intermediate grammar and conversation with incorporation of cultural elements. Prerequisite: 12 hours of Chinese or equivalent. (3, 3).

French–FR

101, 102. ELEMENTARY FRENCH I, II. Grammar, conversation, and reading. (3, 3).

111. INTENSIVE ELEMENTARY FRENCH. French 101 and 102 in one semester. To develop proficiency in French, with cultural information about the French-speaking world. Prerequisite: consent of instructor. (6).

201, 202. SECOND-YEAR FRENCH I, II. Additional grammar, conversation, reading, and a review of initial grammar. (3, 3).

211. INTENSIVE INTERMEDIATE FRENCH. French 201 and 202 in one semester. To develop continuing proficiency in French, with cultural information about the French-speaking world. Prerequisite: French 111 or equivalent and consent of instructor. (6).

302. INTRODUCTION TO LITERARY ANALYSIS. Reading strategies, methods of analysis, techniques of exposition. (3).

303, 304. CONVERSATION AND COMPOSITION I, II. Prerequisite: 12 hours of French or equivalent. (3, 3).

305. CONTEMPORARY FRENCH CULTURE. Lectures and discussion. (3).

306. FRENCH CIVILIZATION. From prehistory to the modern day. (3).

307, 308. ADVANCED SPOKEN FRENCH I, II. Intensive oral practice. Prerequisite: FR 202. (May be repeated for credit one time only). (3, 3).

359. A HUNDRED YEARS OF FRENCH CINEMA. The history of French cinema beginning with silent pictures, continuing with sound films until World War II, then focusing on New Wave cinema, and culminating with the contemporary period. Prerequisite: 3 hours of 300-level French or consent of instructor. (3).

399. FRENCH STUDIES. Content varies. (1-6).

501. SURVEY OF FRENCH LITERATURE. French Literature from 1000 to 1799. Origin and development of literary genres; study of major authors and excerpts from their works. Lecture and readings in French. (3).

502. SURVEY OF FRENCH LITERATURE. French Literature from 1800 to the present. Origin and development of literary genres; study of major authors and excerpts from their works. Lecture and readings in French.

503. PHONETICS AND SPOKEN FRENCH. (Strongly recommended for all majors and prospective teachers). (3).

504. HISTORY OF THE FRENCH LANGUAGE. (Same as LING 504). (3).

507, 508. ADVANCED GRAMMAR AND COMPOSITION I, II. (3, 3).

509. MIDDLE FRENCH. Language and literature of the 14th and 15th centuries. Prerequisite: FR 504 or 551. (3).

511. THE 17th CENTURY I. Introduction and nondramatic literature. (3).

513. THE 17th CENTURY II. Corneille, Moliere, and Racine. (3).

515. THE NOVEL IN THE 19th CENTURY. (3).

517. THE DRAMA IN THE 19th CENTURY. (3).

- 519. THE 20th CENTURY NOVEL.** Special emphasis on the NOUVEAU ROMAN. (3).
- 521. THE 20th CENTURY DRAMA.** (3).
- 523, 524. LITERATURE OF THE 16th CENTURY I, II.** Literature from the beginning of the century to the Pleiade and from the Pleiade to Malherbe. (3, 3).
- 529. LITERATURE OF THE ENLIGHTENMENT.** Major literary currents in the works of Montesquieu, Voltaire, Diderot, and Rousseau. (3).
- 530. THE 18th CENTURY NOVEL.** Developments in the novel and the struggle toward realism. (3).
- 531. SURVEY OF FRENCH LYRIC POETRY.** French lyric poetry from Villon through 19th century symbolism. (3).
- 541. FRENCH STUDIES, SPECIAL TOPICS.** Content varies. (May be repeated for credit for a maximum of 6 hours). (3).
- 551. OLD FRENCH I.** Phonology, morphology, and some readings. (3).
- 552. OLD FRENCH II.** Continuation of linguistic analysis and more intensive reading in the field. (3).

German–GERM

- 101, 102. ELEMENTARY GERMAN I, II.** Grammar, conversation, and reading. (3, 3).
- 111. INTENSIVE ELEMENTARY GERMAN.** German 101 and 102 in one semester. To develop proficiency in German, with cultural information about the German-speaking world. Prerequisite: consent of instructor. (6).
- 201, 202. SECOND-YEAR GERMAN I, II.** Additional grammar, conversation, reading, and a review of initial grammar. (3, 3).
- 211. INTENSIVE INTERMEDIATE GERMAN.** German 201 and 202 in one semester. To develop continuing proficiency in German, with cultural information about the German-speaking world. Prerequisite: German 111 or equivalent and consent of instructor. (6).
- 301, 302. INTRODUCTION TO LITERARY ANALYSIS AND GERMAN LITERARY HISTORY I, II.** (3, 3).
- 303, 304. CONVERSATION AND COMPOSITION I, II.** Prerequisite: 12 hours of German or equivalent. (3, 3).
- 309, 310. INTENSIVE GERMAN ABROAD.** Intensive undergraduate German language instruction in a German-speaking country. These courses may be taken concurrently. (3, 3).
- 359. GERMAN CINEMA.** Specific topics of German film, including German Expressionism, films of the 1930s, post-World War II German cinema, new German cinema, women's films, East German cinema (DEFA), and post-“Wende” films. Content varies. May be repeated for credit once. (3).
- 369. SPECIAL TOPICS IN GERMAN STUDIES.** Course content will vary, depending upon the needs of the German Studies minors. Possible course descriptions include turn-of-the-century Vienna, German film, and World War II in literature and film. (3).
- 503, 504. THE GERMAN NOVELLE AND ROMAN I, II.** (3, 3).
- 505, 506. 20th CENTURY LITERATURE I, II.** (3, 3).
- 507, 508. ADVANCED GRAMMAR AND COMPOSITION I, II.** (3).
- 509. PHONETICS AND SPOKEN GERMAN.** (Strongly recommended for all majors and prospective teachers). (3).
- 511. SURVEY OF GERMAN LYRIC POETRY.** (3).
- 513. PRE-CLASSICAL DRAMA THROUGH LESSING.** (3).
- 515. THE DRAMA IN THE 19th CENTURY.** (3).
- 517, 518. THE AGE OF GOETHE: STORM AND STRESS; CLASSICAL AND ROMANTIC LITERATURE I, II.** (3, 3).
- 519. HISTORY OF THE GERMANIC LANGUAGES.** (Same as LING 519). (3).
- 531. GERMAN STUDIES.** Content varies. (3).
- 532. SPECIAL TOPICS.** Content varies. (3).
- 545. INTENSIVE ADVANCED GERMAN IN GERMANY.** Intensive advanced undergraduate/graduate German language instruction in Germany. (3).

546. INTENSIVE ADVANCED GERMAN IN GERMANY. Intensive advanced undergraduate/graduate German language instruction in Germany. (3).

551. GERMAN LITERATURE IN ENGLISH TRANSLATION. German literature through English translation of Goethe, Kleist, Heine, Nietzsche, Kafka, Rilke, Mann, Hesse, Hauptmann, and others. Content varies. (May be taken for credit by German majors and minors if the readings are done in German). (3).

553. GERMAN CIVILIZATION AND CULTURE. Lectures and discussion. (3).

Italian–ITAL

101, 102. ELEMENTARY ITALIAN I, II. Grammar, conversation, and reading. (3, 3).

201, 202. SECOND-YEAR ITALIAN I, II. Additional grammar, conversation, reading, and a review of initial grammar. (3, 3).

301. THIRD-YEAR ITALIAN I. Intermediate grammar and conversation. Prerequisite: 12 hours of Italian or equivalent. (3).

302. THIRD-YEAR ITALIAN II. Intermediate grammar and conversation. Prerequisite: 12 hours of Italian or equivalent. (3).

310. SPECIAL TOPICS IN ITALIAN. Topics will vary according to the needs and wishes of students who have completed Italian 202 or its equivalent. (May be repeated for credit for a maximum of 6 hours, as long as content is different). (3).

Japanese–JAPN

101, 102. ELEMENTARY JAPANESE (ACT) I, II. Grammar, conversation, and reading. Corequisites: Japanese 103, 104 (3, 3).

103, 104. ELEMENTARY JAPANESE (FACT) I, II. Additional linguistic and cultural information about Japanese. Corequisites: JAPN 101, 102. (1, 1).

201, 202. SECOND-YEAR JAPANESE (ACT) I, II. Advanced grammar, conversation, and reading. Corequisites: Japanese 203, 204. (3, 3).

203, 204. SECOND-YEAR JAPANESE (FACT) I, II. Additional linguistic and cultural information about Japanese. Corequisites: JAPN 201, 202. (1, 1).

310. SPECIAL TOPICS IN JAPANESE. Topics will vary according to the needs and wishes of students who have completed Japanese 202 or its equivalent. (May be repeated for credit for a maximum of 6 hours, as long as the content is different). (3).

Modern Language, Literature, and Linguistics–MLLL

251. MASTERWORKS OF GERMAN LITERATURE IN ENGLISH TRANSLATION. Readings from Goethe's *Faust* to Gunter Grass's *The Tin Drum*, including works of Franz Kafka, Rainer Maria Rilke, and the Nobel Prize-winning authors Thomas Mann, Hermann Hesse, and Heinrich Boll. (3).

301. MASTERWORKS OF AFRO-FRENCH LITERATURE IN ENGLISH TRANSLATION. Readings from leading French, African, and Caribbean writers, principally, although not exclusively from the 20th century. (3).

302. CHINA THROUGH LITERATURE AND FILM. Critical examination of modern Chinese culture through analysis of twentieth-century Chinese literature (in English translation) and films) with English subtitles). (3).

313. INTRODUCTION TO LINGUISTIC SCIENCE. Introduction to general linguistic principles, with emphasis on the application of language study in other fields. (Same as ANTH 313, ENGL 313, and LING 313). (3).

314. PHONOLOGY. An introduction to the principles of articulatory and acoustic phonetics; also generative and nongenerative phonology. (Same as LING 314 and ENGL 314). (3).

315. MORPHOLOGY. An introduction to the intersection and overlap of morphology with both the study of distinctive sounds and sentence elements. (Same as LING 315 and ENGL 315). (3).

316. SYNTAX. Introduction to traditional approaches to sentential analysis and a comparative examination of syntactic models. (Same as LING 316 and ENGL 316). (3).

430. DISCOURSE PRAGMATICS. Linguistic study of the context of an utterance, including an analysis of speech styles and discourse markers, as well as the anatomy of a conversation and idiomatic expressions. The language of focus will be English, although other languages also will be examined. (Same as LING 430 and ENGL 430). (3).

541. SPECIAL TOPICS IN LINGUISTICS. Advanced course dealing with special topics in phonology, morphology, and syntax. Recommended for graduate students interested in linguistics or language pedagogy. May be repeated for a total of 9 credit hours as long as content varies. (3).

Portuguese–PORT

101, 102. ELEMENTARY PORTUGUESE I, II. Grammar, conversation, and reading. (3, 3).

201, 202. SECOND-YEAR PORTUGUESE I, II. Additional grammar, conversation, reading, and a review of initial grammar. (3, 3).

310. SPECIAL TOPICS IN PORTUGUESE. Topics will vary according to the needs and wishes of students who have completed Portuguese 202 or its equivalent. (May be repeated for credit for a maximum of 6 hours, as long as content is different). (3)

Russian–RUSS

101, 102. ELEMENTARY RUSSIAN I, II. Grammar, conversation, and reading. (3, 3).

201, 202. SECOND-YEAR RUSSIAN I, II. Additional grammar, conversation, reading, and a review of initial grammar (3, 3).

301, 302. THIRD-YEAR RUSSIAN I, II. Intermediate grammar and conversation. Prerequisite: 12 hours of Russian or equivalent. (3, 3).

310. SPECIAL TOPICS IN RUSSIAN. Topics will vary according to the needs and wishes of students who have completed Russian 202 or its equivalent. (May be repeated for credit for a maximum of 6 hours, as long as content is different). (3).

320. RUSSIAN CIVILIZATION AND CULTURE. Lectures and discussion on Russian and Soviet peoples, cultures, languages, and society. Those enrolled who have studied the Russian language are expected to take on additional obligations in this course to complement their language study. (3).

321, 322. INTENSIVE RUSSIAN ABROAD I, II. Intensive Russian in the Commonwealth of Independent States or in one of the former republics of the Soviet Union. (3, 3).

401, 402. FOURTH-YEAR RUSSIAN I, II. Advanced conversation and grammar. Prerequisite: 18 hours of Russian or equivalent. (3).

Spanish–SPAN

101. ELEMENTARY SPANISH I. Introduction to the Spanish language, presenting grammar, reading, writing, and conversational skills for basic practical communication, and cultural information about the Spanish-speaking world. (3).

102. ELEMENTARY SPANISH II. Continuing introduction to the Spanish language, presenting grammar, reading writing, and conversational skills for basic practical communication, and cultural information. Prerequisite: Spanish 101 or equivalent. (3).

111. INTENSIVE ELEMENTARY SPANISH. Spanish 101 and 102 in one semester. To develop proficiency in Spanish, with cultural information about the Spanish-speaking world. With consent of instructor. (6).

201. SECOND YEAR SPANISH. Development of proficiency in speaking Spanish, understanding spoken Spanish, and writing, with cultural information about the Spanish-speaking world. Prerequisite: Spanish 102 or equivalent elementary Spanish. (3).

202. TOPICAL SPANISH. Some grammar review. Emphasis on using Spanish for one of various topics: literature, current events, medical work, culture, and others. Prerequisite: Spanish 201 or equivalent. (3).

- 203. SECOND YEAR SPANISH STUDY ABROAD I.** Emphasis on Spanish proficiency and cultural information while studying abroad in a Spanish-speaking country. Prerequisite: SPAN 102 or equivalent. (3).
- 204. SECOND YEAR SPANISH STUDY ABROAD II.** Continuing emphasis on Spanish proficiency and cultural information while studying abroad in a Spanish-speaking country. Prerequisite: SPAN 102 or equivalent. (3).
- 211. INTENSIVE INTERMEDIATE SPANISH.** Spanish 201 and 202 in one semester. Development of proficiency in Spanish, with cultural information. With consent of instructor. Prerequisite: Spanish 111 or equivalent. (6).
- 301. SPANISH CIVILIZATION.** Highlights of Spanish history, geography, art, architecture, and literature. Study of the diverse elements shaping the Spanish character and nation. Prerequisite: Spanish 202 or equivalent. (3).
- 302. SPANISH-AMERICAN CIVILIZATION.** A study of the art, geography, history, literature, politics, and popular culture of the Spanish-speaking countries of Latin America. Prerequisite: Spanish 202 or equivalent. (3).
- 303, 304. CONVERSATION AND COMPOSITION I, II.** Development of skills in speaking and writing. Study of selected grammatical structures. Conversations and oral presentations. Prerequisite: Spanish 202 or equivalent. Spanish 303 is not a prerequisite for Spanish 304. (3, 3).
- 305. BUSINESS SPANISH.** Practical application of specialized vocabulary for letter writing, interviewing techniques, and other areas of significance to commercial applications of Spanish. Prerequisite: Spanish 202 or equivalent. (3).
- 306. INTRODUCTION TO HISPANIC LITERATURE.** An introduction to techniques of literary analysis and interpretation through narrative, poetry, and drama by Spanish and Spanish-American writers. Prerequisite: Spanish 202 or equivalent. (3).
- 307. SPANISH FOR ORAL PROFICIENCY.** Development of student's ability to express ideas in Spanish through conversations, brief presentations, and oral proficiency interviews. Prerequisite: Spanish 202 or equivalent. (3).
- 309, 310. INTENSIVE SPANISH ABROAD.** Intensive undergraduate Spanish language instruction in a Spain-speaking country. These courses may be taken concurrently. (3, 3).
- 312. SPANISH DRAMA.** Critical analysis and performance of Spanish plays. (3).
- 313. SPANISH AMERICAN DRAMA.** Critical analysis and performance of Spanish American plays. (3).
- 315, 316. INTRODUCTION TO LATIN AMERICAN STUDIES I, II.** A multidisciplinary survey of the prehistory, history, literature, art, music, politics, and government of the Spanish- and Portuguese-speaking countries of Latin America. Taught in English. (These courses may not be used to fulfill the language requirement). (Same as ANTH 315, 316 and LAS 315, 316). Spanish 315 is not a prerequisite for Spanish 316. (3, 3).
- 351. TOPICS IN LATIN AMERICAN STUDIES.** A course designed for specific topics of narrower interest in Latin American Studies field, to be offered on the basis of available personnel, the specific topic to be determined by the professor and student interest. (This course may not be used to fulfill the language requirement). (Same as ANTH 351, LAS 351, and W ST 351). (3).
- 352. LATINO LITERATURE IN THE UNITED STATES.** This course examines short stories, poems, novels, performance art, and film by Latino writers (Chicano, Puerto Rican, Cuban-American, and exiles) who are residing in the United States. Prerequisite: SPAN 202 or equivalent. (3).
- 359. TOPICS IN HISPANIC CINEMA.** An analysis of films from Spain and/or Spanish America within their social and historical contexts. Topic varies. May focus on gender issues, cinema history, and politics. May be repeated for credit once. Prerequisite: Spanish 202 or consent of instructor. (3).
- 501. SURVEY OF SPANISH LITERATURE I.** A study of the most representative writers of the Spanish Peninsula from the Epic through 1700. (3).
- 502. SURVEY OF SPANISH LITERATURE II.** A study of the most representative writers of the Spanish Peninsula from 1701 through the present day. Spanish 501 is not a prerequisite for Spanish 502. (3).
- 503. GOLDEN AGE LITERATURE.** Major writers of Spain of the 16th and 17th centuries. Emphasis may vary on prose, poetry, and the drama. (3).
- 505. CERVANTES.** A reading of Don Quixote and a selection of the Novelas ejemplares. (3).

507. ADVANCED GRAMMAR AND COMPOSITION. Morphology and syntax of Spanish: explanations of forms and usage, exercises and activities to master Spanish language structure. (3).

509. PHONETICS AND PHONOLOGY. Introduction to the production of Spanish sounds, using linguistic analysis and articulatory practice to improve pronunciation skills. (Strongly recommended for all majors and prospective teachers). (3).

511, 512. SURVEY OF SPANISH-AMERICAN LITERATURE I, II. A survey of the canonical texts and movements of Spanish-American literature, including poetry, narrative, and drama, from the colonial period through the twentieth century. Spanish 511 is not a prerequisite for Spanish 512. (3).

515. MODERN AND CONTEMPORARY SPANISH DRAMA. A study of the major dramatic works of the Spanish Peninsula from the early nineteenth century through the present day. (3).

517. THE GENERATION OF 1898. A study of the thought and writings of Unamuno, Baroja, Azorín, and Valle-Inclán, as well as other contemporaries considered within this critical historical moment. (3).

521. CONTEMPORARY SPANISH PROSE. A study of the major works of the Spanish Peninsula from 1850 to the present day. (3).

522. GALDOS. Study of Galdós' life and works, with emphasis on the novel, but including the drama. (3).

523. THE SPANISH-AMERICAN SHORT STORY. Development of the short story as a literary genre in Spanish America, with emphasis on recent trends. (3).

525. SPANISH-AMERICAN POETRY. Detailed analysis of texts representative of major poetic movements from *modernismo* to the present. (3).

527. SPANISH LITERATURE OF THE MIDDLE AGES. Masterpieces of Spanish literature of the Middle Ages, including *El Cid*, *Milagros De Nuestra Senora*, *El Libro De Buen Amor*, and *La Celestina*. (3).

541, 542. HISPANIC SEMINAR I, II. A detailed study of a particular period of Hispanic literature, a genre, or a particular author or authors. May be repeated for credit. (3).

543. SPANISH STUDIES, SPECIAL TOPICS. Content varies each time course is offered. (May be repeated for credit one time only.) (3).

552. HISTORY OF THE SPANISH LANGUAGE. Development of the sound system and grammar of Spanish, from Latin to its modern-day dialects. (Same as LING 552). (3).

555. APPLIED SPANISH LINGUISTICS. Studies the uses of linguistics in acquiring and teaching Spanish, translating and interpreting, and understanding dialects. Explores helpful linguistics notions and methodologies for other studies involving the Spanish language. (3).

561. THE SPANISH-AMERICAN NOVEL. A study of selected novels of major Spanish-American writers, to be determined by the professor. (3).

565. SPANISH AMERICAN WOMEN WRITERS. Poetry, drama, and narrative written by Spanish American women with particular attention to the themes, theories, and questions surrounding gender and *escritura femenina*. (3).

MUSIC—MUS

Professor Steven Brown, chair • 132 Meek Hall

Professors G. Jordan, J. Jordan, and Vernon • Associate Professors Burkhead, Dale, Gates, Irvin, Linton, Riggs, Rodgers, Steel, and Willson • Assistant Professors J. Aubrey, Barnett, Foulkes-Levy, Hominick, Rike, Robinson, Schaefer, and K. Swinden • Visiting Assistant Professors R. Aubrey and Schuesselin • Instructors Balach, Doyle-Ronkin, Gaston, Levy, Piecuch, L. Swinden, Wang, and Wilson • Emeritus Associate Professor McCauley

Theory, Composition, History

101. INTRODUCTION TO MUSIC LITERATURE. An overall historical perspective including style recognition and familiarity with major composers and compositions. (For music majors and minors). (3).

- 102. FUNDAMENTALS OF MUSIC THEORY.** Fundamental concepts and principles of harmonic, melodic, and rhythmic structures, including their notation and interpretation. No previous instruction in music required. May not be used to satisfy requirements for a major or minor in music. (3).
- 103. INTRODUCTION TO MUSIC.** The study of elementary music elements and basic terminology, with an emphasis on identification of the major music styles in the Western civilization. May not be used to satisfy the requirements for a major or minor in music. (3).
- 105, 106. MUSICIANSHIP AND HARMONY I, II.** Theory fundamentals; an introduction to musical skills through solfege (sight singing, ear training, rhythm, memory, dictation, improvisation); the study of diatonic harmony through part writing and analysis. Prerequisite for Music 106: Music 105. (3, 3).
- 197. VOICE CLASS.** Fundamentals of voice for beginning students not taking private voice lessons. (2).
- 198. VOCAL METHODS FOR INSTRUMENTAL MAJORS.** A pedagogical approach to methods of healthy vocal tone production and proper care and technical development of the singing voice. (1).
- 205, 206. MUSICIANSHIP AND HARMONY III, IV.** An in-depth study of chromatic harmony through part writing and analysis; the study of late nineteenth- and early twentieth-century chromatic harmony; an introduction to twentieth-century compositional techniques; the further development of all musical skills based on chromatic and atonal music. Prerequisite for MUS 205: MUS 106; prerequisite for MUS 206: MUS 205. (3, 3).
- 301, 302. HISTORY OF MUSIC I, II.** Survey of music in Western culture from the Middle Ages to the present day. (3, 3).
- 303. VOCAL LITERATURE I.** A historical survey of the art song literature. (2).
- 304. VOCAL LITERATURE II.** A historical survey of opera and oratorio literature. (2).
- 305, 306. FORM AND ANALYSIS I, II.** A study of the structural properties of phrases, periods, and phrase groups applied to binary, ternary, rondo, and sonata forms in music of the 18th through 20th centuries; an introduction to imitative (fugal) and theme and variation procedures; a study of large forms, especially sonata, sonata-rondo, and the concerto. Prerequisite for MUS 305: MUS 206; prerequisite for MUS 306: MUS 305. (2, 2).
- 309, 310. COMPOSITION III.** The employment of contrapuntal techniques and forms; representative works. (2, 2).
- 312. KEYBOARD LITERATURE.** Chronological survey of keyboard literature. (3).
- 313. AMERICAN MUSICAL THEATRE.** The growth of the American musical and operetta in a historical context from the 1800s. (3).
- 321. THE DEVELOPMENT OF COUNTRY MUSIC.** Traces the development and evolution of country music from the folk tradition of the 19th century to the Nashville sound. Prerequisite: junior standing. (3).
- 330. SELECTED TOPICS IN MUSIC.** Selected topics in music history and literature, music theory, or music education. Topics may vary. May be repeated once for credit. (1-3).
- 403, 404. COMPOSITION IV.** Creative work involving the study of contemporary techniques of composers of the 20th century. (2, 2).
- 405. INSTRUMENTAL ARRANGING.** Scoring for various chamber ensembles (strings, winds, brass, percussion), culminating in a project for a large ensemble (orchestra or wind ensemble). Students may elect their stream of concentration (orchestra/band). (2).
- 497. SENIOR THESIS.** An in-depth study of a topic in music history or music theory under the supervision of a major professor, concluding with a formal oral presentation and a research paper. Prerequisites: senior standing and consent of major professor. (3).
- 501. MUSIC OF THE MEDIEVAL AND RENAISSANCE PERIOD.** (2).
- 502. MUSIC OF THE BAROQUE PERIOD.** (2).
- 503. MUSIC OF THE CLASSICAL PERIOD.** (2).
- 504. MUSIC OF THE ROMANTIC PERIOD.** (2).
- 505, 506, 507. ANALYSIS I, II, III.** A study of techniques appropriate to analysis of music of the Renaissance and Baroque periods (I), Classical and Romantic periods (II), and the 20th century (III). (2, 2, 2).
- 509, 510. ADVANCED COMPOSITION.** Creative work in larger forms. (2, 2).

- 511. BAND INSTRUMENTATION.** Arranging for the concert and marching band. (2).
- 512. SIXTEENTH CENTURY COUNTERPOINT.** A study of the compositional techniques of contrapuntal music of the 16th century. (2)
- 513. MUSIC SINCE 1900. (2).**
- 514. EIGHTEENTH CENTURY COUNTERPOINT.** A study of the compositional techniques of contrapuntal music of the 18th century. (2)
- 515. HISTORY OF OPERA.** A historical survey of the opera. (2).
- 517. AFRO-AMERICAN MUSICAL TRADITIONS.** A survey of styles arising from black American culture: the African background, spirituals, blues, and gospel music and their influence on American and world music. (3).
- 518. THE HISTORY OF JAZZ.** The nature, origins, and evolution of jazz will be studied, using recordings, films, and source readings. (3).
- 520. INTRODUCTION TO MUSIC RESEARCH.** Familiarity with the library materials and techniques necessary for advanced study in music. (2).
- 526. HISTORY OF MUSIC IN THE UNITED STATES.** Study of music in the U.S. from the early colonial period to the present with special emphasis in popular music developments. (2).
- 547. MUSIC TECHNOLOGY I.** Methods of synthesis, signal processing, recording, and computer applications involving MIDI. Prerequisite: MUS 305 or equivalent and consent of instructor. (2).
- 560. MUSIC THEORY PEDAGOGY.** A comparative survey of current systems and materials for teaching lower division college courses in music theory and ear training. (3).
- 561. SYMPHONIC LITERATURE.** A historical survey of music composed for the orchestra. (2).
- 563. CHAMBER MUSIC LITERATURE.** A historical survey of chamber music literature. (2).
- 565. INSTRUMENTAL SOLO LITERATURE.** Solo literature for various woodwind, brass, percussion, and string instruments. Emphasis on the standard repertoire and solos used with elementary and secondary school students. (2).

Music Education

- 161. STRING CLASS.** Methods of tone production, bowings, fingerings, positions, the care of the violin, viola, cello, and double bass. (1).
- 172. SECONDARY INSTRUMENTAL MUSIC METHODS: FLUTE.** Tone production, fingering, tuning, care of instrument. (1).
- 173. SECONDARY INSTRUMENTAL MUSIC METHODS: SINGLE REEDS.** Tone production, fingering, tuning, care of instrument. (1).
- 174. SECONDARY INSTRUMENTAL MUSIC METHODS: DOUBLE REEDS.** Tone production, fingering, tuning, care of instrument. (1).
- 187. SECONDARY INSTRUMENTAL MUSIC METHODS: HIGH BRASS.** Tone production, fingering, tuning, care of instrument. (1).
- 189. SECONDARY INSTRUMENTAL MUSIC METHODS: LOW BRASS.** Tone production, fingering, tuning, care of instrument. (1).
- 190. SECONDARY INSTRUMENTAL MUSIC METHODS: PERCUSSION.** Tone production, technical development, instrumental care for all the percussion instruments. (2).
- 311. INTRODUCTION TO MUSIC EDUCATION.** Class discussions on pedagogical procedures and philosophy. Unit teaching, including guitar, improvisation, music fundamentals through composition. Selected topics. (3).
- 315. FUNDAMENTALS OF CONDUCTING.** Fundamentals of instrumental and choral conducting; baton technique, interpretation, practice with conducting class. (2).
- 316. INSTRUMENTAL CONDUCTING.** Rehearsal and stylistic techniques with repertory ensemble. Woodwind, brass, and percussion methods classes strongly recommended prior to enrollment. Prerequisite: 315. (2).
- 325. TECHNIQUES OF MARCHING BAND.** Current styles and trends of marching band. Concepts, drills, and charting. (2).
- 329. MUSIC FOR CHILDREN.** A music course designed for elementary education majors; accompanying skills (guitar), notation, rhythms and singing activities; no previous instruction in music required. (3).

- 371. ELEMENTARY SCHOOL MUSIC.** Acquisition of skills required for teaching ukulele, recorder, Curwin hand signals, Orff instruments and orchestration, and Dalcroze movement. (3).
- 376. TEACHING MUSIC IN THE ELEMENTARY SCHOOL-STRINGS.** Pedagogical procedures and techniques of starting beginner classes of string students in elementary schools. (1).
- 381. CHORAL CONDUCTING I.** Fundamentals of choral conducting with emphasis on treatment of text and other technical factors. Choral laboratory required. Prerequisite: MUS 213, MUS 315. (2).
- 382. CHORAL CONDUCTING II.** Advanced choral conducting with emphasis on expressive factors and selection of literature. Choral laboratory required. Prerequisite: MUS 214, 381. (2).
- 383. CHORAL METHODS AND ADMINISTRATION I.** Choreographed ensemble methods and materials, direction of musical theatre, junior high school methods and materials. Choral laboratory required. (3).
- 384. CHORAL METHODS AND ADMINISTRATION II.** Senior high school choral methods, materials, and administration. Choral laboratory required. Prerequisite: MUS 381. (3).
- 385. INSTRUMENTAL MUSIC PEDAGOGY.** The study of pedagogical theory and practice of applied instrument instruction.
- 414. PIANO PEDAGOGY.** The presentation of lesson plans and effective techniques of teaching piano; examination of publications, literature, and methods with discussion, observation, and actual teaching experiences. (2).
- 422. TEACHING AND ADMINISTRATION IN MUSIC EDUCATION.** Instructional strategies, materials, and administration for music education. Grades K-12. (3).
- 508. ADVANCED EAR TRAINING.** Advanced studies in rhythmic, melodic, and harmonic dictation and sight-singing. Although most exercises employ the major and minor modes, other modes are included. (2).
- 516. VOCAL PEDAGOGY.** Survey of techniques, practices, and materials of teaching voice; presentation of group and individual instruction. (2).
- 523. ADVANCED TECHNIQUES OF BAND DIRECTING.** Advanced techniques of organization and administration of instrumental music programs. (2).
- 524. ADVANCED TECHNIQUES OF CHORAL DIRECTING.** Methods of choral directing with emphasis on expression, musicianship, conducting techniques, and analysis of suitable choral literature. (2).
- 525. ADVANCED TECHNIQUES OF MARCHING BAND.** Current styles and trends of marching band. Concepts, drills, and charting. (2).
- 530. SPECIAL PROJECTS IN MUSIC EDUCATION.** Special topics in subject areas related to music education. (1-3).
- 535. DIRECTED READINGS IN MUSIC EDUCATION.** Readings and discussions of texts and articles in the foundation literature of music education, with focus on concepts of curriculum development. (3).
- 536. KODALY MUSIC EDUCATION IN AMERICA.** An introductory study of the philosophy and teaching methods of the Kodaly concept of music education as practiced in the United States. (3)

Ensembles

Enrollment in any music ensemble course requires the consent of the instructor.

- 123, 124; 223, 224; 323, 324; 423, 424, 527, 528. JAZZ ENSEMBLE.** Standards and new repertoire with opportunities for individual improvisation and ensemble jazz experience. (1 each).
- 127, 128; 227, 228; 327, 328; 427, 428. CLARINET ENSEMBLE.** Performance of representative clarinet chamber literature. (1 each).
- 131, 132; 231, 232; 331, 332; 431, 432; 531, 532. UNIVERSITY ORCHESTRA.** Rehearsal and performance of standard orchestral literature. (1-2 each.).
- 133, 134; 233, 234; 333, 334; 433, 434; 533, 534. UNIVERSITY BAND.** Ole Miss Rebel Marching Band and/or UM Wind Ensemble during the fall semester. UM Wind Ensemble, Symphonic Band, or Concert Band during the spring semester. (2 each).
- 135, 136; 235, 236; 335, 336; 435, 436. UNIVERSITY CHORUS.** Rehearsal and performance of works for men's, women's, and mixed chorus. (2, 2).

139, 140; 239, 240; 339, 340; 439, 440; 539, 540. CONCERT SINGERS. Rehearsal and performance of a variety of musical styles, with emphasis on classical forms. (2, 2).

141, 142; 241, 242; 341, 342; 441, 442; 541, 542. STEEL DRUM ENSEMBLE. Rehearsal and performance of traditional Caribbean music as well as popular, jazz, and classical arrangements for steel drums. (1 each).

143, 144; 243, 244; 343, 344; 443, 444; 543, 544. EARLY MUSIC PERFORMANCE ENSEMBLE. Rehearsal and performance of European vocal and instrumental music before 1750 and related repertoires. (1 each).

149, 150; 249, 250; 349, 350; 449, 450; 549, 550. MADRIGAL SINGERS. Rehearsal and performance of literature for small choral ensembles. (1, 1).

151, 152; 251, 252; 351, 352; 451, 452. SHOW CHOIR. Rehearsal and performance of popular music written primarily for small choral ensemble with choreography. (1).

155, 156; 255, 256; 355, 356; 455, 456. PERCUSSION ENSEMBLE. Performance of music of many styles written for percussion instruments. (1 each).

153, 253, 353, 453. SUMMER BAND. Rehearsal and performance of standard favorites of the band literature. (1 each).

157, 158; 257, 258; 357, 358; 457, 458. TROMBONE ENSEMBLE. Performance of representative trombone literature throughout the history of music. (1 each).

159, 160; 259, 260; 359, 360; 459, 460. BRASS CHOIR. Performance of representative brass literature throughout the history of music. (1 each).

169, 170; 269, 270; 369, 370; 469, 470. SAXOPHONE ENSEMBLE. Performance of representative saxophone chamber literature. (1 each).

179, 180, 279, 280, 379, 380, 479, 480. FLUTE ENSEMBLE. Performance of representative flute literature throughout the history of music. (1 each).

195, 295, 395, 495. OPERA THEATRE WORKSHOP I-IV. Comprehensive training for the singer-actor in stage and body movement and basic technical training. Performance in scenes recital. (1-2).

196, 296, 396, 496. OPERA PRODUCTION WORKSHOP I-IV. Performance and/or technical training through participation in a fully staged operatic production. (1-2).

237, 238; 337, 338; 437, 438; 537, 538. INSTRUMENTAL CHAMBER ENSEMBLE. Chamber music study and performance in appropriate combinations for all instrumentalists. (1 each).

308. ACCOMPANYING. Practical experience in accompanying. (May be repeated for credit). (1).

597. OPERA THEATRE WORKSHOP. Comprehensive training for the singer-actor in stage and body movement and basic technical training. Performance in scenes recital. (1-2).

598. OPERA PRODUCTION WORKSHOP. Performance and/or technical training through participation in a fully staged operatic production. (1-2).

MUSIC PERFORMANCE

Music Performance: Class and Studio Instruction. All music performance, except class instruction, shall be taught as one hour of private instruction per week. Students may register for only one performance course in an area per semester, that is, only one Piano course, or only one Voice course, etc. When necessary, music performance courses may be repeated once for credit. The jury shall serve as the final examination for every music performance course. Advancement to the next performance course requires jury recommendation. When offered in a summer term, credit is reduced by half. Music performance courses numbered 100 (VOIC 100, FLT 100, etc.) cannot be used to satisfy music performance requirements for a major or minor in music.

Class Instruction

100. STUDENT RECITAL. (Z grade). (1).

113. FUNDAMENTAL KEYBOARD MUSICIANSHIP I. Basic technical exercises and elementary repertoire. Beginning exercises in transposition, harmony, and improvisation. Placement audition required. (2).

114. FUNDAMENTAL KEYBOARD MUSICIANSHIP II. Continuation of Music 113. Basic accompanying skills, score reading in ensemble. Prerequisite: 113 or audition. (2).

- 197. VOICE CLASS.** Fundamentals for beginning students not taking private lessons. (2).
- 207. SINGERS' DICTION I.** Phonetic sounds of the English and Italian languages to promote the ability to sing in these languages. (2).
- 208. SINGERS' DICTION II.** Phonetic sounds of the German and French languages to promote the ability to sing in these languages. (2).
- 213. INTERMEDIATE KEYBOARD MUSICIANSHIP I.** The development of intermediate technical fluency at the keyboard; including repertoire, harmonization of simple melodies, sightreading, transposition, and improvisation. Prerequisite: 114 or audition. (2).
- 214. INTERMEDIATE KEYBOARD MUSICIANSHIP II.** Continuation and development of the skills studied in 213. Prerequisite: 213 or audition. (2).
- 521. SURVEY OF DICTION.** A study of the International Phonetic Alphabet, coupled with a survey of Italian, French and German diction for the solo singer and choral music educator. (1).
- 522. ADVANCED SINGERS' DICTION.** Advanced interpretive coaching in the performance of English, Italian, French, and German art song and operatic literature, with emphasis on diction. Prerequisite: MUS 207 and 208 or the equivalent. (1).

Studio Instruction

Keyboard (piano–PIAN, harpsichord–HRPS, organ–ORGN)

- PIAN 100. PREPARATORY PIANO.** Fundamental technical exercises and literature. Entrance by audition. (2).
- PIAN 121. FRESHMAN PIANO I.** First semester private study. Entrance by audition. (2).
- PIAN 122. FRESHMAN PIANO II.** Second semester private study. Prerequisite: PIAN 121 or equivalent. (2).
- PIAN 221. SOPHOMORE PIANO I.** Third semester private study. Prerequisite: PIAN 122 or equivalent. (2).
- PIAN 222. SOPHOMORE PIANO II.** Fourth semester private study. Prerequisite: PIAN 221 or equivalent. (2).
- PIAN 241. SOPHOMORE PIANO PERFORMANCE I.** Third semester private study for piano performance majors. Prerequisite: PIAN 142 or equivalent and faculty approval. (4).
- PIAN 242. SOPHOMORE PIANO PERFORMANCE II.** Fourth semester private study for piano performance majors. Prerequisite: PIAN 241 or equivalent. (4).
- PIAN 321. JUNIOR PIANO I.** Fifth semester private study. Prerequisite: PIAN 222 or equivalent. (2).
- PIAN 322. JUNIOR PIANO II.** Sixth semester private study. Prerequisite: PIAN 321 or equivalent. (2).
- PIAN 341. JUNIOR PIANO PERFORMANCE I.** Fifth semester private study for piano performance majors. Prerequisite: PIAN 242 or equivalent. (4).
- PIAN 342. JUNIOR PIANO PERFORMANCE II.** Sixth semester private study for piano performance majors. Recital required. Prerequisite: PIAN 341 or equivalent. (4).
- PIAN 421. SENIOR PIANO I.** Seventh semester private study. Prerequisite: PIAN 322 or equivalent. (2).
- PIAN 422. SENIOR PIANO II.** Eighth semester private study. Prerequisite: 421 or equivalent. (2).
- PIAN 441. SENIOR PIANO PERFORMANCE I.** Seventh semester private study for piano performance majors. Prerequisite: 342 or equivalent. (4).
- PIAN 442. SENIOR PIANO PERFORMANCE II.** Eighth semester private study for piano performance majors. Recital required. Prerequisite: PIAN 441 or equivalent. (4).
- PIAN 521. ADVANCED PIANO I.** Private study for advanced seniors and graduate students. Prerequisite: PIAN 422 or audition. (2).
- PIAN 522. ADVANCED PIANO II.** Private study for advanced seniors and graduate students. Prerequisite: PIAN 521 or equivalent. (2).
- PIAN 541. ADVANCED PIANO PERFORMANCE I.** Private study for advanced seniors and graduate students in piano performance. Prerequisite: 442 or audition. (4).
- PIAN 542. ADVANCED PIANO PERFORMANCE II.** Private study for advanced seniors and graduate students in piano performance. Prerequisite: PIAN 541 or equivalent. (4).

Piano majors are strongly urged to elect study of organ and/or harpsichord as a secondary instrument.

HRPS 121. FRESHMAN HARPSICHORD. First semester private study. Entrance by audition. (2).

HRPS 221. SOPHOMORE HARPSICHORD. Second semester private study. Prerequisite: HRPS 121 or equivalent. (2).

HRPS 321. JUNIOR HARPSICHORD. Third semester private study. Prerequisite: HRPS 221 or equivalent. (2).

HRPS 421. SENIOR HARPSICHORD. Fourth semester private study. Prerequisite: HRPS 321 or equivalent. (2).

HRPS 521. ADVANCED HARPSICHORD I. Private study for advanced seniors and graduate students. Prerequisite: HRPS 421 or audition. (2).

HRPS 522. ADVANCED HARPSICHORD II. Private study for advanced seniors and graduate students. Prerequisite: HRPS 521 or equivalent. (2).

ORGN 100. PREPARATORY ORGAN. (For beginning students). Basic manual and pedal technique. Entrance by audition. (2).

ORGN 121. FRESHMAN ORGAN I. First semester private study. Entrance by audition. (2).

ORGN 122. FRESHMAN ORGAN II. Second semester private study. Prerequisite: ORGN 121 or equivalent. (2).

ORGN 221. SOPHOMORE ORGAN I. Third semester private study. Prerequisite: ORGN 122 or equivalent. (2).

ORGN 222. SOPHOMORE ORGAN II. Fourth semester private study. Prerequisite: ORGN 221 or equivalent. (2).

ORGN 321. JUNIOR ORGAN I. Fifth semester private study. Prerequisite: ORGN 222 or equivalent. (2).

ORGN 322. JUNIOR ORGAN II. Sixth semester private study. Prerequisite: ORGN 321 or equivalent. (2).

ORGN 421. SENIOR ORGAN I. Seventh semester private study. Prerequisite: ORGN 322 or equivalent. (2).

ORGN 422. SENIOR ORGAN II. Eighth semester private study. Prerequisite: ORGN 421 or equivalent. (2).

ORGN 521. ADVANCED ORGAN I. Private study for advanced seniors and graduate students. Prerequisite: ORGN 442 or audition. (2).

ORGN 522. ADVANCED ORGAN II. Private study for advanced seniors and graduate students. Prerequisite: ORGN 521 or equivalent. (2).

Strings (violin–VILN, viola–VILA, violoncello–VCEL, string bass–STBS)

VILN 100. PREPARATORY VIOLIN. Fundamental techniques, etudes, solos. Entrance by audition. (2).

VILN 121. FRESHMAN VIOLIN I. First semester private study. Entrance by audition. (2).

VILN 122. FRESHMAN VIOLIN II. Second semester private study. Prerequisite: VILN 121 or equivalent. (2).

VILN 221. SOPHOMORE VIOLIN I. Third semester private study. Prerequisite: VILN 122 or equivalent. (2).

VILN 222. SOPHOMORE VIOLIN II. Fourth semester private study. Prerequisite: VILN 221 or equivalent. (2).

VILN 241. SOPHOMORE VIOLIN PERFORMANCE I. Third semester private study for violin performance majors. Prerequisite: VILN 142 or equivalent. (4).

VILN 242. SOPHOMORE VIOLIN PERFORMANCE II. Fourth semester private study for violin performance majors. Prerequisite: VILN 122 or equivalent and faculty approval. (4).

VILN 321. JUNIOR VIOLIN I. Fifth semester private study. Prerequisite: VILN 222 or equivalent. (2).

VILN 322. JUNIOR VIOLIN II. Sixth semester private study. Prerequisite: VILN 321 or equivalent. (2).

VILN 341. JUNIOR VIOLIN PERFORMANCE I. Fifth semester private study for violin performance majors. Prerequisite: VILN 242 or equivalent. (4).

VILN 342. JUNIOR VIOLIN PERFORMANCE II. Sixth semester private study for violin performance majors. Recital required. Prerequisite: VILN 341 or equivalent. (4).

VILN 421. SENIOR VIOLIN I. Seventh semester private study. Prerequisite: VILN 322 or equivalent. (2).

VILN 422. SENIOR VIOLIN II. Eighth semester private study. Prerequisite: VILN 421 or equivalent. (2).

VILN 441. SENIOR VIOLIN PERFORMANCE I. Seventh semester private study for violin performance majors. Prerequisite: VILN 342 or equivalent. (4).

VILN 442. SENIOR VIOLIN PERFORMANCE II. Eighth semester private study for violin performance majors. Recital required. Prerequisite: VILN 441 or equivalent. (4).

VILN 521. ADVANCED VIOLIN I. Private study for advanced seniors and graduate students. Prerequisite: VILN 422 or audition. (2).

VILN 522. ADVANCED VIOLIN II. Private study for advanced seniors and graduate students. Prerequisite: VILN 521 or equivalent. (2).

VILN 541. ADVANCED VIOLIN PERFORMANCE I. Private study for advanced seniors and graduate students in violin performance. Prerequisite: VILN 442 or audition. (4).

VILN 542. ADVANCED VIOLIN PERFORMANCE II. Private study for advanced seniors and graduate students in violin performance. Prerequisite: VILN 541 or equivalent. (4).

VILA 100. PREPARATORY VIOLA. Basic techniques, etudes, solos. Entrance by audition. (2).

VILA 121. FRESHMAN VIOLA I. First semester private study. Entrance by audition. (2).

VILA 122. FRESHMAN VIOLA II. Second semester private study. Prerequisite: VILA 121 or equivalent. (2).

VILA 221. SOPHOMORE VIOLA I. Third semester private study. Prerequisite: VILA 122 or equivalent. (2).

VILA 222. SOPHOMORE VIOLA II. Fourth semester private study. Prerequisite: VILA 221 or equivalent. (2).

VILA 241. SOPHOMORE VIOLA PERFORMANCE I. Third semester private study for viola performance majors. Prerequisite: VILA 142 or equivalent and faculty approval. (4).

VILA 242. SOPHOMORE VIOLA PERFORMANCE II. Fourth semester private study for viola performance majors. Prerequisite: VILA 241 or equivalent. (4).

VILA 321. JUNIOR VIOLA I. Fifth semester private study. Prerequisite: VILA 222 or equivalent. (2).

VILA 322. JUNIOR VIOLA II. Sixth semester private study. Prerequisite: VILA 321 or equivalent. (2).

VILA 341. JUNIOR VIOLA PERFORMANCE I. Fifth semester private study for viola performance majors. Prerequisite: VILA 242 or equivalent. (4).

VILA 342. JUNIOR VIOLA PERFORMANCE II. Sixth semester private study for viola performance majors. Recital required. Prerequisite: VILA 341 or equivalent. (4).

VILA 421. SENIOR VIOLA I. Seventh semester private study. Prerequisite: VILA 322 or equivalent. (2).

VILA 422. SENIOR VIOLA II. Eighth semester private study. Prerequisite: VILA 421 or equivalent. (2).

VILA 441. SENIOR VIOLA PERFORMANCE I. Seventh semester private study for viola performance majors. Prerequisite: VILA 342 or equivalent. (4).

VILA 442. SENIOR VIOLA PERFORMANCE II. Eighth semester private study for viola performance majors. Recital required. Prerequisite: VILA 441 or equivalent. (4).

VILA 521. ADVANCED VIOLA I. Private study for advanced seniors and graduate students. Prerequisite: VILA 422 or audition. (2).

VILA 522. ADVANCED VIOLA II. Private study for advanced seniors and graduate students. Prerequisite: VILA 521 or equivalent. (2).

VILA 541. ADVANCED VIOLA PERFORMANCE I. Private study for advanced seniors and graduate students in viola performance. Prerequisite: VILA 442 or audition. (4).

VILA 542. ADVANCED VIOLA PERFORMANCE II. Private study for advanced seniors and graduate students in viola performance. Prerequisite: VILA 541 or equivalent. (4).

VCEL 100. PREPARATORY VIOLONCELLO. Basic techniques, etudes, solos. Entrance by audition. (2).

VCEL 121. FRESHMAN VIOLONCELLO I. First semester private study. Entrance by audition. (2).

VCEL 122. FRESHMAN VIOLONCELLO II. Second semester private study. Prerequisite: VCEL 121 or equivalent. (2).

VCEL 221. SOPHOMORE VIOLONCELLO I. Third semester private study. Prerequisite: VCEL 122 or equivalent. (2).

VCEL 222. SOPHOMORE VIOLONCELLO II. Fourth semester private study. Prerequisite: VCEL 221 or equivalent. (2).

VCEL 241. SOPHOMORE VIOLONCELLO PERFORMANCE I. Third semester private study for violoncello performance majors. Prerequisite: VCEL 122 or equivalent and faculty approval. (4).

VCEL 242. SOPHOMORE VIOLONCELLO PERFORMANCE II. Fourth semester private study for violoncello performance majors. Prerequisite: VCEL 241 or equivalent. (4).

VCEL 321. JUNIOR VIOLONCELLO I. Fifth semester private study. Prerequisite: VCEL 222 or equivalent. (2).

VCEL 322. JUNIOR VIOLONCELLO II. Sixth semester private study. Prerequisite: VCEL 321 or equivalent. (2).

VCEL 341. JUNIOR VIOLONCELLO PERFORMANCE I. Fifth semester private study for violoncello performance majors. Prerequisite: VCEL 242 or equivalent. (4).

VCEL 342. JUNIOR VIOLONCELLO PERFORMANCE II. Sixth semester private study for violoncello performance majors. Recital required. Prerequisite: VCEL 341 or equivalent. (4).

VCEL 421. SENIOR VIOLONCELLO I. Seventh semester private study. Prerequisite: VCEL 322 or equivalent. (2).

VCEL 422. SENIOR VIOLONCELLO II. Eighth semester private study. Prerequisite: VCEL 421 or equivalent. (2).

VCEL 441. SENIOR VIOLONCELLO PERFORMANCE I. Seventh semester private study for violoncello performance majors. Prerequisite: VCEL 342 or equivalent. (4).

VCEL 442. SENIOR VIOLONCELLO PERFORMANCE II. Eighth semester private study for violoncello performance majors. Recital required. Prerequisite: VCEL 441 or equivalent. (4).

VCEL 521. ADVANCED VIOLONCELLO I. Private study for advanced seniors and graduate students. Prerequisite: 422 or equivalent or audition. (2).

VCEL 522. ADVANCED VIOLONCELLO II. Private study for advanced seniors and graduate students. Prerequisite: VCEL 521 or equivalent. (2).

VCEL 541. ADVANCED VIOLONCELLO PERFORMANCE I. Private study for advanced seniors and graduate students in violoncello performance. Prerequisite: VCEL 442 or audition. (4).

VCEL 542. ADVANCED VIOLONCELLO PERFORMANCE II. Private study for advanced seniors and graduate students in violoncello performance. Prerequisite: VCEL 541 or equivalent. (4).

STBS 100. PREPARATORY STRING BASS. Basic techniques, etudes, solos. Entrance by audition. (2).

STBS 121. FRESHMAN STRING BASS I. First semester private study. Entrance by audition. (2).

STBS 122. FRESHMAN STRING BASS II. Second semester private study. Prerequisite: STBS 121 or equivalent. (2).

STBS 221. SOPHOMORE STRING BASS I. Third semester private study. Prerequisite: STBS 122 or equivalent. (2).

STBS 222. SOPHOMORE STRING BASS II. Fourth semester private study. Prerequisite: STBS 221 or equivalent. (2).

STBS 241. SOPHOMORE STRING BASS PERFORMANCE I. Third semester private study for string bass performance majors. Prerequisite: STBS 142 or equivalent and faculty approval. (4).

STBS 242. SOPHOMORE STRING BASS PERFORMANCE II. Fourth semester private study for string bass performance majors. Prerequisite: STBS 241 or equivalent. (4).

STBS 321. JUNIOR STRING BASS I. Fifth semester private study. Prerequisite: STBS 222 or equivalent. (2).

STBS 322. JUNIOR STRING BASS II. Sixth semester private study. Prerequisite: STBS 321 or equivalent. (2).

STBS 341. JUNIOR STRING BASS PERFORMANCE I. Fifth semester private study for string bass performance majors. Prerequisite: STBS 242 or equivalent. (4).

STBS 342. JUNIOR STRING BASS PERFORMANCE II. Sixth semester private study for string bass performance majors. Recital required. Prerequisite: STBS 341 or equivalent. (4).

STBS 421. SENIOR STRING BASS I. Seventh semester private study. Prerequisite: STBS 322 or equivalent. (2)

STBS 422. SENIOR STRING BASS II. Eighth semester private study. Prerequisite: STBS 421 or equivalent. (2).

STBS 441. SENIOR STRING BASS PERFORMANCE I. Seventh semester private study for string bass performance majors. Prerequisite: STBS 342 or equivalent. (4).

STBS 442. SENIOR STRING BASS PERFORMANCE II. Eighth semester private study for string bass performance majors. Recital required. Prerequisite: STBS 441 or equivalent. (4).

STBS 521. ADVANCED STRING BASS I. Private study for advanced seniors and graduate students. Prerequisite: STBS 442 or audition. (2).

STBS 522. ADVANCED STRING BASS II. Private study for advanced seniors and graduate students. Prerequisite: STBS 521 or equivalent. (2).

STBS 541. ADVANCED STRING BASS PERFORMANCE I. Private study for advanced seniors and graduate students in string bass performance. Prerequisite: STBS 442 or audition. (4).

STBS 542. ADVANCED STRING BASS PERFORMANCE II. Private study for advanced seniors and graduate students in string bass performance. Prerequisite: STBS 541 or equivalent. (4).

Woodwinds (clarinet–CLAR, flute–FLUT, bassoon–BSSN, oboe–OBOE, Saxophone–SAXN)

CLAR 100. PREPARATORY CLARINET. Basic technical studies, etudes, solos. Entrance by audition. (2).

CLAR 121. FRESHMAN CLARINET I. First semester private study. Entrance by audition. (2).

CLAR 122. FRESHMAN CLARINET II. Second semester private study. Prerequisite: CLAR 121 or equivalent. (2).

CLAR 221. SOPHOMORE CLARINET I. Third semester private study. Prerequisite: CLAR 122 or equivalent. (2).

CLAR 222. SOPHOMORE CLARINET II. Fourth semester private study. Prerequisite: CLAR 221 or equivalent. (2).

CLAR 241. SOPHOMORE CLARINET PERFORMANCE I. Third semester private study for clarinet performance majors. Prerequisite: CLAR 142 or equivalent and faculty approval. (4).

CLAR 242. SOPHOMORE CLARINET PERFORMANCE II. Fourth semester private study for clarinet performance majors. Prerequisite: CLAR 241 or equivalent. (4).

CLAR 321. JUNIOR CLARINET I. Fifth semester private study. Prerequisite: CLAR 222 or equivalent. (2).

CLAR 322. JUNIOR CLARINET II. Sixth semester private study. Prerequisite: CLAR 321 or equivalent. (2).

CLAR 341. JUNIOR CLARINET PERFORMANCE I. Fifth semester private study for clarinet performance majors. Prerequisite: CLAR 242 or equivalent. (4).

CLAR 342. JUNIOR CLARINET PERFORMANCE II. Sixth semester private study for clarinet performance majors. Recital required. Prerequisite: CLAR 341 or equivalent. (4).

CLAR 421. SENIOR CLARINET I. Seventh semester private study. Prerequisite: CLAR 322 or equivalent. (2).

CLAR 422. SENIOR CLARINET II. Eighth semester private study. Prerequisite: CLAR 421 or equivalent. (2).

CLAR 441. SENIOR CLARINET PERFORMANCE I. Seventh semester private study for clarinet performance majors. Prerequisite: CLAR 342 or equivalent. (4).

CLAR 442. SENIOR CLARINET PERFORMANCE II. Eighth semester private study for clarinet performance majors. Recital required. Prerequisite: CLAR 441 or equivalent. (4).

CLAR 521. ADVANCED CLARINET I. Private study for advanced seniors and graduate students. Prerequisite: 422 or audition. (2).

CLAR 522. ADVANCED CLARINET II. Private study for advanced seniors and graduate students. Prerequisite: 521 or equivalent. (2).

CLAR 541. ADVANCED CLARINET PERFORMANCE I. Private study for advanced seniors and graduate students in clarinet performance. Prerequisite: 442 or audition. (4).

CLAR 542. ADVANCED CLARINET PERFORMANCE II. Private study for advanced seniors and graduate students in clarinet performance. Prerequisite: 541 or equivalent. (4).

FLUT 100. PREPARATORY FLUTE. Basic technical studies, etudes, solos. Entrance by audition. (2).

FLUT 121. FRESHMAN FLUTE I. First semester private study. Entrance by audition. (2).

FLUT 122. FRESHMAN FLUTE II. Second semester private study. Prerequisite: FLUT 121 or equivalent. (2).

FLUT 221. SOPHOMORE FLUTE I. Third semester private study. Prerequisite: FLUT 122 or equivalent. (2).

FLUT 222. SOPHOMORE FLUTE II. Fourth semester private study. Prerequisite: 221 or equivalent. (2).

FLUT 241. SOPHOMORE FLUTE PERFORMANCE I. Third semester private study for flute performance majors. Prerequisite: FLUT 142 or equivalent and faculty approval. (4).

FLUT 242. SOPHOMORE FLUTE PERFORMANCE II. Fourth semester private study for flute performance majors. Prerequisite: FLUT 241 or equivalent. (4).

FLUT 321. JUNIOR FLUTE I. Fifth semester private study. Prerequisite: FLUT 222 or equivalent. (2).

FLUT 322. JUNIOR FLUTE II. Sixth semester private study. Prerequisite: FLUT 321 or equivalent. (2).

FLUT 341. JUNIOR FLUTE PERFORMANCE I. Fifth semester private study for flute performance majors. Prerequisite: FLUT 242 or equivalent. (4).

FLUT 342. JUNIOR FLUTE PERFORMANCE II. Sixth semester private study for flute performance majors. Recital required. Prerequisite: FLUT 341 or equivalent. (4).

FLUT 421. SENIOR FLUTE I. Seventh semester private study. Prerequisite: FLUT 322 or equivalent. (2).

FLUT 422. SENIOR FLUTE II. Eighth semester private study. Prerequisite: FLUT 421 or equivalent. (2).

FLUT 441. SENIOR FLUTE PERFORMANCE I. Seventh semester private study for flute performance majors. Prerequisite: FLUT 342 or equivalent. (4).

FLUT 442. SENIOR FLUTE PERFORMANCE II. Eighth semester private study for flute performance majors. Recital required. Prerequisite: FLUT 441 or equivalent. (4).

FLUT 521. ADVANCED FLUTE I. Private study for advanced seniors and graduate students. Prerequisite: 422 or audition. (2).

FLUT 522. ADVANCED FLUTE II. Private study for advanced seniors and graduate students. Prerequisite: 521 or equivalent. (2).

FLUT 541. ADVANCED FLUTE PERFORMANCE I. Private study for advanced seniors and graduate students in flute performance. Prerequisite: 442 or audition. (4).

FLUT 542. ADVANCED FLUTE PERFORMANCE II. Private study for advanced seniors and graduate students in flute performance. Prerequisite: 541 or equivalent. (4).

BSSN 100. PREPARATORY BASSOON. Basic technical studies, etudes, solos. Entrance by audition. (2).

BSSN 121. FRESHMAN BASSOON I. First semester private study. Entrance by audition. (2).

BSSN 122. FRESHMAN BASSOON II. Second semester private study. Prerequisite: BSSN 121 or equivalent. (2).

BSSN 221. SOPHOMORE BASSOON I. Third semester private study. Prerequisite: BSSN 122 or equivalent. (2).

BSSN 222. SOPHOMORE BASSOON II. Fourth semester private study. Prerequisite: BSSN 221 or equivalent. (2).

BSSN 241. SOPHOMORE BASSOON PERFORMANCE I. Third semester private study for bassoon performance majors. Prerequisite: BSSN 142 or equivalent and faculty approval. (4).

BSSN 242. SOPHOMORE BASSOON PERFORMANCE II. Fourth semester private study for bassoon performance majors. Prerequisite: 241 or equivalent. (4).

BSSN 321. JUNIOR BASSOON I. Fifth semester private study. Prerequisite: BSSN 222 or equivalent. (2).

BSSN 322. JUNIOR BASSOON II. Sixth semester private study. Prerequisite: BSSN 321 or equivalent. (2).

BSSN 341. JUNIOR BASSOON PERFORMANCE I. Fifth semester private study for bassoon performance majors. Prerequisite: BSSN 242 or equivalent. (4).

BSSN 342. JUNIOR BASSOON PERFORMANCE II. Sixth semester private study for bassoon performance majors. Recital required. Prerequisite: BSSN 341 or equivalent. (4).

BSSN 421. SENIOR BASSOON I. Seventh semester private study. Prerequisite: BSSN 322 or equivalent. (2).

BSSN 422. SENIOR BASSOON II. Eighth semester private study. Prerequisite: BSSN 421 or equivalent. (2).

BSSN 441. SENIOR BASSOON PERFORMANCE I. Seventh semester private study for bassoon performance majors. Prerequisite: BSSN 342 or equivalent. (4).

BSSN 442. SENIOR BASSOON PERFORMANCE II. Eighth semester private study for bassoon performance majors. Recital required. Prerequisite: BSSN 441 or equivalent. (4).

BSSN 521. ADVANCED BASSOON I. Private study for advanced seniors and graduate students. Prerequisite: BSSN 422 or audition. (2).

BSSN 522. ADVANCED BASSOON II. Private study for advanced seniors and graduate students. Prerequisite: BSSN 422 or equivalent. (2).

BSSN 541. ADVANCED BASSOON PERFORMANCE I. Private study for advanced seniors and graduate students in bassoon performance. Prerequisite: BSSN 442 or audition. (4).

BSSN 542. ADVANCED BASSOON PERFORMANCE II. Private study for advanced seniors and graduate students in bassoon performance. Prerequisite: BSSN 541 or equivalent. (4).

OBOE 100. PREPARATORY OBOE. Basic technical exercises, etudes, solos. Entrance by audition. (2).

OBOE 121. FRESHMAN OBOE I. First semester private study. Entrance by audition. (2).

OBOE 122. FRESHMAN OBOE II. Second semester private study. Prerequisite: OBOE 121 or equivalent. (2).

OBOE 221. SOPHOMORE OBOE I. Third semester private study. Prerequisite: 122 or equivalent. (2).

OBOE 222. SOPHOMORE OBOE II. Fourth semester private study. Prerequisite: 221 or equivalent. (2).

OBOE 241. SOPHOMORE OBOE PERFORMANCE I. Third semester private study for oboe performance majors. Prerequisite: OBOE 142 or equivalent and faculty approval. (4).

OBOE 242. SOPHOMORE OBOE PERFORMANCE II. Fourth semester private study for oboe performance majors. Prerequisite: OBOE 241 or equivalent. (4).

OBOE 321. JUNIOR OBOE I. Fifth semester private study. Prerequisite: OBOE 222 or equivalent. (2).

OBOE 322. JUNIOR OBOE II. Sixth semester private study. Prerequisite: OBOE 321 or equivalent. (2).

OBOE 341. JUNIOR OBOE PERFORMANCE I. Fifth semester private study for oboe performance majors. Prerequisite: OBOE 242 or equivalent. (4).

OBOE 342. JUNIOR OBOE PERFORMANCE II. Sixth semester private study for oboe performance majors. Recital required. Prerequisite: OBOE 341 or equivalent. (4).

OBOE 421. SENIOR OBOE I. Seventh semester private study. Prerequisite: OBOE 322 or equivalent. (2).

OBOE 422. SENIOR OBOE II. Eighth semester private study. Prerequisite: OBOE 421 or equivalent. (2).

OBOE 441. SENIOR OBOE PERFORMANCE I. Seventh semester private study for oboe performance majors. Prerequisite: OBOE 342 or equivalent. (4).

OBOE 442. SENIOR OBOE PERFORMANCE II. Eighth semester private study for oboe performance majors. Recital required. Prerequisite: OBOE 441 or equivalent. (4).

OBOE 521. ADVANCED OBOE I. Private study for advanced seniors and graduate students. Prerequisite: 422 or audition. (2).

OBOE 522. ADVANCED OBOE II. Private study for advanced seniors and graduate students. Prerequisite: 521 or equivalent. (2).

OBOE 541. ADVANCED OBOE PERFORMANCE I. Private study for advanced seniors and graduate students in oboe performance. Prerequisite: OBOE 442 or audition. (4).

OBOE 542. ADVANCED OBOE II. Private study for advanced seniors and graduate students in oboe performance. Prerequisite: OBOE 541 or equivalent. (4).

SAXN 100. PREPARATORY SAXOPHONE. Basic technical exercises, etudes, solos. Entrance by audition. (2).

SAXN 121. FRESHMAN SAXOPHONE I. First semester private study. Entrance by audition. (2).

SAXN 122. FRESHMAN SAXOPHONE II. Second semester private study. Prerequisite: SAXN 121 or equivalent. (2).

SAXN 221. SOPHOMORE SAXOPHONE I. Third semester private study. Prerequisite: SAXN 122 or equivalent. (2).

SAXN 222. SOPHOMORE SAXOPHONE II. Fourth semester private study. Prerequisite: SAXN 221 or equivalent. (2).

SAXN 241. SOPHOMORE SAXOPHONE PERFORMANCE I. Third semester private study for saxophone performance majors. Prerequisite: SAXN 142 or equivalent and faculty approval. (4).

SAXN 242. SOPHOMORE SAXOPHONE PERFORMANCE II. Fourth semester private study for saxophone performance majors. Prerequisite: SAXN 241 or equivalent. (4).

SAXN 321. JUNIOR SAXOPHONE I. Fifth semester private study. Prerequisite: SAXN 222 or equivalent. (2).

SAXN 322. JUNIOR SAXOPHONE II. Sixth semester private study. Prerequisite: SAXN 321 or equivalent. (2).

SAXN 341. JUNIOR SAXOPHONE PERFORMANCE I. Fifth semester private study for saxophone performance majors. Prerequisite: SAXN 242 or equivalent. (4).

SAXN 342. JUNIOR SAXOPHONE PERFORMANCE II. Sixth semester private study for saxophone performance majors. Recital required. Prerequisite: SAXN 341 or equivalent. (4).

SAXN 421. SENIOR SAXOPHONE I. Seventh semester private study. Prerequisite: SAXN 322 or equivalent. (2).

SAXN 422. SENIOR SAXOPHONE II. Eighth semester private study. Prerequisite: SAXN 421 or equivalent. (2).

SAXN 441. SENIOR SAXOPHONE PERFORMANCE I. Seventh semester private study for saxophone performance majors. Prerequisite: SAXN 342 or equivalent. (4).

SAXN 442. SENIOR SAXOPHONE PERFORMANCE II. Eighth semester private study for saxophone performance majors. Recital required. Prerequisite: SAXN 441 or equivalent. (4).

SAXN 521. ADVANCED SAXOPHONE I. Private study for advanced seniors and graduate students. Prerequisite: SAXN 422 or audition. (2).

SAXN 522. ADVANCED SAXOPHONE II. Private study for advanced seniors and graduate students. Prerequisite: SAXN 521 or equivalent. (2).

SAXN 541. ADVANCED SAXOPHONE PERFORMANCE I. Private study for advanced seniors and graduate students in saxophone performance. Prerequisite: SAXN 442 or audition. (4).

SAXN 542. ADVANCED SAXOPHONE PERFORMANCE II. Private study for advanced seniors and graduate students in saxophone performance. Prerequisite: SAXN 541 or equivalent. (4).

Brass (baritone–BRTN, French horn–FRHN, trumpet–TRPT, trombone–TRBN, tuba–TUBA) and Percussion–PERC

BRTN 100. PREPARATORY BARITONE. Basic technical studies, etudes, solos. Entrance by audition. (2).

BRTN 121. FRESHMAN BARITONE I. First semester private study. Entrance by audition. (2).

BRTN 122. FRESHMAN BARITONE II. Second semester private study. Prerequisite: BRTN 121 or equivalent. (2).

BRTN 221. SOPHOMORE BARITONE I. Third semester private study. Prerequisite: BRTN 122 or equivalent. (2).

BRTN 222. SOPHOMORE BARITONE II. Fourth semester private study. Prerequisite: BRTN 221 or equivalent. (2).

BRTN 241. SOPHOMORE BARITONE PERFORMANCE I. Third semester private study for baritone performance majors. Prerequisite: BRTN 142 or equivalent and faculty approval. (4).

BRTN 242. SOPHOMORE BARITONE PERFORMANCE II. Fourth semester private study for baritone performance majors. Prerequisite: BRTN 241 or equivalent. (4).

BRTN 321. JUNIOR BARITONE I. Fifth semester private study. Prerequisite: BRTN 222 or equivalent. (2).

BRTN 322. JUNIOR BARITONE II. Sixth semester private study. Prerequisite: BRTN 321 or equivalent. (2).

BRTN 341. JUNIOR BARITONE PERFORMANCE I. Fifth semester private study for baritone performance majors. Prerequisite: BRTN 242 or equivalent. (4).

BRTN 342. JUNIOR BARITONE PERFORMANCE II. Sixth semester private study for baritone performance majors. Recital required. Prerequisite: BRTN 341 or equivalent. (4).

BRTN 421. SENIOR BARITONE I. Seventh semester private study. Prerequisite: BRTN 322 or equivalent. (2).

BRTN 422. SENIOR BARITONE II. Eighth semester private study. Prerequisite: BRTN 322 or equivalent. (2).

BRTN 441. SENIOR BARITONE PERFORMANCE I. Seventh semester private study for baritone performance majors. Prerequisite: BRTN 342 or equivalent. (4).

BRTN 442. SENIOR BARITONE PERFORMANCE II. Eighth semester private study for baritone performance majors. Recital required. Prerequisite: BRTN 441 or equivalent. (4).

BRTN 521. ADVANCED BARITONE I. Private study for advanced seniors and graduate students. Prerequisite: BRTN 422 or audition. (2).

BRTN 522. ADVANCED BARITONE II. Private study for advanced seniors and graduate students. Prerequisite: BRTN 521 or equivalent. (2).

BRTN 541. ADVANCED BARITONE PERFORMANCE I. Private study for advanced seniors and graduate students in baritone performance. Prerequisite: BRTN 442 or audition. (4).

BRTN 542. ADVANCED BARITONE PERFORMANCE II. Private study for advanced seniors and graduate students in baritone performance. Prerequisite: BRTN 541 or equivalent. (4).

FRHN 100. PREPARATORY FRENCH HORN. Basic technical studies, etudes, solos. Entrance by audition. (2).

FRHN 121. FRESHMAN FRENCH HORN I. First semester private study. Entrance by audition. (2).

FRHN 122. FRESHMAN FRENCH HORN II. Second semester private study. Prerequisite: FRHN 121 or equivalent. (2).

FRHN 221. SOPHOMORE FRENCH HORN I. Third semester private study. Prerequisite: FRHN 122 or equivalent. (2).

FRHN 222. SOPHOMORE FRENCH HORN II. Fourth semester private study. Prerequisite: FRHN 221 or equivalent. (2).

FRHN 241. SOPHOMORE FRENCH HORN PERFORMANCE I. Third semester private study for French horn performance majors. Prerequisite: FRHN 142 or equivalent and faculty approval. (4).

FRHN 242. SOPHOMORE FRENCH HORN PERFORMANCE II. Fourth semester study for French horn performance majors. Prerequisite: FRHN 241 or equivalent. (4).

FRHN 321. JUNIOR FRENCH HORN I. Fifth semester private study. Prerequisite: FRHN 222 or equivalent. (2).

FRHN 322. JUNIOR FRENCH HORN II. Sixth semester private study. Prerequisite: FRHN 321 or equivalent. (2).

FRHN 341. JUNIOR FRENCH HORN PERFORMANCE I. Fifth semester private study for French horn performance majors. Prerequisite: FRHN 242 or equivalent. (4).

FRHN 342. JUNIOR FRENCH HORN PERFORMANCE II. Sixth semester private study for French horn performance majors. Recital required. Prerequisite: FRHN 341 or equivalent. (4).

FRHN 421. SENIOR FRENCH HORN I. Seventh semester private study. Prerequisite: FRHN 322 or equivalent. (2).

FRHN 422. SENIOR FRENCH HORN II. Eighth semester private study. Prerequisite: FRHN 421 or equivalent. (2).

FRHN 441. SENIOR FRENCH HORN PERFORMANCE I. Seventh semester study for French horn performance majors. Prerequisite: FRHN 342 or equivalent. (4).

FRHN 442. SENIOR FRENCH HORN PERFORMANCE II. Eighth semester private study for French horn performance majors. Recital required. Prerequisite: FRHN 441 or equivalent. (4).

FRHN 521. ADVANCED FRENCH HORN I. Private study for advanced seniors and graduate students. Prerequisite: FRHN 422 or audition. (2).

FRHN 522. ADVANCED FRENCH HORN II. Private study for advanced seniors and graduate students. Prerequisite: FRHN 521 or equivalent. (2).

FRHN 541. ADVANCED FRENCH HORN PERFORMANCE I. Private study for advanced seniors and graduate students in French horn performance. Prerequisite: FRHN 442 or audition. (4).

FRHN 542. ADVANCED FRENCH HORN PERFORMANCE II. Private study for advanced seniors and graduate students in French horn performance. Prerequisite: FRHN 541 or equivalent. (4).

TRPT 100. PREPARATORY TRUMPET. Basic technical studies, etudes, solos. Entrance by audition. (2).

TRPT 121. FRESHMAN TRUMPET I. First semester private study. Entrance by audition. (2).

TRPT 122. FRESHMAN TRUMPET II. Second semester private study. Prerequisite: TRPT 121 or equivalent. (2).

TRPT 221. SOPHOMORE TRUMPET I. Third semester private study. Prerequisite: TRPT 122 or equivalent. (2).

TRPT 222. SOPHOMORE TRUMPET II. Fourth semester private study. Prerequisite: TRPT 221 or equivalent. (2).

TRPT 241. SOPHOMORE TRUMPET PERFORMANCE I. Third semester private study for trumpet performance majors. Prerequisite: TRPT 142 or equivalent and faculty approval. (4).

TRPT 242. SOPHOMORE TRUMPET PERFORMANCE II. Fourth semester private study for trumpet performance majors. Prerequisite: TRPT 241 or equivalent. (4).

TRPT 321. JUNIOR TRUMPET I. Fifth semester private study. Prerequisite: TRPT 222 or equivalent. (2).

TRPT 322. JUNIOR TRUMPET II. Sixth semester private study. Prerequisite: TRPT 321 or equivalent. (2).

TRPT 341. JUNIOR TRUMPET PERFORMANCE I. Fifth semester private study for trumpet performance majors. Prerequisite: TRPT 242 or equivalent. (4).

TRPT 342. JUNIOR TRUMPET PERFORMANCE II. Sixth semester private study for trumpet performance majors. Recital required. Prerequisite: TRPT 341 or equivalent. (4).

TRPT 421. SENIOR TRUMPET I. Seventh semester private study. Prerequisite: TRPT 322 or equivalent. (2).

TRPT 422. SENIOR TRUMPET II. Eighth semester private study. Prerequisite: TRPT 421 or equivalent. (2).

TRPT 441. SENIOR TRUMPET PERFORMANCE I. Seventh semester study for trumpet performance majors. Prerequisite: TRPT 342 or equivalent. (4).

TRPT 442. SENIOR TRUMPET PERFORMANCE II. Eighth semester private study for trumpet performance majors. Recital required. Prerequisite: TRPT 441 or equivalent. (4).

TRPT 521. ADVANCED TRUMPET I. Private study for advanced seniors and graduate students. Prerequisite: TRPT 422 or audition. (2).

TRPT 522. ADVANCED TRUMPET II. Private study for advanced seniors and graduate students. Prerequisite: TRPT 521 or equivalent. (2).

TRPT 541. ADVANCED TRUMPET PERFORMANCE I. Private study for advanced seniors and graduate students in trumpet performance. Prerequisite: TRPT 442 or audition. (4).

TRPT 542. ADVANCED TRUMPET PERFORMANCE II. Private study for advanced seniors and graduate students in trumpet performance. Prerequisite: TRPT 541 or equivalent. (4).

TRBN 100. PREPARATORY TROMBONE. Basic technical studies, etudes, solos. Entrance by audition. (2).

TRBN 121. FRESHMAN TROMBONE I. First semester private study. Entrance by audition. (2).

TRBN 122. FRESHMAN TROMBONE II. Second semester private study. Prerequisite: TRBN 121 or equivalent. (2).

TRBN 221. SOPHOMORE TROMBONE I. Third semester private study. Prerequisite: TRBN 122 or equivalent. (2).

TRBN 222. SOPHOMORE TROMBONE II. Fourth semester private study. Prerequisite: TRBN 221 or equivalent. (2).

TRBN 241. SOPHOMORE TROMBONE PERFORMANCE I. Third semester private study for trombone performance majors. Prerequisite: TRBN 142 or equivalent and faculty approval. (4).

TRBN 242. SOPHOMORE TROMBONE PERFORMANCE II. Fourth semester private study for trombone performance majors. Prerequisite: TRBN 241 or equivalent. (4).

TRBN 321. JUNIOR TROMBONE I. Fifth semester private study. Prerequisite: TRBN 222 or equivalent. (2).

TRBN 322. JUNIOR TROMBONE II. Sixth semester private study. Prerequisite: TRBN 321 or equivalent. (2).

TRBN 341. JUNIOR TROMBONE PERFORMANCE I. Fifth semester private study for trombone performance majors. Prerequisite: TRBN 242 or equivalent. (4).

TRBN 342. JUNIOR TROMBONE PERFORMANCE II. Sixth semester private study for trombone performance majors. Recital required. Prerequisite: TRBN 341 or equivalent. (4).

TRBN 421. SENIOR TROMBONE I. Seventh semester private study. Prerequisite: TRBN 322 or equivalent. (2).

TRBN 422. SENIOR TROMBONE II. Eighth semester private study. Prerequisite: TRBN 421 or equivalent. (2).

TRBN 441. SENIOR TROMBONE PERFORMANCE I. Seventh semester private study for trombone performance majors. Prerequisite: TRBN 342. (4).

TRBN 442. SENIOR TROMBONE PERFORMANCE II. Eighth semester private study for trombone performance majors. Recital required. Prerequisite: TRBN 441 or equivalent. (4).

TRBN 521. ADVANCED TROMBONE I. Private study for advanced seniors and graduate students. Prerequisite: TRBN 422 or audition. (2).

TRBN 522. ADVANCED TROMBONE II. Private study for advanced seniors and graduate students. Prerequisite: TRBN 521 or equivalent. (2).

TRBN 541. ADVANCED TROMBONE PERFORMANCE I. Private study for advanced seniors and graduate students in trombone performance. Prerequisite: TRBN 442 or audition. (4).

TRBN 542. ADVANCED TROMBONE PERFORMANCE II. Private study for advanced seniors and graduate students in trombone performance. Prerequisite: TRBN 541 or equivalent. (4).

TUBA 100. PREPARATORY TUBA. Basic technical studies, etudes, solos. Entrance by audition. (2).

TUBA 121. FRESHMAN TUBA I. First semester private study. Entrance by audition. (2).

TUBA 122. FRESHMAN TUBA II. Second semester private study. Prerequisite: TUBA 121 or equivalent. (2).

TUBA 221. SOPHOMORE TUBA I. Third semester private study. Prerequisite: TUBA 122 or equivalent. (2).

TUBA 222. SOPHOMORE TUBA II. Fourth semester private study. Prerequisite: TUBA 221 or equivalent. (2).

TUBA 241. SOPHOMORE TUBA PERFORMANCE I. Third semester private study for tuba performance majors. Prerequisite: TUBA 142 or equivalent and faculty approval. (4).

TUBA 242. SOPHOMORE TUBA PERFORMANCE II. Fourth semester private study for tuba performance majors. Prerequisite: TUBA 241 or equivalent. (4).

TUBA 321. JUNIOR TUBA I. Fifth semester private study. Prerequisite: TUBA 222 or equivalent. (2).

TUBA 322. JUNIOR TUBA II. Sixth semester private study. Prerequisite: TUBA 321 or equivalent. (2).

TUBA 341. JUNIOR TUBA PERFORMANCE I. Fifth semester study for tuba majors performance. Prerequisite: TUBA 242 or equivalent. (4).

TUBA 342. JUNIOR TUBA PERFORMANCE II. Sixth semester study for tuba performance majors. Recital required. Prerequisite: TUBA 341 or equivalent. (4).

TUBA 421. SENIOR TUBA I. Seventh semester private study. Prerequisite: TUBA 322 or equivalent. (2).

TUBA 422. SENIOR TUBA II. Eighth semester private study. Prerequisite: TUBA 421 or equivalent. (2).

TUBA 441. SENIOR TUBA PERFORMANCE I. Seventh semester private study for tuba performance majors. Prerequisite: TUBA 342 or equivalent. (4).

TUBA 442. SENIOR TUBA PERFORMANCE II. Eighth semester private study for tuba performance majors. Recital required. Prerequisite: TUBA 441 or equivalent. (4).

TUBA 521. ADVANCED TUBA I. Private study for advanced seniors and graduate students. Prerequisite: TUBA 422 or audition. (2).

TUBA 522. ADVANCED TUBA II. Private study for advanced seniors and graduate students. Prerequisite: TUBA 521 or equivalent. (2).

TUBA 541. ADVANCED TUBA PERFORMANCE I. Private study for advanced seniors and graduate students in tuba performance. Prerequisite: TUBA 442 or audition. (4).

TUBA 542. ADVANCED TUBA PERFORMANCE II. Private study for advanced seniors and graduate students in tuba performance. Prerequisite: TUBA 541 or equivalent. (4).

PERC 100. PREPARATORY PERCUSSION INSTRUMENTS. Basic technical studies, etudes, solos. Entrance by audition. (2).

PERC 121. FRESHMAN PERCUSSION I. First semester private study. Entrance by audition. (2).

PERC 122. FRESHMAN PERCUSSION II. Second semester private study. Prerequisite: PERC 121 or equivalent. (2).

PERC 221. SOPHOMORE PERCUSSION I. Third semester private study. Prerequisite: PERC 122 or equivalent. (2).

PERC 222. SOPHOMORE PERCUSSION II. Fourth semester private study. Prerequisite: 221 or equivalent. (2).

PERC 241. SOPHOMORE PERCUSSION PERFORMANCE I. Third semester private study for percussion performance majors. Prerequisite: PERC 142 or equivalent and faculty approval. (4).

PERC 242. SOPHOMORE PERCUSSION PERFORMANCE II. Fourth semester private study for percussion performance majors. Prerequisite: PERC 241 or equivalent. (4).

PERC 321. JUNIOR PERCUSSION I. Fifth semester private study. Prerequisite: PERC 222 or equivalent. (2).

PERC 322. JUNIOR PERCUSSION II. Sixth semester private instruction. Prerequisite: PERC 321 or equivalent. (2).

PERC 341. JUNIOR PERCUSSION PERFORMANCE I. Fifth semester private study for percussion performance majors. Prerequisite: PERC 242 or equivalent. (4).

PERC 342. JUNIOR PERCUSSION PERFORMANCE II. Sixth semester private study for percussion performance majors. Recital required. Prerequisite: PERC 341 or equivalent. (4).

PERC 421. SENIOR PERCUSSION I. Seventh semester private study. Prerequisite: PERC 322 or equivalent. (2).

PERC 422. SENIOR PERCUSSION II. Eighth semester private study. Prerequisite: PERC 421 or equivalent. (2).

PERC 441. SENIOR PERCUSSION PERFORMANCE I. Seventh semester private study for percussion performance majors. Prerequisite: 342 or equivalent. (4).

PERC 442. SENIOR PERCUSSION PERFORMANCE II. Eighth semester private study for percussion performance majors. Recital required. Prerequisite: PERC 441 or equivalent. (4).

PERC 521. ADVANCED PERCUSSION I. Private study for advanced seniors and graduate students. Prerequisite: PERC 422 or audition. (2).

PERC 522. ADVANCED PERCUSSION II. Private study for advanced seniors and graduate students. Prerequisite: PERC 521 or equivalent. (3).

PERC 541. ADVANCED PERCUSSION PERFORMANCE I. Private study for advanced seniors and graduate students in percussion performance. Prerequisite: PERC 442 or audition. (2).

PERC 542. ADVANCED PERCUSSION PERFORMANCE II. Private study for advanced seniors and graduate students in percussion performance. Prerequisite: PERC 541 or equivalent. (4).

Voice—VOIC

100. PREPARATORY VOICE. Basic vocal techniques, exercises, and literature. Entrance by audition. (2).

121. FRESHMAN VOICE I. First semester private study. Entrance by audition. (2).

122. FRESHMAN VOICE II. Second semester private study. Prerequisite: VOIC 121 or equivalent. (2).

221. SOPHOMORE VOICE I. Third semester private study. Prerequisite: VOIC 122 or equivalent. (2).

222. SOPHOMORE VOICE II. Fourth semester private study. Prerequisite: VOIC 221 or equivalent. (2).

241. SOPHOMORE VOICE PERFORMANCE I. Third semester private study for voice performance majors. Prerequisite: VOIC 142 or equivalent and faculty approval. (4).

242. SOPHOMORE VOICE PERFORMANCE II. Fourth semester private study for voice performance majors. Prerequisite: VOIC 241 or equivalent. (4).

321. JUNIOR VOICE I. Fifth semester private study. Prerequisite: VOIC 222 or equivalent. (2).

322. JUNIOR VOICE II. Sixth semester private study. Prerequisite: VOIC 321 or equivalent. (2).

341. JUNIOR VOICE PERFORMANCE I. Fifth semester private study for voice performance majors. Prerequisite: VOIC 242 or equivalent. (4).

342. JUNIOR VOICE PERFORMANCE II. Sixth semester private study for voice performance majors. Recital required. Prerequisite: VOIC 341 or equivalent. (4).

421. SENIOR VOICE I. Seventh semester private study. Prerequisite: VOIC 322 or equivalent. (2).

422. SENIOR VOICE II. Eighth semester private study. Prerequisite: VOIC 421 or equivalent. (2).

441. SENIOR VOICE PERFORMANCE I. Seventh semester private study for voice performance majors. Prerequisite: VOIC 342 or equivalent. (4).

442. SENIOR VOICE PERFORMANCE II. Eighth semester private study for voice performance majors. Recital required. Prerequisite: 441 or equivalent. (4).

521. ADVANCED VOICE I. Private study for advanced seniors and graduate students. Prerequisite: 422 or audition. (2).

522. ADVANCED VOICE II. Private study for advanced seniors and graduate students. Prerequisite: 521 or equivalent. (2).

541. ADVANCED VOICE PERFORMANCE I. Private study for advanced seniors and graduate students in voice performance. Prerequisite: 442 or audition. (4).

542. ADVANCED VOICE PERFORMANCE II. Private study for advanced seniors and graduate students in voice performance. Prerequisite: 541 or equivalent. (4).

NAVAL SCIENCE—NSC

Professor Randy L. Etter, captain, U.S. Navy, chair and commanding officer

Associate Professor John W. Roberts, commander, U.S. Navy, departmental executive officer • 301 Guyton Hall

Associate Professors Lieutenant Commander Goertzen, U.S. Navy, and Major Myers, U.S. Marine Corps • Assistant Professor Lt. Copenhaver, U.S. Navy

111. INTRODUCTION TO NAVAL SCIENCE. Organization, history, plans and policies, customs, traditions and military structure of the Department of the Navy. (2).

112. SEAPOWERS AND MARITIME AFFAIRS. General concept of seapower, including commercial and ocean resource aspects; history of the Navy and role of various warfare components; comparative study of U.S. and other navies. (2).

115, 116. LEADERSHIP LABORATORY I, II. Topics in human resource management and naval organization selected for midshipmen fourth class. Corequisite: NSC 111 and 112. (1, 1).

211. NAVAL LEADERSHIP AND MANAGEMENT I. Analysis of personal and professional problems confronting the naval officer in the management of personnel, equipment, and material. (Navy option). (2).

212. NAVIGATION I—PILOTING AND OCEAN NAVIGATION. Basic shipboard navigation; visual and radar navigation, piloting, celestial navigation, newer forms of electronic navigations. Corequisite: NSC 213. (3).

213. NAVIGATION LABORATORY. Mathematical analysis in support of NSC 212. Corequisite: NSC 212. (1).

215, 216. LEADERSHIP LABORATORY III, IV. Topics in human resource management and naval organization selected for midshipmen third class. Corequisite: NSC 211 and 212. (1, 1).

310. EVOLUTION OF WARFARE. Development of basic knowledge of the art and concepts of warfare; exploration of the evolution of warfare from the beginnings of recorded history to the present. (Marine Corps option). (3).

311. NAVIGATION II—SEAMANSHIP AND SHIP OPERATIONS. Overview of maritime law, in-depth study of rules of the road; vector analysis of ship movements; aspects of seamanship and tactical maneuvers. (3).

312. NAVAL SHIPS SYSTEMS. Ship compartmentation, propulsion systems, auxiliary power systems, interior communications and control; elements of ship safety design and stability characteristics. (3).

315, 316. LEADERSHIP LABORATORY V, VI. Topics in human resource management and military organization selected for midshipmen second class. (Marine Corps option). (1, 1).

317, 318. LEADERSHIP LABORATORY. Topics in human resource management and shipboard organization selected for midshipmen second class. (Navy option). Corequisite: NSC 311 and 312. (1, 1).

320. THE COMPANY-GRADE MARINE CORPS OFFICER. Duties and responsibilities of the company-grade Marine Corps officer; emphasis on the philosophy, ideals and principles of leadership; professional, philosophical, social and legal aspects of military life. (Marine Corps option). (2).

410. AMPHIBIOUS WARFARE. Concept of amphibious warfare; doctrinal origins and evolution as an element of 20th century naval policy. (Marine Corps option). (3).

411. NAVAL WEAPONS SYSTEMS. Introduction to theory and principles of operation of weapons systems; theory of target acquisition and tracking, launcher operations, and trajectory principles. (3).

412. NAVAL LEADERSHIP AND MANAGEMENT II. Duties and responsibilities of the junior naval officer; emphasis on division and watch officer duties, administration, law, and communication. Prerequisite: NSC 211 or MGMT 371 (2).

415, 416. LEADERSHIP LABORATORY VII, VIII. Topics in human resource management and military organization selected for midshipmen first class. (Marine Corps option). (1, 1).

417, 418. LEADERSHIP LABORATORY IX, X. Topics in human resource management and naval organization selected for midshipmen first class. (Navy option). Corequisite: NSC 411 and 412. (1, 1).

NURSING *See the College of Liberal Arts section on Departmental Major and Minor Requirements.*

PARALEGAL STUDIES—LA

Angie Williams, coordinator • E. F. Yerby Conference Center

English 101 and LA 201 are prerequisites for all legal specialty courses above LA 201.

201. INTRODUCTION TO LAW. Survey of the development of the law and the role of law in our society; introduction to legal terminology and reasoning, substantive areas of the law, the legal profession, the paralegal profession, and legal ethics. (3).

204. LEGAL RESEARCH/WRITING I. How to use the law library, perform legal research, write legal memoranda, and use computers as research tools. Initial focus is on learning how to find legal materials, including federal and state case law, statutes, and administrative law. Use of finding tools such as digests, encyclopedias, and annotated law reports will be studied, as will Shepardizing. Focus also on legal writing from letters to memoranda. (3).

205. LEGAL RESEARCH/WRITING II. Advanced legal research, court rules, restatements, administrative decisions, drafting operative legal documents, memoranda of law to trial courts, and appellate briefs. (3).

206. BUSINESS ORGANIZATIONS. Provides basic understanding of agency law, employment law, business contract law, and the competencies necessary to assist an attorney in the formation and documentation required to form and operate sole proprietorships, general and limited partnerships, corporations, and limited liability companies. (3).

210. REAL PROPERTY AND ABSTRACTING. Methods of recording and conveying land, including the preparation of instruments of title and abstracts of title. Survey of public records, including probate records, judgment rolls, tax records, etc. (3).

311. ADMINISTRATION OF WILLS AND ESTATES. Introduction to the basic concepts of inheritance and estates, probate procedure, and preparation of documents. (3).

313. LAW OFFICE MANAGEMENT. Study of the procedures, systems, and ethics of a law office, including timekeeping, file management, document management, library maintenance, and professional development of paralegals. (3).

321. TORTS. A study of the basic law relating to the civil wrong as applied to personal and property damage. (3).

322. COMMERCIAL AND CONTRACTUAL RELATIONS. Focus on the common law of contracts from the formation of the contract to its termination. Introduction to Uniform Commercial Code. (3).

323. CRIMINAL LAW AND PROCEDURE. Covers the elements of crimes, the workings of the criminal justice system, and criminal trial practice, with special attention given to the assistance a paralegal may provide both to the prosecutor and defense counsel in the preparation of a criminal case. (3).

324. ADMINISTRATIVE LAW. Prepares students for a career with a law firm involved in administrative agency practice such as employment discrimination and Social Security disability. Also prepares students for governmental and private industry work that involves working with administrative regulations. (3).

325. ALTERNATIVE DISPUTE RESOLUTION. Provides students with an understanding of conflict and a working knowledge of the three major forms of dispute resolution in the legal field: negotiation, mediation, and arbitration. (3).

331. BANKRUPTCY LAW. Students learn the instructions for preparing bankruptcy case documents and specific procedures for filing documents. (3).

332. MEDICAL LAW AND TERMINOLOGY. Includes basic anatomy and physiology; reviewing medical literature and understanding common medical terminology. Litigation issues such as reading medical records, selecting an expert witness, preparing discovery for both plaintiff and defendant, and trial preparation. (3).

400. DOMESTIC LAW. Focus on a comprehensive, substantive examination of the principles of domestic law and their application by paralegals, including requirements for valid marriage; dissolution of marriage by annulment, separation, and divorce; property rights; paternity, adoption, custody, and other parent/child relationships. (3).

404. CIVIL LITIGATION. The fundamentals of bringing and defending a civil lawsuit with emphasis on the role played by paralegals. Includes introduction to court system; jurisdiction; rules of civil procedure and evidence; drafting of pleadings, motions, and discovery; document control; preparation of trial exhibits and notebooks. (3).

PHARMACEUTICS—PHAR

Associate Professor Christy Wyandt, interim chair • 104A Faser Hall

Professors Chambliss and M. ElSohly • Associate Professor Harland • Assistant Professors B. Avery, Repka, and Stodghill • Instructor Couey

NOTE: A grade of at least C is required on all prerequisite courses.

330. PHARMACEUTICAL CALCULATIONS. This course introduces the prescription, prescription notation and abbreviations, basic pharmaceutical calculations, statistics and the mathematics of chemical kinetics and pharmacokinetics. Prerequisite: MATH 261. (3).

331. BASIC PHARMACEUTICS I. This course is designed to teach those basic principles of physics and chemistry that are necessary to understand pharmaceutical dosage forms and their design. Prerequisites: CHEM 222, 226; PHYS 214, 206, or PHYS 215; corequisite: PHAR 330. (4).

332. BASIC PHARMACEUTICS II. This course provides an understanding of various dosage forms and drug delivery systems and how medicinal and pharmaceutical substances are incorporated into them. Their dispensing and extemporaneous compounding of many of them also are presented. Prerequisites: PHAR 330 and PHAR 331. (4).

434. BIOPHARMACEUTICS AND PHARMACOKINETICS. Physiochemical and biological factors affecting drug bioavailability; time course of drugs, and metabolites in the body; and individualizing dosing regimes. Prerequisites: PHAR 332 and PHCL 443. (3).

436. PRODUCT DEVELOPMENT. The course is designed to provide an understanding of the development of pharmaceutical dosage forms. Prerequisites: PHAR 332 or consent of instructor. (3).

535. ANALYTICAL PHARMACEUTICS. The course is designed to teach the basic analytical pharmaceuticals techniques necessary to analyze drugs and dosage forms. Prerequisites: PHAR 332 or consent of instructor. (4).

541, 542. PROBLEMS IN PHARMACEUTICS. Investigation of individual problems of current interest in pharmaceuticals. Prerequisite: minimum GPA of 2.50 on all professional pharmacy courses attempted and consent of instructor. (1-3, 1-3).

543, 544. SEMINAR IN CURRENT PHARMACEUTICAL TOPICS. (1, 1).

547. VETERINARY PHARMACEUTICALS/BIOLOGICALS AND THEIR USE IN ANIMALS. Physiological action, preparation, and dosage of remedial and preventive agents used in the treatment of domestic animals. Prerequisite: PHCL 443 or consent of instructor. (Not open to graduate students for credit). (3).

555. RADIOPHARMACEUTICALS. Introduction to radioactivity and the application of radioisotopes to pharmacy. Prerequisite: fourth-year standing or consent of instructor. (2).

558. PHARMACEUTICAL MANUFACTURING. Operation of a pharmaceutical manufacturing plant, including production, quality control, materials handling, packaging, and basic unit operations. Prerequisite: consent of instructor. (3-4).

PHARMACOGNOSY—PHCG

Professor Nikolaus Fischer, chair • 443 Faser Hall

Professors Clark, Graves, Hufford, Pasco, and Zjawiony • Associate Professors Hamann and Ross • Assistant Professors Khan, Nagle, and Slattery

NOTE: A grade of at least C is required on all prerequisite courses.

421. PATHOGENESIS AND ETIOLOGY OF INFECTIOUS DISEASES. This course covers all aspects of infectious diseases, including etiology, epidemiology, and characteristics of disease-causing pathogens, host-pathogen interactions, symptoms and prognosis of specified infectious diseases. Prerequisite: MEDC 317. (3).

422. NATURAL PRODUCT DERIVED PHARMACEUTICALS. This course covers all aspects of natural products used as pharmaceuticals, including both plant derived and microbial derived (antibiotics). Prerequisites: PHCG 421, MEDC 314, PHCL 343. (4).

427. DRUG DISCOVERY I. This course focuses on the techniques included in the characterization of drug substance from natural sources (plant, animal, and microorganisms). (3).

428. DRUG DISCOVERY II. This course focuses on laboratory techniques in drug discovery research. In particular, laboratory rotations through plant, marine, and microbe techniques will be emphasized. Prerequisite: PHCG 427. (3).

429. BOTANICALS AND TRADITIONAL MEDICINE. A survey of the use of plants that affect human health. Emphasis is on understanding the scientific and cultural basis of plants that have a major impact on maintaining health, preventing disease, and treating illness. Prerequisites: B.S. in pharmaceutical sciences and enrollment in Biology 161, 162 or equivalent, or permission of instructor. (2).

522. CULTIVATION AND PROCESSING OF MEDICINAL PLANTS. Cultivation, drying, and milling of plants yielding medicinal substances. (2).

541, 542. PROBLEMS IN PHARMACOGNOSY. Individual investigation of problems of current interest in pharmacognosy. Prerequisites: minimum GPA of 2.5 on all professional pharmacy courses attempted and consent of instructor. (1-4, 1-4).

543, 544. SEMINAR ON TOPICS OF INTEREST IN NATURAL PRODUCTS CHEMISTRY. (1, 1).

545, 546. INDIVIDUAL STUDY IN PHARMACOGNOSY RESEARCH. Individual readings, discussions, and presentations of research literature in natural products chemistry. (1-6), (1-6).

PHARMACOLOGY—PHCL

Professor Dennis R. Feller, chair • 303 Faser Hall

Professors Davis, Matthews, Verlangieri, Walker, Waters, and Wilson • Associate Professor Sufka • Assistant Professors Sabol and Schetz • Instructor Bush • Adjunct Professor Benson

NOTE: A grade of at least C is required on all prerequisite courses.

202. ENVIRONMENTAL HEALTH PERSPECTIVES. A survey course emphasizing environmental health issues, such as overpopulation, resource management, environmental degradation, and pollution. The course is designed for nonpharmacy majors. Prerequisite: BISC 102, 104, or their equivalents. (3).

341. HUMAN PHYSIOLOGY AND PATHOPHYSIOLOGY I. Function of normal human organs contrasted with changes seen in disease. Prerequisite: pre-pharmacy curriculum. (5).

342. HUMAN PHYSIOLOGY AND PATHOPHYSIOLOGY I. Function of normal human organs contrasted with changes seen in disease. Prerequisite: PHCL 341. (4).

343. BIOCHEMICAL FOUNDATIONS OF THERAPEUTICS. A detailed introduction to the chemistry of life processes, structure-activity relationships for biological molecules, metabolism and its regulation. (3).

345. NUTRITIONAL PHARMACOLOGY. Nutritional issues of concern to pharmacists, including the popular use of nutritional supplements for physiological enhancement and disease prevention, drug-nutrient interactions, therapeutic implications for nutritional pharmacology, and product availability. (3).

347. INTRODUCTION TO ENVIRONMENTAL TOXICOLOGY. Introduction to chemical nature and reactions of toxic substances; their origins and uses; and the aspects of exposure, transformation, and elimination. The course is designed for biology, chemistry, and pharmacy majors. Prerequisite: BISC 160, BISC 162, CHEM 221, CHEM 222, or their equivalents. (2).

381. INTRODUCTION TO TOXICOLOGY. Biological and chemical factors which influence toxicity. Review of various classes of compounds of industrial, agricultural, therapeutic, and economic importance. Emphasis on the forensic implications of poisoning by these agents. Prerequisite: CHEM 222, 226; and consent of instructor. (3).

443. BASIC AND CLINICAL PHARMACOLOGY I. Basic principles of pharmacodynamics; pharmacology of drugs acting on the autonomic nervous system; other drug classes acting on autonomic-innervated organs. Prerequisites: PHCL 341, 342. (4).

444. BASIC AND CLINICAL PHARMACOLOGY II. Continuation of 443; central nervous system drugs; hemotopoietic, immunosuppressant antineoplastic and antiallergic drugs; basics of environmental and clinical toxicology. Prerequisite: PHCL 443. (4).

503. LABORATORY METHODS IN PHARMACOLOGY AND TOXICOLOGY I. Fundamental laboratory exercises designated to provide the student with hands-on experience with techniques basic to the disciplines of pharmacology and toxicology. Prerequisites: 4th year standing in B.S. in pharmaceutical science. (2).

504. LABORATORY METHODS IN PHARMACOLOGY AND TOXICOLOGY II. Fundamental laboratory exercises designed to provide the student with hands on experience with techniques basic to the disciplines of pharmacology and toxicology. Prerequisites: PHCL 503. (2).

541. PROBLEMS IN PHARMACOLOGY. Investigation of individual problems. Prerequisite: consent of instructor. (May be repeated for credit). (1-3).

569. DRUG ABUSE EDUCATION. Pharmacological, legal, and socio-psychological aspects of drug abuse. Prerequisite: fourth-year standing, graduate standing with nonpharmacy major, or consent of instructor. (3).

PHARMACY-PHCY

201. SURVEY OF THE USE, MISUSE, AND ABUSE OF DRUGS, MEDICINES, AND CHEMICALS. Survey of the properties of drugs, medicines, and chemicals which are used, misused, and abused in society. The course is designed for nonpharmacy and pre-pharmacy majors. (3).

PHARMACY ADMINISTRATION-PHAD

Professor Dewey D. Garner, chair • 223 Faser Hall

Professors Frate and Smith • Associate Professors Alidaee, Gilbert, Juergens, and Kolassa • Assistant Professors McCaffrey, Bentley, O'Quin, and Wilkin • Research Assistant Professor Bouldin

NOTE: A grade of at least C is required on all prerequisite courses.

391. PHARMACY ADMINISTRATION I. Individual, social, medical determinants in assessment, organization, and delivery of health care. (3).

392. PHARMACY ADMINISTRATION II. Factors involved in the delivery, financing, and regulation of health care in public and private sectors. Prerequisite: PHAD 391. (3).

490. PROFESSIONAL COMMUNICATIONS IN PHARMACY. Develop an understanding of the nature of communication and the types of communication skills necessary to deliver optimal pharmaceutical services. Prerequisite: PHAD 392. (2).

491. PHARMACY LAW. Pharmacists' common-law and statutory obligations under the American constitutional system of dual national and state authority. Prerequisite: fourth year standing. (2).

493. PHARMACY MANAGEMENT AND BUSINESS METHODS. Nature and principles of management, organization structure, location analysis, layout design, policy formulation, personnel administration, purchasing, inventory control, risk management, promotion, and financial analysis. Prerequisite: fourth-year standing. (4).

494. PHARMACEUTICAL ECONOMICS. Pharmacoeconomics is the description and analysis of the costs of drug therapy to health-care systems and society. Pharmacoeconomic research identifies, measures, and compares the costs (i.e., resources consumed) and consequences of pharmaceutical products and services. (3).

495. TECHNIQUES OF PHARMACEUTICAL SALES. To introduce various strategies and tactics available to those who represent the pharmaceutical industry to therapy decision-makers. (2).

496. PRINCIPLES OF PHARMACEUTICAL MARKETING. The nature and scope of the pharmaceutical industry, its marketing practices and environment with emphasis on skills and techniques used in the efficient administration of a pharmaceutical sales program. Prerequisite: junior standing and consent of instructor. (3).

541, 542. PROBLEMS IN PHARMACY ADMINISTRATION. Investigation of individual problems. Prerequisite: minimum GPA of 2.50 on all professional pharmacy courses attempted and consent of instructor. (1-3, 1-3).

543, 544. SEMINAR IN CURRENT HEALTH TOPICS. (Z grade). (1, 1).

597. MEDICAL ANTHROPOLOGY. Social factors in health and illness. Social influences on need, demand, provision, and compliance with medical care. (Same as ANTH 597). (3).

PHILOSOPHY AND RELIGION

Professor Michael Harrington, chair • 302 McDonnell-Barksdale Honors College

Professor Lawhead • Associate Professor Westmoreland • Assistant Professor Cozad • Visiting Assistant Professor Barnard

Philosophy–PHIL

Introductory Level

101. INTRODUCTION TO PHILOSOPHY. Survey of major philosophers and traditional philosophical problems concerning knowledge, values, and the nature of reality. (3).

102. CONTEMPORARY PHILOSOPHICAL PROBLEMS. Philosophical issues in everyday life, e.g., whether computers think, “politically correct thinking,” and the new sexual morality. (3).

103. LOGIC: CRITICAL THINKING. Principles and methods of sound reasoning, emphasizing analysis of everyday arguments. (Same as LING 103). (3).

History, Major Thinkers, and Themes

301. HISTORY OF PHILOSOPHY. Major philosophers from the Pre-Socratics through the Medieval Period. (3).

302. HISTORY OF PHILOSOPHY. Major philosophers from the Renaissance through the early 20th century. (3).

307. MEDIEVAL PHILOSOPHY. The Scholastic tradition, from its patristic origins through Nicholas of Cusa. (3).

309. ASIAN PHILOSOPHY. Examination of Asian thought in the Hindu, Buddhist, Taoist, and Confucian traditions. (Same as REL 309). (3).

310. SOCRATES AND SOPHISTRY. The intellectual ferment surrounding the development of philosophy in fifth century Athens; its origins and consequences in literature and politics. Readings focus on Socrates; drama, early philosophical texts, the Sophists and Plato. (Same as CLC 310). (3).

311. PLATO. The dialogues and their influence on later thought. (3).

313. ARISTOTLE. Major ideas and issues in the Aristotelian writings. (3).

315. AQUINAS. A study of Thomist themes and issues in the development of the Medieval Synthesis. (3).

316. WHITEHEAD. A survey of his philosophical development from the mathematical works to “Process and Reality.” (3).

318. EXISTENTIALISM. Development of existential themes from Kierkegaard through Sartre, and in recent existential theology and psychology. (3).

Fields

320. AESTHETICS. Introduction to aesthetic theory, e.g., basic concepts and problems of art, beauty, and significant form. (3).

321. ETHICS. Introduction to ethical theory, from the classical period to the present. (3).

322. EPISTEMOLOGY. Introduction to the theory of knowledge, its nature, limits, and conditions. (3).

323. METAPHYSICS. Introduction to the theories of reality from classical to contemporary times. (3).

508. SYMBOLIC LOGIC. Symbolic techniques used in formalizing the basic logical principles and in constructing rigorous proofs and demonstrations. (Same as LING 508). (3).

Applied Philosophy

326. BIOETHICS. Ethical issues in the health care professions. (Open only to students in the School of Pharmacy.) (1).

328. BIOMEDICAL ETHICS. Ethical issues in contemporary biomedicine, e.g., death and dying, patient rights, and the challenges of new medical technology. (3).

331. POLITICAL PHILOSOPHY. Theories of the state and the just society in classical political thought from Plato to the present. (3).

340. PHILOSOPHY AND COMPUTER TECHNOLOGY. Philosophical issues raised by recent advances in computers and artificial intelligence. No experience with computers necessary. (3).

342. PHILOSOPHY OF MIND. An introduction to philosophical psychology, e.g., the body/mind problem, the nature of consciousness, and personal identity. (3).

345. ENVIRONMENTAL ETHICS. Ethical implications of environmental problems, e.g., pollution, allocation of scarce resources, ecosystems, and their disruption. (3).

350. PHILOSOPHY OF LAW. Philosophical issues in law, e.g., its relation to ethics and politics, the nature of justice and of responsibility. (3).

351. PHILOSOPHY OF RELIGION. Philosophical questions in religious thought, e.g., the existence of God, the problem of evil, the nature of religious belief and experience. (Same as REL 351). (3).

353. PHILOSOPHY OF WAR. Major philosophical problems in war, e.g., its nature, its justification, pacifism, and the morality of CBN weaponry. (3).

357. BUSINESS ETHICS. Ethical problems in business theory and practice, e.g., the myth of amoral business, conflicts of interest, and employer-employee rights and obligations. (3).

360. PHILOSOPHICAL ISSUES IN SCIENCE AND RELIGION. Investigation of philosophical relationships between religion and science from the Renaissance to the present day, emphasizing methodological and conceptual issues. (Same as REL 360). (3).

390. PHILOSOPHICAL ISSUES IN THE WOMEN'S MOVEMENT. A survey of contemporary theories and conceptual problems concerning femininity and feminism. (Same as G ST 390). (3).

Undergraduate Majors

490. DIRECTED READINGS IN PHILOSOPHY. Individual research into selected philosophical issues; content varies. Consent of instructor required. (May be repeated once for credit). (3).

497. SENIOR THESIS. An investigation into a significant philosopher or philosophical problem. Prerequisite: senior standing. (3).

Seminars and Advanced Work

502. PHILOSOPHY IN THE UNITED STATES. Survey of American philosophy from colonial times to the present. (3).

503. SEMINAR. Selected topics. Content varies. (3).

506. CONTEMPORARY POLITICAL PHILOSOPHY. Philosophical issues in recent political thought. (3).

508. SYMBOLIC LOGIC. Symbolic techniques used in formalizing the basic logical principles and in constructing rigorous proofs and demonstrations. (Same as LING 508). (3).

511. PHILOSOPHY OF SCIENCE. Survey of philosophical issues in scientific theory and practice, including the nature of scientific method and explanation. (3).

516. CONTEMPORARY ETHICAL THEORY. Recent ethical and metaethical theories and issues: e.g., the nature of morality, relativism, the relation of ethics to law and religion. (3).

518. CONTEMPORARY THEORIES IN PHILOSOPHY OF RELIGION. Recent work in the philosophy of religion, such as process thought, Eastern religion, and religious epistemology. (3).

519. PHILOSOPHY OF LANGUAGE. Survey of major philosophical problems in language, including meaning, reference, relations of language to thought and being. (3).

520. PROBLEMS IN ENVIRONMENTAL ETHICS. Selected problems, such as population dynamics, ecosystem disruption, and environmental rights. (3).

521. CONTEMPORARY PHILOSOPHY. Recent developments in philosophy. (3).

525. THE CRITIQUE OF WAR. Selected problems in the philosophy of war, including the just war in the nuclear age, battlefield ethics, violence, and human nature. (3).

Religion–REL

(Introductory Level)

101. INTRODUCTION TO RELIGION. Survey of religion and of the major world religions. (3).

History, Major Thinkers, and Themes

303. RELIGION IN THE SOUTH. Southern religion and its cultural, racial, and political impact from the Great Awakening to the present. (Same as HIS 337). (3).

309. ASIAN RELIGION. Examination of Asian thought in the Hindu, Buddhist, Taoist, and Confucian traditions. (Same as PHIL 309). (3).

310. THE OLD TESTAMENT AND EARLY JUDAISM. A survey of the Hebrew Bible and the development of Judaism. (3).

311. WOMEN AND THE GODDESS IN EASTERN RELIGION. Exploration of Goddess figures and the social roles of women in the Hindu, Buddhist, and Taoist traditions. (Same as G ST 311). (3).

312. THE NEW TESTAMENT AND EARLY CHRISTIANITY. A survey of the New Testament writings in their role in the development of early Christianity. (3).

319. UNITED STATES RELIGIOUS HISTORY. The role of religious ideas and institutions in the development of the U.S. (Same as HIST 319). (3).

320. HINDUISM. Survey of Hinduism and its cultural impact on the Indian subcontinent. (3).

321. BUDDHISM. Survey of Buddhism in its historical and contemporary contexts. (3).

322. CHINESE RELIGIONS. Survey of the major Chinese religions, including Taoism, Confucius, and Chinese Buddhism. (3).

345. RELIGION AND POLITICS. The involvement of religion in politics nationally and internationally. (3).

351. PHILOSOPHY OF RELIGION. (Same as PHIL 351). (3).

360. PHILOSOPHICAL ISSUES IN SCIENCE AND RELIGION. Investigation of philosophical relationships between religion and science from the Renaissance to the present day, emphasizing methodological and conceptual issues. (Same as PHIL 360). (3).

373. HISTORY OF THE CHRISTIAN RELIGION. History of doctrine and theologies from apostolic times to the Reformation. (Same as HIST 373). (3).

402. RECENT RELIGIOUS MOVEMENTS. Examination of major changes and new developments in contemporary religions and religious practices. (3).

490. DIRECTED READINGS IN RELIGION. Individual research into selected philosophical issues; content varies. Consent of instructor required. (May be repeated once for credit). (3).

501. SEMINAR. Selected topics. Content varies. (3).

503. MAJOR ISSUES IN SOUTHERN RELIGION. Selected problems in religion in the American South; e.g., biblical defenses of racial practices, the slave religion controversy, interrelation of evangelical theology and political involvement. (3).

PHYSICAL THERAPY *See the College of Liberal Arts section on Departmental Major and Minor Requirements and the Medical Center chapter.*

PHYSICS AND ASTRONOMY

Professor Thomas C. Marshall, chair • 108 Lewis Hall

Frederick A.P. Barnard Distinguished Professor Henry E. Bass • Professors Baird, Bhatt, Raspet, and Reidy • Visiting Professor Stipcevic • Associate Professors Cremaldi, Kroeger, and Summers • Assistant Professors Bombelli, Hiller, and Keppens • Visiting Assistant Professor Puzio • Distinguished Research Professor Breazeale • Research Associate Professor Sabatier • Research Assistant Professor Stolzenburg • Adjunct Professors Arnott, Atchley, Attenborough, Caruthers, Crum, Denardo, Lafleur, and Rust

Astronomy–ASTR

101, 102. DESCRIPTIVE ASTRONOMY I, II. Lectures, text assignments, and observations through the telescope. (Twice weekly in daytime; once a week at night). (3, 3).

103, 104. ASTRONOMY I, II. Lectures, demonstrations in astronomy, laboratory experiences in celestial mechanics and light, and observations through an optical telescope in an integrated lecture-laboratory sequence. (Lecture meets twice weekly in the daytime, laboratory meets once weekly in the afternoon or at night). (3, 3).

Physics–PHYS

A course in physics may be attempted for credit only twice without departmental approval.

101, 102. INTRODUCTION TO PHYSICS I, II. Overview of topics of current interest in physics with emphasis on research activities in the field. Required for freshman physics majors. (1, 1).

107, 108. PHYSICAL SCIENCE I, II. Lectures, demonstrations, and laboratory exercises on topics relating to a study of the physical universe. Included is a survey of physics, astronomy, and chemistry in an integrated lecture-laboratory sequence. Prerequisite for PHYS 107 or consent of instructor. (3, 3).

111. PHYSICS OF SOUND AND MUSIC. Wave properties and sound; the manner in which sounds are produced and heard; the physical basis for musical scales; and the effect of noise in our environment. (1).

112. PHYSICS OF LIGHT, COLOR AND ART. Topics relating to sources, characteristics and nature of light, optical instruments, and the relation of light, color and visual perception in art. (1).

211, 212. PHYSICS FOR SCIENCE AND ENGINEERING I, II. General physics taught with the aid of calculus. (221, 222 must be taken concurrently. 211, 212 with 221, 222 satisfies the engineering and science major requirements for physics.) Prerequisite or corequisite with consent of instructor: MATH 261. (3, 3).

213, 214. GENERAL PHYSICS I, II. Mechanics, heat, sound, light, magnetism, and electricity. (PHYS 223, 224 must be taken concurrently. PHYS 213, 214 with 223, 224 satisfies the physics requirement for pre-pharmacy and pre-medical students.) Prerequisite: MATH 121 and 123, or 261. (3, 3).

215. PHYSICS FOR PHARMACEUTICAL SCIENCES. A study of physics topics relevant to a program of study in pharmaceutical sciences. Lectures and coordinated laboratory exercises in classical and modern physics. Prerequisite: MATH 261. (4).

221, 222. LABORATORY PHYSICS FOR SCIENCE AND ENGINEERING I, II. Laboratory experiments coordinated with lecture topics in PHYS 211, 212. Corequisite: PHYS 211, 212. (1, 1).

223, 224. LABORATORY PHYSICS I, II. Laboratory experiments coordinated with lecture topics in PHYS 213, 214. Corequisite: PHYS 213, 214. (1, 1).

303. PHYSICAL THEORY. Physical principles of both classical and modern physics formulated as mathematical problems in differential and integral calculus. Intended for those who have taken 213, 214. Prerequisite: either PHYS 211, 212 or 213, 214, and MATH 261, 262. (3).

308. MATHEMATICAL PHYSICS. Application of differential equations, vectors, and other techniques to physical problems. Prerequisite: PHYS 212; prerequisite or corequisite: MATH 353. (3).

309. THERMODYNAMICS. General theory and applications of thermodynamics, kinetic theory and statistical mechanics. Prerequisite: PHYS 212. Corequisite: MATH 353. (3).

310. MECHANICS. Static and dynamic aspects of particle and rigid body mechanics, including Lagrange's equations and generalized coordinates. Prerequisite: PHYS 212 and MATH 353. (3).

313. PHYSICS AND BIOPHYSICS OF AIR AND WATER. The basic physical properties of air and water are described as well as the effect of these properties on various biological processes and organisms. (3).

315. RADIATION SCIENCE. Introductory lectures and demonstrations on the interaction of radiation with matter with application to physical and biological systems. Prerequisite: consent of instructor. (3).

317. INTRODUCTION TO MODERN PHYSICS I. Introduction to relativity; atomic, molecular and solid state physics. Prerequisite: PHYS 212. (3).

318. INTRODUCTION TO MODERN PHYSICS II. Introduction to quantum mechanics, nuclear and elementary particle physics. Prerequisite: PHYS 317. (3).

319. OPTICS. Intermediate description of electromagnetic wave propagation; topics in geometrical and physical optics including interference diffraction, polarization, and laser physics; lab exercises in physical and geometrical optics. (Lecture-laboratory course). Prerequisite: PHYS 212 or 214, MATH 262. (4).

321. ELECTRONICS. Introduction to applications in electronics for scientists. Passive components, ac circuit theory, transistors and amplifiers, operational amplifiers and applications. (Lecture and laboratory course). Prerequisite: PHYS 212 or 214, MATH 262. (4).

401, 402. ELECTROMAGNETIC THEORY I, II. Electrostatics, electric and magnetic properties of matter, Maxwell's equations and their solution, propagation and radiation of electromagnetic waves. Prerequisites: PHYS 308, 310. (3, 3).

413. INTRODUCTION TO BIOPHYSICS. Selected topics in biomechanics, bioelectricity, ionic and molecular transport, biophysical kinetics, radiation biophysics, body temperature regulation and biophysical measurements and techniques. (3).

415. RADIATION PHYSICS LABORATORY. Selected experiments in radiation physics including scintillation and solid state detectors, interaction of radiation with matter and nuclear instrumentation. Prerequisite: PHYS 315. (Laboratory course). (3).

417. MODERN PHYSICS LABORATORY. Basic application of theories of measurement, instrumentation and error to laboratory research. Experiments in classical and modern physics including measurements of fundamental constants, vacuum technology, Mossbauer effect, ESR, and Hall effect, and advanced experiments in nuclear and particle physics. (Laboratory course). Prerequisite: PHYS 321 or consent of instructor. (4).

422. DIGITAL ELECTRONICS AND MICROPROCESSORS. Introduction to digital techniques, logic circuits, registers and microcomputer basics; microprocessor interfacing to scientific instrumentation. (Lecture-laboratory course). Prerequisite: PHYS 321. (3).

425. NUCLEAR AND PARTICLE PHYSICS LABORATORY. Experiments in radioactive decay, nuclear detectors, and instrumentation, including ionization, scintillation, and solid state detectors, electronic logic and timing circuits, and microprocessor controlled systems. (Laboratory course). Prerequisite: PHYS 318. (3).

451. INTRODUCTION TO QUANTUM MECHANICS. An introduction to nonrelativistic quantum mechanics; the Schrodinger equation and its application to simple systems. (3).

461. SENIOR SEMINAR. A discussion of current topics in physics. Intended primarily for undergraduates. Prerequisite: senior standing and consent of instructor. (1).

463. SENIOR RESEARCH PROJECT. An individual research project involving an experimental or theoretical investigation for which a written report is required. Prerequisite: senior standing and consent of selected research director. (1-3).

464. SENIOR RESEARCH PROJECT. An individual research project involving an experimental or theoretical investigation for which a written report is required. Prerequisite: PHYS 463. (1-3).

503. SELECTED TOPICS IN PHYSICS. Prerequisite: Consent of the instructor; may be repeated for credit up to 9 hours. (3).

507. DIRECTED RESEARCH. Guided experimental work for the development of research laboratory skills. (Department approval required; cannot be used for degree credit; may be repeated for credit). (1-3). (Z grade).

510. RESEARCH SEMINAR. Philosophy and principles of modern physics research. May be repeated for credit. (Z grade). (1).

521. ACOUSTICS. Mathematical description of sound propagation with various boundary conditions. Prerequisite: PHYS 401, 402. (3).

522. ACOUSTICS LABORATORY. A laboratory course to complement an acoustics lecture course; emphasis on a study of wave phenomena and acoustical measurements. Pre- or co-requisite: PHYS 521. (1).

523. INTRODUCTION TO ELEMENTARY PARTICLE PHYSICS. Phenomenology. Symmetries and conservation laws. Quarks, leptons, gauge bosons. Standard model. Experimental techniques of particle physics. (3).

532. ADVANCED ACOUSTICS LABORATORY. Advanced laboratory projects in acoustics involving experiments in sound measurement and analysis, vibration, transducers, architectural and underwater acoustics. Prerequisite: PHYS 521 or consent of instructor. (3).

533, 534. SURVEY OF TOPICS IN PHYSICS. Topics of special interest to teachers of life and physical sciences. Not applicable to a professional degree in physics. Prerequisite: consent of instructor. (3, 3).

551, 552. THEORETICAL PHYSICS I, II. Mathematical aspects of the theoretical formulation of classical and modern physics. (3, 3).

POLITICAL SCIENCE—POL

Professor Robert B. Albritton, chair • 116 Dupree Hall

Professors Geller, Quarles, and Winkle • Associate Professors Brown, Cooper, Overby, and Smith • Assistant Professors Bruce, Landry, Nordstrom, Orey, Palmer, and Reynolds

American Politics and Government

100. ORIENTATION TO THE MAJOR. An introduction to the department, its faculty and courses, with an emphasis on academic advising, career planning and student development. Highly recommended for political science majors. (Z grade). (1).

101. INTRODUCTION TO AMERICAN POLITICS. Constitutional principles of U.S. governmental framework. Political participation, electoral processes, political institutions. (3).

300. JUDICIAL PROCESS. Jurisprudence; actors and institutions of legal systems; civil and criminal processes; contemporary socio-legal issues. (3).

303. THE AMERICAN PRESIDENCY. Historical and comparative analysis of the presidency and other chief executive offices; functions, powers, relations with other political institutions. (3).

304. AMERICAN LEGISLATIVE PROCESS. Politics, processes, and structures of U.S. Congress; congressional elections and behavior of individual members of Congress. (3).

305. JUDICIAL BEHAVIOR. An analysis of judicial decision making, its influences and impact in trial and appellate courts in state and federal systems. (3).

306. CONSTITUTIONAL LAW I: SUPREME COURT AND THE CONSTITUTION. Judicial review; interinstitutional relations; federalism; interstate commerce, taxing and spending, contract clauses, substantive due process. (3).

- 307. CONSTITUTIONAL LAW II: POLITICS OF CIVIL LIBERTIES AND CIVIL RIGHTS.** American legal and political freedoms; judicial policy making; criminal justice; civil rights. (Same as AFRO 308). (3).
- 308. VOTING AND POLITICAL PARTICIPATION.** Explanations of voter turnout; sociological, psychological, and economic perspectives on voter behavior. (3).
- 309. PUBLIC OPINION AND POLITICAL PSYCHOLOGY.** The formation and structure of political attitudes and mass belief systems; measurement of political opinions; social and psychological influences on opinion. (3).
- 310. POLITICAL PARTIES AND INTEREST GROUPS.** Nature of the organization and operation of political parties and interest groups; elections and political action committees. (3).
- 311. POLITICAL COMMUNICATION.** An examination of American political communication. The role of the media, speechwriters, politicians and the public in developing and transmitting political symbols and rhetoric. (3).
- 316. STATE AND LOCAL GOVERNMENT AND POLITICS.** Role of state and local governments in the U.S. federal system; structure and functioning of governmental operations. (3).
- 317. MISSISSIPPI POLITICS.** Analysis of contemporary Mississippi politics and government. (3).
- 318. POLITICS OF THE AMERICAN SOUTH.** An analysis of southern politics that focuses on the region's unique political history, its transformation during the 20th century, and its importance to national politics. (3).
- 319. MINORITY POLITICS.** Studies the place of minorities in American politics. Examination of definitions of minority groups and minority politics; major American minority groups; and issues of conflict between minorities and the majority. Some comparative material also included. (3).
- 365. COURT ADMINISTRATION.** Analysis of modern management of trial and appellate courts at state and federal levels. (3).
- 367. POLICY ANALYSIS.** Concepts, processes, methodologies, and issues involved in the application of systematic analysis to public policy. (3).
- 368. ADMINISTRATIVE LAW.** The law of public offices; powers of administrative authorities; conclusiveness of administrative determinations; remedies against administrative action. (3).

Comparative Government and Politics

- 221. INTRODUCTION TO COMPARATIVE POLITICS.** Examination of non-American political systems, their significant political institutions, and their political behavior. (3).
- 321. POLITICS OF LATIN AMERICA.** Comparative analysis of the governments of Latin American countries; structure, underlying principles, constitutional development, contending political forces, and postwar changes. (3).
- 322. POLITICS OF WESTERN EUROPE.** Analysis of the political systems and governmental processes of major Western European societies. (3).
- 323. POLITICS OF SUB-SAHARAN AFRICA.** Analysis of the political systems of sub-Saharan Africa and their development from the interaction of African and European social forces. (Same as AFRO 315). (3).
- 324. POLITICS OF CHINA AND JAPAN.** Historical developments and current systems of government. (3).
- 325. POLITICS OF SOUTH AND SOUTHEAST ASIA.** Historical developments and current systems of government with emphasis on Burma, India, Indonesia, Malaysia, Pakistan, the Philippines, Singapore, Thailand, and Vietnam. (3).
- 326. POLITICS OF RUSSIA.** Basic principles, institutions, practices, and processes. (3).
- 327. POLITICS OF ISRAEL.** Behavioral and structural examination of Israeli politics, including analysis of historical, domestic, and international factors influencing policy decisions. (3).
- 328. POLITICS OF CANADA.** Study of Canadian political institutions and behavior, including constitutional development, political parties, elections and voting, federalism, and international relations. (3).

- 329. TRANSITIONS TO DEMOCRACY.** An analysis of the theories, problems, and cases of transition and consolidation of democracy across the world. Review of theoretical approaches to and problems with the process of democratic transition and consolidation. (3).
- 342. POLITICS OF MEXICO AND CENTRAL AMERICA.** Analysis of the political, economic, and social development in Mexico and the Central American countries. (3).
- 343. COMPARATIVE DEMOCRATIC INSTITUTIONS.** Analysis of the central institutions of democratic governments and their politics. (3).
- 381. POLITICS OF ADVANCED INDUSTRIAL SOCIETIES.** An analysis of major issues and theories concerning advanced industrial societies, i.e., origins and initial institutional accommodations of social cleavages in the 19th century, postwar innovations, and challenges to postwar arrangements. Focuses on Europe, Japan, and United States. (3).
- 382. COMPARATIVE LEGISLATIVE BEHAVIOR.** Comparative study of some of the important structures, functions, and processes of legislatures and legislative-like institutions in both western and non-western societies. (3).
- 383. COMPARATIVE ETHNIC POLITICS.** The course is an examination of ethnic issues in various political settings. The central question revolves around how nations address ethnic problems. Case studies will include European and non-European nations. (3).
- 384. WESTERN SOCIAL MOVEMENTS.** An analysis of theoretical issues concerning the emergence and impact of social movement in the context of the civil rights movement, feminism, ecology, and peace movements. (3).
- 385. GERMAN POLITICS.** An examination of institutions, systems of representation, and public policy in West and East Germany 1945-1990, and in reunited Germany. (3).

International Relations

- 231. INTRODUCTION TO INTERNATIONAL RELATIONS.** Factors determining the conduct of international relations; foreign policy objectives and methods of achieving them; power politics versus collective security. (3).
- 330. CONTEMPORARY INTERNATIONAL PROBLEMS.** An analysis of current events as related to foreign policies of major powers; specific international problems; emphasis on interpretation of international trends. (3).
- 331. INTERNATIONAL ORGANIZATION.** Development of international organization; emphasis on the structure and functions of the United Nations; important specialized and regional organizations. (3).
- 332. CONTEMPORARY TERRORISM.** A systematic study of transnational terroristic disorder. Societal manifestations, prophylaxis and survival. (3).
- 333. MIDDLE EAST POLITICS.** Power and politics in the Middle East—mainly Egypt, Israel, Iran, Saudi Arabia. (3).
- 334. POLITICS OF THE WORLD ECONOMY.** Major issues and events in the politics of modern international economic history. Contending theoretical perspectives and political-economic systems are introduced. (3).
- 335. IDEOLOGY IN AMERICAN FOREIGN POLICY.** Study of major ideological components of American foreign policy in recent years. Includes historical examination of roots of American foreign policy. (3).
- 336. POLITICAL ECONOMY OF INTERNATIONAL DEVELOPMENT.** Introduces major approaches in political economy of development, trade, foreign aid, debt, privatization, and high-technology. Integrates approaches in international relations with problems of political economics. (3).
- 337. ASIA IN WORLD AFFAIRS.** 19th century contacts between Asia and the West; the changing image of Asia; developments following World War II; Asia's challenge to the modern world. (3).
- 338. FORMULATION OF AMERICAN FOREIGN POLICY.** The mechanisms and institutions involved in foreign policy formulation, including the impact and interaction of both governmental and nongovernmental groups. Covers the various modes of influence utilized in foreign policy and the current behavioral literature relevant to the policy-making process. (3).

339. INTERNATIONAL CONFLICT IN THE NUCLEAR AGE. Analysis of constraints and options regarding the use of military force in the nuclear era. Subjects include possible forms of nuclear and limited war, escalation models and coercive bargaining techniques. (3).

362. INTERNATIONAL TELECOMMUNICATIONS POLICY AND ADMINISTRATION. Political, legal, and administrative problems of electronic information management. The domestic and international roles of government in establishing and regulating telecommunications policy for cable systems, satellites, computers, and electronic media. Specific policy activities of public agencies are examined. (3).

Political Analysis

251. INTRODUCTION TO POLITICAL SCIENCE METHODS. Analysis of the basic conceptual tools and quantitative techniques used in political science. (3).

351. FORMAL MODELS OF POLITICS. An introduction to formal models of politics, suggesting assumptions about actors and environments, and deducing consequences from these assumptions, as they apply to democratic politics and processes. (3).

Criminal Justice

271. INTRODUCTION TO THE CRIMINAL JUSTICE SYSTEM. Philosophical and historical backgrounds, agencies, and processes of the criminal justice systems in the United States. (3).

365. COURT ADMINISTRATION. Analysis of modern management of trial and appellate courts at state and federal levels. (3).

371. CRIMINAL INVESTIGATION. Criminal investigation procedures, including theory of investigation, case preparation, specific techniques for selected offenses, questioning of suspects and witnesses, and problems in criminal investigation. (3).

372. POLICE PROCESSES AND POLICY. Systematic study of police administration; influences of social and political factors on police processes and policy making; effects of organizational arrangements; innovations in police operations; problems of institutional maintenance and internal control. (3).

373. POLICE MANAGEMENT SYSTEMS. Systematic professional relationships involved in historical and contemporary police agency management. (3).

374. SURVEY OF CRIMINALISTICS. Scientific crime detection methods; crime scene search, identification and preservation of evidence; lie detection, Modus Operandi; firearms identification, fingerprint identification, and related subjects. (3).

472. SEMINAR IN POLICE PROBLEMS. Selected subject areas including patrol problems, minority group problems, labor-management disputes, riot prevention and control, legal restraints and police authority; policy guidelines. Prerequisite: consent of instructor. (May be repeated for credit with consent of instructor). (3).

473, 474. CRIMINAL LAW I, II. Sources of criminal law, elements of crime, parties to crime, criminal intent, Corpus Delicti, solicitation, conspiracy, attempt; crimes against person, property and society; defenses and privileges. (3, 3).

476. CRIMINAL PROCEDURE. Criminal procedure prior to trial affecting law enforcement officers; search, seizure, arrest, evidence, interrogation, confession, entrapment, arraignment, indictment, grand jury, bail, preliminary examinations. (3).

477. CRIMINAL JUSTICE THEORY. Values, ideals, and principles underlying the administration of criminal justice. Topics to include theories of justice and punishment, moral aspects of coercive control, and criminal justice as ideology. (3).

478. PROBATION AND PAROLE. Probation and parole in the criminal justice system; principles of diversion; models of programs; techniques and procedures. (3).

Honors, Internships, Colloquia, And Individual Study

389. INTERNSHIP IN GOVERNMENT. Internship in an approved agency or branch of government; book reports and written reports on internship required. Prerequisite: consent of instructor. (3-6). (Z-grade).

- 390. HONORS IN POLITICAL SCIENCE.** Selected topics and issues. (3).
- 398. SPECIAL TOPICS IN POLITICAL SCIENCE.** Specific topic will vary. (May be repeated once for credit.) (3).
- 399. READINGS AND RESEARCH IN POLITICAL SCIENCE.** (May be repeated once for credit). Prerequisite: Written consent of the instructor. (1-3).
- 479. COLLOQUIUM IN CRIMINAL JUSTICE.** Intensive examination of current developments and research in an area of criminal justice. (3).
- 490. DIRECTED INDIVIDUAL STUDY.** Special problems for students of law enforcement on an individual basis. Prerequisite: consent of instructor. (May be repeated for credit with consent of instructor). (3).
- 498. INTERNSHIP IN CRIMINAL JUSTICE.** Internship in an approved law enforcement agency under its supervision; book reports and written reports on internship required. Prerequisite: consent of instructor. (3-6). (Z-grade).
- 598. SPECIAL TOPICS IN POLITICAL SCIENCE.** Study of specialized topics in the discipline. (May be repeated once for credit). (3).

PRODUCTION-OPERATIONS MANAGEMENT See *Management Information Systems/Production-Operations Management.*

PSYCHOLOGY—PSY

Professor Scotty Hargrove, chair • 205 Peabody Building

Professors Gross, Landis, McGraw, and O'Dell • Associate Professors Barrios, Christoff, Lombardo, Mendolia, Sufka, and Weed • Assistant Professors Chen, Gohm, O'Neill, Sabol, and Wilson

- 99. ORIENTATION TO THE MAJOR.** (Nondegree credit). An introduction to the Department of Psychology, its faculty and courses, with an emphasis on career planning and student development. Recommended for anyone considering psychology as a major. (1). Z grade.
- 201. GENERAL PSYCHOLOGY.** Introduction: individual development, motivation, emotion, motor function, sensory and neural functions, intelligence, learning, perceiving, thinking, social behavior, and personality. (3).
- 202. ELEMENTARY STATISTICS.** Introduction to descriptive and inferential statistics, including measures of central tendency and variability, correlation, t-tests, and analysis of variance. This course is different from Math 115 (Elementary Statistics). Some students may want to take Math 115 before enrolling in PSY 202. (3).
- 203. SELF MANAGEMENT FOR YOUR PERSONAL LIFE.** The course will involve the presentation of information and exercises designed to facilitate the development of sexual and personal decision-making skills. Classes will be student-led and limited to 15 students. Topics will include communication skills, safe sex practices, AIDS/STDs, alcohol, date rape, and abstinence. (1).
- 211. LABORATORY IN PSYCHOLOGY: BEHAVIORAL NEUROSCIENCE.** Students learn basic research methods used to study brain-behavior relationships. Laboratory exercises include sheep brain dissection, surgical procedures in rats, and the testing of various behavioral systems in response to physiological challenge. After conducting experiments, students write up their findings. Prerequisites: PSY 201 and PSY 202. (3).
- 212. LABORATORY IN PSYCHOLOGY: EXPERIMENTAL SOCIAL PSYCHOLOGY.** Students conduct experiments to study behavior that occurs in the presence or the implied presence of others and report on their findings. Prerequisite: PSY 202 (statistics) or a comparable course. (3).

213. LABORATORY IN PSYCHOLOGY. Students conduct a series of animal conditioning experiments and report on the findings. Prerequisite: PSY 202 (statistics) or a comparable course. (3).

214. LABORATORY IN PSYCHOLOGY: COGNITION AND PERCEPTION. Students perform a number of computer-based experiments and report on their findings. Prerequisite: PSY 202 (statistics) or a comparable course. (3).

215. PSYCHOLOGY OF INSTRUCTIONAL TECHNOLOGY. Theory and practice of individualized instructional systems. Prerequisite: PSY 201 and consent of instructor. (3).

301. DEVELOPMENTAL PSYCHOLOGY. Topically organized survey of all aspects of psychological development from infancy through adulthood. Prerequisite: PSY 201. (3).

303. INTERMEDIATE STATISTICAL METHODS FOR PSYCHOLOGY. Primarily inferential statistics. Bridges the gap between Elementary Statistics and the 500-level courses in psychological statistics. Includes a computer laboratory. Prerequisite: PSY 202 (statistics) or a comparable course. (3).

308. INDUSTRIAL PSYCHOLOGY. Methods of selecting work, adapting the worker to the job and increasing industrial effectiveness; the psychology of advertising; market research. Prerequisite: PSY 202 (statistics) or a comparable course. (3).

309. LEARNING. Introduction to basic laws and theories of learning. Prerequisite: PSY 202 (statistics) and a laboratory course (either PSY 212, PSY 213 or PSY 214). (3).

311. ABNORMAL PSYCHOLOGY. The characteristics, causes, and treatment of abnormal behavior. Prerequisite: PSY 201. (3).

313. EXPERIMENTAL ANALYSIS OF BEHAVIOR. A unified account of human and animal behavior mainly in terms of learning and motivation; introduction to modern behavior theory. Prerequisite: PSY 202 (statistics) and a laboratory course (either PSY 212, PSY 213 or PSY 214). (3).

315. PERSONALITY. Survey of the major theories of personality. Prerequisite: PSY 202 (statistics) and a laboratory course (either PSY 212, PSY 213 or PSY 214). (3).

317. TESTS AND MEASUREMENTS. Various types of psychological tests and their uses; emphasis on group intelligence tests, aptitude tests, personality tests, achievement tests. Prerequisite: PSY 202 (statistics) and a laboratory course (either PSY 212, PSY 213 or PSY 214). (3).

319. BRAIN SCIENCE AND BEHAVIOR. Structures and function of the nervous system as it relates to a variety of behaviors and mental processes such as sensation, movement, sleep, hunger, learning, mental disorder, language, and consciousness. Prerequisites: PSY 202 (statistics) and a laboratory course (either PSY 212, PSY 213 or PSY 214), or, for nonpsychology majors, permission of instructor. (3).

320. COGNITIVE PSYCHOLOGY. A general survey of cognitive psychology emphasizing human perception and attention, human memory, language, and speech perception. Prerequisite: PSY 201. (3).

321. SOCIAL PSYCHOLOGY. The acquisition of social behaviors and their use in group situations. Prerequisite: 202 (statistics) and a laboratory course (either PSY 212, 213, or 214). (3).

323. APPLIED BEHAVIOR ANALYSIS. Introduction to current principles of learning and their application to the analysis of human behavior. Prerequisites: PSY 202 (statistics) and a laboratory course (either PSY 212, PSY 213 or PSY 214). (3).

401. UNDERGRADUATE INTERNSHIP IN PSYCHOLOGY. Internship in approved work settings under professional supervision. Prerequisites: PSY 202 (statistics), a laboratory course (either PSY 212, PSY 213 or PSY 214), and permission of instructor. (May be taken for a maximum of 6 hours credit). (1-3). (Z grade).

405. MINOR RESEARCH PROBLEMS. Participate in small research projects under direction of a faculty member. Prerequisite: PSY 202 (statistics), a laboratory course (either PSY 212, PSY 213 or PSY 214), and consent of a faculty member. (May be taken twice for credit). (3). (Z grade).

410. SURVEY OF MEDICAL PSYCHOLOGY. The course will describe psychological approaches to medical problems in various organ systems of the body. Prerequisite: PSY 201; PSY 319 (Brain Science) or a comparable course is recommended. (3).

411. DRUGS AND BEHAVIOR. Course covers nervous system functioning, basic principles of pharmacology, and pharmacologic and behavioral effects of psychotherapeutic and abused drugs. Prerequisite: PSY 201. (3).

412. SCIENCE OF EMOTION. Survey of major theoretical traditions (e.g., cognitive, evolutionary, developmental, functional, physiological, social constructivist) for studying processes and mechanisms involved in the experience and expression of emotion. Prerequisite: PSY 201, 202 (statistics) and a laboratory course (either PSY 212, PSY 213, or PSY 214) or permission of instructor. (3)

415. INTRODUCTION TO CLINICAL PSYCHOLOGY. An overview of the field of clinical psychology and roles of clinical psychologists. Prerequisite: A laboratory course (either PSY 213 or PSY 214) and PSY 311 (Abnormal Psychology). (3).

419. PSYCHOLOGY OF PARENTING. Techniques of child management and stimulation of children's emotional and intellectual growth. Prerequisite: 201. (3).

420. SPECIAL TOPICS. Independent study of topics of mutual interest to student and professor. Student must find a professor to supervise the study before registering. Prerequisite: 9 hours of psychology and consent of instructor. (May be taken twice for credit.) (3).

430. SENSATION AND PERCEPTION. Survey of current theory and research in sensation and perception. Emphasis is on visual system. Topics include neurophysiology and neuropsychology of perception; perception of color, form, size, depth, and motion; audition; speech perception. Prerequisite: PSY 201, 202 (statistics) or permission of instructor. (3)

460. PSYCHOLOGY OF HUMAN SEXUALITY. A survey of behavioral, psychological, and physiological research on human sexuality. Prerequisites: 201 and junior or senior standing, or consent of instructor. (3).

501, 502. QUANTITATIVE METHODS IN PSYCHOLOGY I, II. Topics treated are descriptive statistics, probability theory, hypothesis testing, linear regression, analysis of variance, experimental design, nonparametric and multivariate techniques, and computer applications. Prerequisite: for 501 is PSY 302; for 502 is PSY 501. (3, 3).

505. CONDITIONING AND LEARNING. The general field of human animal learning including instrumental conditioning, classical conditioning, memory, and transfer. Prerequisite: 12 hours in psychology. (3).

506. HUMAN LEARNING AND COGNITION. Covers perception in the visual and auditory systems, pattern recognition and attention, features of the three major memory systems, the representation of knowledge in memory, the neurology of memory, language, learning and cognitive development, problem solving and decision making, mechanisms of thought, and other related topics. (3).

510. HUMAN PHYSIOLOGICAL RECORDING IN RESEARCH AND PRACTICE. Practical and research applications of physiological recording techniques such as EEG, EMG, and EKG. Familiarity with actual recording procedures during the laboratory sequence. Prerequisite: PSY 528. (3).

519. GROUP DYNAMICS. Factors affecting political and social efficiency. Prerequisite: PSY 321. (3).

523. TESTS AND MEASUREMENTS. Principles of test construction, scoring and interpretation. Prerequisite or corequisite: PSY 501. (3).

526. SOCIAL PSYCHOLOGY. An intensive review of the field of social psychology. Prerequisite: 12 hours of psychology. (3).

528. PHYSIOLOGICAL PSYCHOLOGY. The neuroanatomical and neurochemical basis of behavior. Prerequisite: 12 hours of psychology. (3).

529. ADVANCED DEVELOPMENTAL PSYCHOLOGY. Graduate-level survey of clinically relevant aspects of psychological development from infancy through adulthood. Undergraduates wishing to enroll are advised to consult the instructor. (3).

530. SINGLE SUBJECT AND SMALL GROUP RESEARCH DESIGN. Prerequisite: 12 hours of psychology and 505. (3).

- 531. SENSATION AND PERCEPTION.** A survey of classical psychophysical methods, signal detection theory, and sensory psychophysiology. Prerequisite: 12 hours of psychology. (3).
- 532. ATTENTION AND CONSCIOUSNESS.** The seminar explores the nature and underlying mechanisms of attention and consciousness. Topics include theories of attention and consciousness, attention and duration judgment, philosophical perspective on consciousness, subliminal perception, implicit learning, and animal consciousness. Prerequisite: graduate students in psychology and philosophy or permission of instructor. (3)
- 541. MENTAL RETARDATION AND DEVELOPMENTAL DISORDERS I.** Structural aspects of reduced function including genetic, glandular, neurological, and psychiatric considerations. Prerequisite: 12 hours in psychology. (3).
- 543. MENTAL RETARDATION AND DEVELOPMENTAL DISORDERS II.** Behavioral inadequacies including intellectual, social, motivational, emotional, and learning dysfunctions. Prerequisite: PSY 541. (3).
- 551. HISTORY AND SYSTEMS OF PSYCHOLOGY.** Historical development of psychology from classical Greece through 20th century. Prerequisite: 12 hours of psychology. (3).
- 553. THEORIES OF LEARNING.** Theories of Thorndike, Pavlov, Guthrie, Skinner, Hull, and Tolman. Prerequisite: 12 hours in psychology. (3).
- 555. PSYCHOLOGY COLLOQUIUM.** Presentation of current research by students and visiting psychologists. Prerequisite: 12 hours of psychology. (Z grade). (1).
- 561. CROSS-CULTURAL TRAINING.** The course will survey cross-cultural training programs designed to introduce people from one cultural background to ways of interacting effectively in a culture other than their own. (3).
- 599. CLINICAL STAFFING.** Case presentation of clients seen in practicum. Prerequisite: admission to clinical program. (May be repeated for credit). (Z grade). (1).

RADIO AND TELEVISION *See the Department of Journalism.*

READING *See the Department of Curriculum and Instruction.*

RELIGIONS *See the Department of Philosophy and Religion.*

ROTC PROGRAMS *See Aerospace Studies; Military Science; and Naval Science.*

SCHOLARS PROGRAM *See the McDonnell-Barksdale Honors College.*

SECONDARY EDUCATION *See the Department of Curriculum and Instruction.*

SOCIAL SCIENCE *See the College of Liberal Arts section on Departmental Major and Minor Requirements.*

SOCIAL WORK—SW

Associate Professor James D. Stafford, chair • 225 Hume

Associate Professor Mooers • Assistant Professors Eftink, Moore, and Shackelford

233. JUVENILE CORRECTIONS. History and development of corrections for youthful offenders; organization of juvenile courts and related services; emphasis on working with oppressed populations in these systems. (Same as SOC 233). (3).

315. INTRODUCTION TO SOCIAL WORK. An introductory systems approach to the professional and ethical knowledge, value, and skill base necessary for understanding generalist social work and the American social welfare system. Prerequisite: sophomore standing. (3).

316. SOCIAL WELFARE POLICY I. First of a two-part social welfare policy sequence. Review of the history, mission, and philosophy of social welfare, Consideration of major policy areas. Role of policy toward achievement of social justice and optimal health and well being for oppressed populations. Prerequisite: completion of SW 315 with a minimum grade of C. (3).

321. HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I. First of two courses which utilize biological, psychological, social, and cultural perspectives to examine human growth and development across the life span. Covers conception through adolescence. Considers the impact of families, groups, organizations, and communities upon development and behavior. Prerequisite: sophomore standing. (3).

322. HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II. Second of two courses which utilize biological, psychological, social, and cultural perspectives to examine human growth and development across the life span. Covers early through late adulthood. Considers the impact of families, groups, organizations, and communities upon development and behavior. Prerequisites: completion of SW 321 with a minimum grade of C. (3).

325. THE HELPING PROFESSIONAL IN THE HEALTH SETTING. An elective course to study the dynamics of illness, death, and grief, the psychosocial aspects of patient care within the health care system, common health care practices and terminology, and the roles of social workers and other helping professionals within the health care system. Prerequisite: junior standing. (3).

326. GERONTOLOGY: SOCIAL WELFARE ASPECTS. An elective course to study the aging processes and the social and personal adjustments accompanying this stage; examination of implications for social welfare planning and social service provision. Junior standing. (3).

335. SOCIAL WORK PRACTICE I. First in a sequence of three social work practice courses. An introduction to oral and written communication theories and skills utilized in establishing relationships, data gathering, and conducting assessments essential for generalist social work intervention with diverse individual, family, group, organizational, and community systems. Attention to ethical practice. Social work majors only. Prerequisites: completion of SW 315 and 321, each with a minimum grade of C. (3).

402. CHILD WELFARE POLICIES. Organization and components of child welfare services in a diverse society; examination of current problems, trends, and populations at risk. Prerequisite: junior standing. (3).

417. SOCIAL WELFARE POLICY II. Second part of a two-part social welfare policy sequence. Emphasis on the interconnectedness of social welfare policy and social work practice. Examination of the social worker's role in policy formulation. Exploration of current and proposed social welfare legislation, and analysis of social welfare policies. Prerequisite: SW 316 with minimum grade of C. (3).

436. SOCIAL WORK PRACTICE II. Second in the series of three practice courses. Utilization of the generalist problem solving model for interventions with individuals and families. Particular attention to oppressed populations and ethical practice. May be taken concurrently with SW 437. Social work majors only. Prerequisite: SW 335, with a minimum grade of C, and all lower level graduation requirements. (3).

437. SOCIAL WORK PRACTICE III. Third in the series of three practice courses. Utilization of the generalist problem solving model for social work with groups, organizations, and communities, with attention to achieving social justice for oppressed populations. Attention to ethical practice. May be taken concurrently with SW 436. Social work majors only. Prerequisite: SW 335, with a minimum grade of C, and all lower level graduation requirements. (3).

440. SOCIAL WORK RESEARCH. Research terminology, types and purposes of research, and research design. Role of research in evaluation of social work practice. Formulation and examination of research questions, reaching valid conclusions, reporting results, basic data analysis techniques, quantitative vs. qualitative methods, and ethics in research. Prerequisites: SW 315, 321, each with a minimum grade of C.(3).

450. FIELDS OF SOCIAL WORK. An examination of specific social work professional settings, to assist students in decision making about internship options. To be taken in the semester prior to internship. Social work majors only. Senior standing. (1).

459, 460. DIRECTED STUDY IN SOCIAL WORK. Individual study in specialized areas. Senior social work majors only. Consent of instructor required. (3).

495. SOCIAL WORK INTERNSHIP. Internship to facilitate the integration of curriculum content through supervised experiences with diverse client systems. Internship locations limited to departmentally approved settings in Mississippi and Shelby County, Tennessee. Prerequisites: All other degree requirements must be completed prior to the internship. Approval of social work faculty is required. (9). (Z grade).

496. INTERNSHIP SEMINAR. Integrative seminars designed to foster critical linkages between classroom instruction and field experiences, provide students an opportunity to discuss mutual concerns, and focus on achieving internship objectives. Must be taken concurrently with SW 495. (3).

SOCIOLOGY AND ANTHROPOLOGY

Professor Max W. Williams, acting chair • Leavell Hall

Professors Frate, Johnson, Long, and Thorne • Associate Professors Ford, Grisham, Kurtz, Lake, and Sisson • Assistant Professors Dellinger, Ethridge, and Jackson

Anthropology–ANTH

101. INTRODUCTORY ANTHROPOLOGY.⁷ The science of man, a comparative and functional analysis of man and culture; relationships between various aspects of culture: subsistence, technology, social and political organization, economics, custom, and language. (3).

102. INTRODUCTORY ANTHROPOLOGY. An introduction to physical anthropology and archaeology. Origins and development of man, variation in contemporary human populations, survey of man's cultural evolution. (3).

103. TOPICS IN ANTHROPOLOGY. Selected topics in anthropology. Content varies. (May be repeated for credit). (3).

201. ANTHROPOLOGICAL FILMS. The use of films in anthropology. (3).

301. HISTORY OF CULTURE. Origins of culture traced by means of archaeological evidence and presented to show the continuity of social life from basic human beginnings to present-day civilization. (Same as G ST 302). (3).

303. CULTURAL ANTHROPOLOGY. Study of the functional interrelationships of family, kinship, marriage, and other institutions illustrated with examples from various societies. (3).

⁷ Anthropology 101 and 102 may be taken in either sequence.

304. PHYSICAL ANTHROPOLOGY. The course draws on data from studies of primate behavior, human paleontology, population genetics, and archaeology in order to better understand man's biological evolution and biological variations in contemporary human populations. (3).

305. ARCHAEOLOGY. An overview of archaeology as a subdiscipline of anthropology. The course will trace the historical development of the field, review methods and techniques, and outline the contributions of prehistoric studies to our understanding of man. (3).

307. PEOPLES OF AFRICA. Ethnographically known hunting and gathering groups in Sub-Saharan Africa; their origin, differences, and relationships to more technologically advanced groups. (Same as AFRO 307). (3).

309. INDIANS OF MISSISSIPPI AND THE SOUTH. Review of the archaeological and ethnographical prehistory of such groups as the Choctaw, Chickasaw, and the Natchez. (3).

311. PREHISTORY OF MEXICO AND CENTRAL AMERICA. A general introduction to the prehistory of Mexico and Central America; the origins of agriculture and settled village life; the civilization of Teotihuacan, the Maya, the Toltec, and the Aztecs. (3).

313. INTRODUCTION TO LINGUISTIC SCIENCE. Introduction to general linguistic principles, with emphasis on the application of language study in other fields. (Same as ENGL 313 and LING 313). (3).

315. AN INTRODUCTION TO LATIN AMERICAN STUDIES I. (This course may not be used to fulfill the language requirement). (Same as LAS 315 and SPAN 315). (3).

316. INTRODUCTION TO LATIN AMERICAN STUDIES II. (This course may not be used to fulfill the language requirement). (Same as LAS 316 and SPAN 316). (3).

317. INDIANS ON THE SOUTHERN FRONTIER. Examines the place of Native Americans in the South during the frontier era (A.D. 1500-1840), focusing on the changes in Native American life once they became incorporated into the larger world as a result of European colonization. (3).

319. ENVIRONMENTAL HISTORY OF THE SOUTH. Explores the changes in the Southern environment from the prehistoric era to the modern era, focusing on issues of human/environment interaction, changing patterns of land use, and the subsequent changes in the environment. (3).

323. INDIANS OF NORTH AMERICA. Representative cultures and culture areas of North America; their relationships and differences. (3).

325. INDIANS OF MIDDLE AMERICA. Ancient civilizations of Mexico and Central America; Aztec, Mayan, and related cultures as revealed by archaeological and historical sources. Emphasis varies. (May be repeated once with permission of instructor). (3).

326. ARCHAEOLOGY OF MAYA CIVILIZATION. The origins and prehistory of Maya society; classic Maya civilization, its art, writing, and social organization. (3).

327. INDIANS OF SOUTH AMERICA. Representative cultures and culture areas of South America; their relationships and differences; the Inca and other ancient civilizations of the Andes. (3).

329. ARCHAEOLOGY AND ETHNOHISTORY OF AZTEC EMPIRE. The archaeology and ethnohistory of the Aztec Empire and contemporary societies in the central highlands of Mexico. (3).

331. ARCHAEOLOGY OF THE UNITED STATES. The prehistoric past of native American cultures from settlement of New World to European contact. (3).

333. PRE-COLUMBIAN ARTS. Interdisciplinary approach to the history of the arts of middle America from 1500 B.C. to the present, covering Olmec, Maya, Mixtec, and Aztec civilizations. (Same as ARHI 333). (3).

334. INTRODUCTION TO FIELD WORK TECHNIQUES. Examination of the theory, practice, and tradition of documentary field research, including the use of photography, film and video, and tape recorders. Special emphasis of documentary study of the American South. (Same as SST 334, SOC 334, and ART 334). (3).

335. ARCHAEOLOGICAL FIELD SESSION. Intensive training in archaeological survey and excavation techniques and analysis of archaeological materials. (First summer session). Prerequisite: consent of instructor. (6).

337. ANTHROPOLOGY OF BLUES CULTURE. This course examines the blues in all its myriad social and cultural roles and contexts, using the anthropological models and approaches of the oral and musical arts, linguistics, ethnohistory, ethnography, religion and ritual analysis among others. (Same as AFRO 337). (3).

339. AFRICAN AMERICAN ANTHROPOLOGY. This course applies the theories, models, and methods of anthropology to an understanding of African American culture and the African-American experience in the Western Hemisphere, with emphasis on North America. Topics include religion, language, family and kinship, plantation society, post-emancipation adaptation, arts, and history. (Same as AFRO 339). (3).

341. FRAUDS, MYTHS, AND MYSTERIES. Did Atlantis exist? Did ancient astronauts visit the earth and introduce advanced technology? Topics such as these are investigated, comparing explanations offered by the pseudoscientific approach to those advanced by the scientific methods employed by archaeologists. (3).

345. PRIMITIVE TECHNOLOGY. Technological practices of primitive peoples: stone working, basketry, pottery, metallurgy. (3).

347. TECHNOLOGY AND CULTURE. The development of both technology and culture are codependent. The subject matter of this course will examine the relationships between development of advanced technology and increasingly complex cultures. (3).

351. TOPICS IN LATIN AMERICAN STUDIES. Content varies. (May be repeated for credit). (Same as ANTH 351, LAS 351, and SPAN 351). (3).

353. LANGUAGE AND CULTURE. Interrelations between language, thought, and culture; role of language in cognition; practical studies. (Same as LING 353). (3).

361. HISTORICAL ARCHEOLOGY. Study of the material culture, the history, and behavior of people living during the period of recorded history to gain an understanding of past lifeways. Primary focus on the Southern United States. (Same as AFRO 351). (3).

404. SOUTHERN FOLKLORE. History and contemporary role of folk culture in the South as shown in ballads, folk tales, religion, and folk arts and crafts. (3).

409. ANTHROPOLOGICAL THEORY. The nature of culture; major schools of anthropological thought; processes of cultural stability and change as revealed by the data of ethnology and archaeology. Prerequisite: ANTH 101 and 102 or equivalent. (3).

413. PEOPLES OF THE PACIFIC. Comparative study of the island cultures of the Pacific, including Australia, from their settlement to modern times; their political and strategic significance. (3).

509. INDIANS OF MISSISSIPPI AND THE SOUTH. An in-depth study of the prehistoric and historic Indian populations of the southeastern United States with emphasis on Mississippi. (3).

511, 512. CROSS-CULTURAL STUDIES IN ETHNOGRAPHY I, II. Comparative study of the culture areas of the world, emphasizing the effects of ecology in the differential development of culture. Prerequisite: written consent of the instructor. (3, 3).

527. INDIANS OF SOUTH AMERICA. Representative culture areas of South America; relationships between areas and adaptive differences. (3).

534. STUDIES IN DOCUMENTARY FIELD WORK. Interdisciplinary study of the theory, practice, and tradition of documentary field research through readings, photography, films and video tapes, audio recordings, and field notes. (Same as S ST 534, ART 534). (3).

541. INDIVIDUAL STUDY PROJECT. Prerequisite: consent of instructor. (3).

571. LABORATORY METHODS IN ANTHROPOLOGY.⁸ An overview of the analytical techniques of archaeology, emphasizing their development, application, and literature. (1-6).

572. LABORATORY METHODS IN ANTHROPOLOGY: QUANTITATIVE TECHNIQUES. An examination of the theory and techniques of quantitative analysis in anthropology with particular emphasis on practical application. (3).

595. SEMINAR IN LINGUISTICS. (Same as ENGL 595 and LING 595). (3).

597. MEDICAL ANTHROPOLOGY. Social factors in health and illness. Social influences on need, demand, provision, and compliance with medical care. (Same as PHAD 597). (3).

⁸ Not more than 6 hours of laboratory courses and field courses may be used for the major.

599. HEALTH CARE IN CONTEMPORARY SOCIETY. Development, current organization, and financing of the contemporary health care system in the United States from a comparative perspective. Specific topics include provider socialization, provider-consumer interaction, health care as an industry, and the health care system of the future. (Same as SOC 599 and PHAD 599). (3).

Geography–GEOG

101. PRINCIPLES OF GEOGRAPHY I. An examination of geographic factors that influence cultural and economic diversity. (3).

102. PRINCIPLES OF GEOGRAPHY II. A survey of principles used to describe and analyze geographic patterns. (3).

302. GEOGRAPHY OF NATURAL RESOURCES. Identification and analysis of geographic factors which influence development, distribution, and consumption of natural resources. (3).

Sociology–SOC

101. INTRODUCTORY SOCIOLOGY I. Concepts and methods necessary for studying society. (3).

102. INTRODUCTORY SOCIOLOGY II. Analysis of major social institutions and social trends. Prerequisite: 101. (3).

201. TOPICS IN SOCIOLOGY. Content varies. (May be repeated for credit). (3).

211. SOCIAL PROBLEMS. An analysis of the major problems of American society: magnitude, and major approaches to their treatment. Prerequisite: SOC 101. (3).

215. METHODS AND TECHNIQUES OF SOCIAL RESEARCH. Introduction to social scientific inquiry; basic concepts and techniques of gathering, analyzing, and interpreting information about social life. (3).

233. YOUTH CORRECTIONS. Prerequisite: SOC 101. (Same as SW 233). (3).

250. THE SOCIOLOGY OF PSYCHIC PHENOMENA. Sociological factors in the history and development of psychical research; place of spiritualism, altered states of consciousness, mystical experiences as special forms of behavior; case studies, spontaneous occurrences, laboratory research. Prerequisite: SOC 101 or junior or senior standing. (3).

301. THE FAMILY. The American family as an institution and a group of interacting persons; the nature and problems of courtship, husband-wife, and parent-child relationships. Prerequisite: SOC 101, or junior or senior standing. (Same as G ST 303). (3).

303. THE SOCIOLOGY OF DEATH AND DYING. Definitions and taxonomies of death. Changing attitudes and practices toward and locations for death. Death as an “official,” structural, interpersonal, and private event. Passing through “passing on”: stages in and the organization of death. Death and identity: physical, psychological, and social autopsies. (3).

307. URBAN SOCIOLOGY. The city as the nucleus of modern industrial society; its institutions, populations, ecology, and problems. Prerequisite: SOC 101. (3).

313. AMERICAN SOCIAL ORGANIZATION. The dynamics of American institutional development (e.g. the family, religion, economy, polity) with a focus on the processes of institutional change from their historical roots in Europe to social forms envisioned in the foreseeable future. (3).

315. LEISURE AND POPULAR CULTURE. Analysis of changes in the structure of work and leisure as related to the production, distribution and consumption of popular culture, both objective forms and practices. Special focus on popular music, media, sport, youth culture, and the outlaw as hero. (3).

317. THE SOCIOLOGY OF LITERATURE. An analysis of the organization, production, distribution, labeling, and consumption of literature as art. Topics include: (1) types of literature; (2) audiences; (3) the culture and commerce of publishing; (4) socialization of artists; and (5) criticism. (3).

- 321. SCIENCE, TECHNOLOGY AND SOCIETY.** An examination of the nature of relationships that exist between the development of a civilization and science as a concept and as a method, combined with technology as a series of engineering discoveries and inventions. (3).
- 323. OCCUPATIONS AND PROFESSIONS.** Selected occupational roles ranging from unskilled labor through the professions; requirements, rewards, and social adjustments from training to retirement. Prerequisite: SOC 101. (3).
- 325. SOCIOLOGY OF GENDER.** Examines the social and cultural construction of gender differences in contemporary U.S. society, focusing on the social history of gender roles and gender inequality in current cultural and institutional practices. Prerequisite: SOC 101. (3).
- 327. SOCIAL STRATIFICATION.** Analysis of the structure of social inequality. Special emphasis on the role of class and race in mobility processes as well as principal theories and research findings. Prerequisite: SOC 101. (3).
- 329. SOCIAL PSYCHOLOGY.** Sociological perspectives on the acquisition of social behaviors, attitudes, and perceptions; the formation of interpersonal relationships and group behavior. (3).
- 333. JUVENILE DELINQUENCY.** Causative factors in home, school, and community; extent of the problem; methods of prevention and treatment. Prerequisite: SOC 101 and 102 or junior or senior standing. (3).
- 334. INTRODUCTION TO FIELD WORK TECHNIQUES.** Examination of the theory, practice, and tradition of documentary field research, including the use of photography, film and video, and tape recorders. Special emphasis of documentary study of the American South. (Same as SST 334, ANTH 334, and ART 334). (3).
- 345. POPULATION TRENDS AND PROBLEMS.** Population distribution, composition, growth, migration, vital processes, and problems. Prerequisite: SOC 101. (3).
- 349. APPLIED DEMOGRAPHY.** Essentials of demography (data sources, population composition, structure, change, and distribution) and their application to the needs of government and business. (3).
- 351. SOCIAL CHANGE.** Nature of theories of social change; causes and types of social change; the social effects of invention in the modern world and the adjustments of contemporary social institutions to technological change. Prerequisite: SOC 101 or junior or senior standing. (3).
- 353. SOCIOLOGY OF INTERNATIONAL DEVELOPMENT.** Examines the central social scientific theories regarding the economic, political, and social development of nations. Focus on the evaluation of different approaches to international development in theory and practice. Prerequisite: SOC 101 or consent of instructor. (3).
- 359. SOCIOLOGY OF GLOBALIZATION.** Examines the causes and consequences of globalization from an interdisciplinary perspective. Focus on the evolution of the global economy, the formation of international political structures, and the emergence of global culture. Prerequisite: SOC 101 or consent of instructor. (3).
- 361. THE SOCIOLOGY OF EDUCATION.** The school as a social system; function and role of education in contemporary society; major trends. Prerequisite: SOC 101 or junior or senior standing. (3).
- 401. ADVANCED GENERAL SOCIOLOGY.** An integrated survey of sociological theory and method (focused on a substantive area of the discipline). Prerequisite: senior standing, major or minor in sociology. (3).
- 405. RESEARCH PRACTICUM.** Practical research experience through the development of social research designs, data collection and analysis. Prerequisite: senior major. (Z grade). (3).
- 409. THE SOCIOLOGY OF KNOWLEDGE.** Relationships between the origin, nature, methods, and limits of human knowledge and the character and structure of society. Prerequisite: SOC 101. (3).
- 413. MINORITY GROUPS.** Cultural and ethnic minorities in the United States; relationships between minority and dominant persons. Prerequisite: SOC 101. (Same as AFRO 413). (3).

431. CRIMINOLOGY. Crime and delinquency; their causes, prevention, and treatment; nature, types, and extent of crime; preventive and correctional programs. Prerequisite: SOC 101 or junior or senior standing. (3).

501. STATISTICS. Introduction to descriptive and sampling statistics; emphasis on measures of central tendency, dispersion, linear correlation, and parametric tests of significance. (3).

502. SOCIAL RESEARCH METHODS. A survey of the practical applications of sociology in organizing, conducting, and interpreting social surveys and other forms of sociological research. Prerequisite: SOC 501. (3).

521. READINGS IN ADVANCED GENERAL SOCIOLOGY. (Z grade). (3).

531. LECTURES IN COMMUNITY ORGANIZATION. Theoretical and pragmatic aspects of community problems and development. (3).

535. SOCIALIZATION AND SOCIETY. Critical examination of major theories of socialization and their support in contemporary research. Major focus is on the socialization community and on social change. (3).

545. SEMINAR IN POPULATION STUDIES. Population distribution, composition, growth, migration, vital processes, and problems. (3).

551. INDIVIDUAL STUDY PROJECT. Prerequisite: written consent of instructor. (3).

555. INDUSTRIAL SOCIOLOGY SEMINAR. Prerequisite: consent of instructor. (3).

561. SEMINAR IN INTRODUCTORY SOCIOLOGY. Subject matter in introductory sociology; its relationship to sociology as a scientific discipline. (3).

599. HEALTH CARE IN CONTEMPORARY SOCIETY. Development, current organization, and financing of the contemporary health-care system in the U.S. from a comparative perspective. Specific topics include provider socialization, provider-consumer interaction, health care as an industry, and the health-care system of the future. (Same as ANTH 599 and PHAD 599). (3).

SOUTHERN STUDIES—S ST

Professor Charles R. Wilson, director, Center for the Study of Southern Culture; Barnard Observatory

Associate Professor Ted M. Ownby, undergraduate adviser; 5 Bondurant

Professors Eagles, Jordan, Kartiganer, and M. Williams • Associate Professors Dean, Dewey, Ford, Fowler, Grisham, Harrington, Kullman, Long, McCauley, Namorato, Overby, Payne, Steel, and B. Williams • Assistant Professors Bertrand, Crouther, Ethridge, McKee, Watson, and Wharton

101. INTRODUCTION TO SOUTHERN STUDIES I. Defines the Southern region by studying its people, environment, and culture. (3).

102. INTRODUCTION TO SOUTHERN STUDIES II. The development of the Southern region, with emphasis on the economy, social structure, politics, and arts. (3).

304. INTRODUCTION TO FIELD WORK TECHNIQUES. Examination of the theory, practice, and tradition of documentary field research, including the use of photography, film and video, and tape recorders. Special emphasis on documentary study of the American South. (Same as ANTH 334, SOC 334, ART 334). (3).

303. WOMEN IN THE SOUTH. (Same as HIS 336 and ENGL 310). (3).

401. SOUTHERN STUDIES SEMINAR: SOCIETY. An interdisciplinary seminar that examines the South through a close study of social groups, social structures, and social forces. The seminar explores the social traits that have provided the foundation for Southern regional distinctiveness, using the methodology of the New Social History pioneered by European historians. Course work involves reading, discussion, and preparation of a research paper. (3).

402. SOUTHERN STUDIES SEMINAR: CULTURE. An interdisciplinary seminar that explores the South's past and the contemporary era, focusing on the literature, music, folklore, art and architecture, religion, and other cultural forms that have been especially associated with the region. The seminar looks at the South as a geographical culture area and attempts to outline the characteristic cultural ways in the region. Course work involves reading, discussion, and preparation of a research paper. (3).

406. SOUTHERN LITERATURE AND THE ORAL TRADITION. Sermons, folk tales, ballads, blues, and other oral forms in works of writers such as A.B. Longstreet, Mark Twain, William Faulkner, Richard Wright, Eudora Welty, and Ernest Gaines. (3).

534. STUDIES IN DOCUMENTARY FIELD WORK. Interdisciplinary study of the theory, practice, and tradition of documentary field research through readings, photography, films and video tapes, audio recordings, and field notes. (Same as ANTH 534, ART 534). (3).

598. SPECIAL TOPICS. Interdisciplinary study of specialized topics in Southern culture. (3). The Southern Studies Program also includes the following courses: AFRO 201, 202, 306, 310, 325, 326, 329, 337, 420, 504, 593; ANTH 309, 334, 337, 404; ARHI 338, 348, 349, 350, 398; ECON 329, 422; ENGL 306, 312, 368, 422 (Tennessee Williams, Richard Wright), 466, 568, 569, 593, HIS 307, 308, 330, 331, 332, 333, 334, 335, 336, 337; MUS 317, 318, 321; POL 312, 513; REL 303, 503; SOC 315, 334, 345, 351, 413; THEA 521.

SPANISH *See the Department of Modern Languages.*

SPECIAL EDUCATION *See the Department of Curriculum and Instruction.*

SPEECH *See Department of Theatre Arts.*

SPEECH PATHOLOGY *See the Department of Communicative Disorders.*

STUDENT TEACHING *See the Department of Curriculum and Instruction.*

TELECOMMUNICATIONS—TC

Professor John N. Daigle, chair • 20 Anderson Hall

Associate Professor Holmes

201. INTRODUCTION TO TELECOMMUNICATIONS. Interdisciplinary analysis of technological developments and regulatory, political, financial, social, and other forces influencing electronic information management. (3).

210. VOICE TELECOMMUNICATIONS. Evolution of the switched network; telephone, PBX, and other customer premise equipment; carrier transmission and switching facilities; interoffice connection, signal methods and traffic problems. Prerequisite: 201 or consent of instructor. (3).

220. WIRELESS COMMUNICATIONS. Emphasizes the concepts of wireless communications, especially the new personal communications system (PCS), but also including microwave links, satellites, and cellular radiotelephony. System parameters such as channel capacity, modulation, and handoff are covered. Prerequisite: TC 201. (3).

330. INTERNSHIP IN TELECOMMUNICATIONS. Optional work opportunity for telecommunications students. Offered only in the summer between the junior and senior years. Provides a minimum of eight weeks of supervised work experience in telecommunications. (Z grade). (3).

403. TELECOMMUNICATIONS NETWORKS. A complete discussion of the concepts, terminology, functions, theories, and algorithms underlying network design. Included are analysis of requirements, sizing, routing, network modeling, and selection of final design. Prerequisite: TC 201. (3).

405. TELECOMMUNICATIONS MANAGEMENT. This course will explore the management of the telecommunications function. Primary emphasis will be on organizing for the telecommunications function, strategic planning, operational planning, functional operations, and the measurement and control of telecommunications effectiveness. Prerequisite: TC 201. (3).

409. CURRENT ISSUES IN TELECOMMUNICATIONS. A seminar which focuses on issues of current interest in telecommunications. Students are required to submit a term project. Off-campus experts will be guest lecturers. Prerequisite: TC 201. (3).

415. TELECOMMUNICATIONS LABORATORY. Multiplexing techniques; modulation methods; sampling; electronic switching. Prerequisite: ENGR 360, 361. (1).

431. SATELLITE TELECOMMUNICATIONS. Survey of recent developments in the use of satellites in corporate communications, the creation of alternate broadcast networks, videoconferencing, telemedicine, and education. (3).

432. LOCAL AREA NETWORKS. A study of wideband telecommunications systems available to connect terminals, facsimile machine, printers, computers, etc., to a common transmission medium within an organization. Prerequisite: CSCI 361. (3).

433. OPTICAL FIBER TELECOMMUNICATIONS. Address the engineering and cost benefits of optical fiber systems. Discuss and define the important engineering parameters. Limitations and capabilities will be discussed. Comparison to other communications systems will be made. (3).

491. SPECIAL TOPICS IN TELECOMMUNICATIONS. A concentrated study of a specific instructor-approved telecommunications topic. Topics are mobile communications, traffic engineering, information theory, synchronous digital networks, and advanced fiber-based systems. Students can earn up to 6 hours toward telecommunications degree requirements. (3).

The Telecommunications emphasis may include courses from Computer Science 361, 561; Electrical Engineering 335, 336, 447; Journalism 571, 573; Management Information Systems 241, 307, 309; and Telecommunications 210, 220, 330, 403, 405, 409, 431, 432, 433, 491.

THEATRE ARTS

Professor James E. Shollenberger, chair • 302 Fine Arts Center

Associate Professors Foregger, McCoy, Mizenko, Pulliam, and Varland • Assistant Professors Coy, Cuomo, Deighton, and Edwards

Speech–SPCH

102. FUNDAMENTALS OF PUBLIC SPEAKING. Fundamentals of organizing, preparing, and delivering speeches in a variety of public forums. (3).

105. BUSINESS AND PROFESSIONAL SPEECH. Preparation of the speech outline, frequent performances in business situations requiring effective communicative practices. (For students in business, engineering, court reporting, and pharmacy). (3).

107, 108; 207, 208; 307, 308; 407, 408. FORENSICS I-VIII. Active participation in intercollegiate forensic and debate tournaments. Only 4 hours credit can be counted toward a degree in the College of Liberal Arts. (1, 1, 1, 1, 1, 1, 1, 1).

110. BASIC VOICE AND DICTION. Study of the physical bases of speech; concentrated work for the individual improvement of voice, articulation, pronunciation, and expressiveness. (Nonmajors only). (3).

314. INTERCOLLEGIATE DEBATING. (3).

Theatre–THEA

110, 111. FRESHMAN PERFORMANCE STUDIES I, II. Concentrated studio training emphasizing improvisation, introduction to Stanislavski technique, individual attention to basic acting process. Prerequisite: consent of instructor. (2, 2).

163. INTRODUCTION TO MUSICAL THEATRE PERFORMANCE. Beginning studies in the styles and genres of British and American musical theater. (Theatre arts majors only). (2).

164. MUSICAL THEATRE PRACTICUM I. Voice and movement studies for the musical theater student. Prerequisite: consent of instructor. (1).

168. FUNDAMENTALS OF VOICE AND DICTION. Study of the physical bases of speech; exercises to improve breathing, physical alignment, use of resonators. Prerequisite: consent of instructor. (2).

169. VOICE AND DICTION DEVELOPMENT. Study of technical processes of vowel and consonant production; exercises to improve breathing, physical alignment, use of resonators. Prerequisite: THEA 168. (2).

201. APPRECIATION OF THE THEATRE. Appreciation of the theatre as a performance art; developing perceptive audience standards through demonstrations of the unique characteristics of theatre. (For nonmajors only). (3).

210, 211. SOPHOMORE PERFORMANCE STUDIES I, II. Concentrated studio training emphasizing vocal power, techniques of role preparation and character development. Prerequisites: Satisfactory completion of THEA 110, 111, and freshman juried recital. (3, 3).

220. BUSINESS AND EMPLOYMENT PRACTICES IN PROFESSIONAL THEATRE. Techniques for audition/portfolio preparation and presentation, interviewing, networking, how to utilize agents and managers, characteristics and advantages of unions in professional theatre. (2). Prerequisite: THEA 110, 111, or consent of instructor.

230. MOVEMENT FOR THE ACTOR I. Laban principles of effort as applied to stage movement, monologues, and mask work. (2).

231. MOVEMENT FOR THE ACTOR II. Continued exploration of Laban principles; exposure to Restoration and Elizabethan movement and manners. (2).

240. MAKEUP. Media and techniques in application of makeup for stage and television. (3).

260. FUNDAMENTALS OF ACTING. Basic techniques of acting for the modern stage. (For nonmajors only). (3).

263. MASK AND MOVEMENT TECHNIQUES. Studies in mask and movement techniques for the actor. Prerequisite: consent of instructor. (2).

264. MUSICAL THEATRE PRACTICUM II. Voice and movement studies for the musical theatre student. Prerequisite: consent of instructor. May be repeated once for credit. (1).

265. BASIC ACTING TECHNIQUES. Studies in essential performance skills. Prerequisite: consent of instructor. (3).

271. INTRODUCTION TO STAGECRAFT. Introduction to standard practices and terminology of stagecraft. (3).

272. INTRODUCTION TO COSTUMES FOR THE STAGE. An introduction to various aspects of costuming, such as construction, crafts, crew work, shop duties. Prerequisite: Declared theatre major. (3).

273. COSTUME CONSTRUCTION. Practical experience constructing garments for use on stage, covering both contemporary and period clothing. Prerequisite: THEA 272. (3).

274. THEATRE DESIGN GRAPHICS. Introduction to techniques of mechanical drawing, perspective, figure drawing, and use of color for the theatre arts. Prerequisite: consent of instructor. (3).

275. INTRODUCTION TO SCENE PAINTING. Introduction to principles, techniques and media for scene painting in the theatre. (3).

276. FUNDAMENTALS OF COMPUTER-AIDED DESIGN FOR THEATRE. Introduction to computer-aided design principles and software for theatre applications. Prerequisite: THEA 274. (3).

277. INTRODUCTION TO PATTERNMAKING. An introduction to drafting patterns using both flat pattern and draping techniques. Prerequisite: THEA 273. (3).

278, 279, 379, 477. THEATRE PRODUCTION TECHNIQUES I-IV. Production practicum for theatre performances using traditional and advanced methods and technology. Prerequisite: consent of instructor. (3 each).

291, 292, 391, 392, 491, 492. PRODUCTION STUDIES I-VI. Supervised projects in fundamental aspects of technical productions. (Z grade). (2 each).

301. SCENE STUDIES I. Concentrated scene work drawn from contemporary dramatic plays. Prerequisite: consent of instructor. (2).

302. SCENE STUDIES II. Concentrated scene work drawn from contemporary comic plays. Prerequisite: consent of instructor. (2).

307. ACTING FOR FILM AND TELEVISION I. Concentrated study of essential techniques and terminology of film and television acting. Prerequisite: consent of instructor. (2).

308. ACTING FOR FILM AND TELEVISION II. Scene study using one and two-camera formats. Prerequisite: consent of instructor. (2).

310, 311. JUNIOR PERFORMANCE STUDIES I, II. Concentrated studio training emphasizing vocal development, movement techniques, script analysis and scene work drawn from contemporary drama. Prerequisite: satisfactory completion of THEA 210 and 211. (3, 3).

320. THEORY AND PRACTICE OF DRAMA. Examination of major dramatic theories and styles as they relate to both the practice and the literature of theatre. Prerequisite: consent of instructor. (3).

321. THEATRE HISTORY. Examination of the major periods of theatre history with specific emphasis on the relationship between theatre and the broader culture of each. (3).

323. MODERN AMERICAN DRAMA. Study and analysis of American dramatic literature from 1920 through 1949. (3).

324. MODERN AMERICAN DRAMA. Study and analysis of American dramatic literature from 1950 to the present. (3).

325. HISTORY OF MUSICAL THEATRE. Study of the evolution of musical theatre in the United States from 1850 to the present. (3).

330. MOVEMENT FOR THE ACTOR III. Principles of unarmed stage combat, including introduction to martial arts. (2).

331. MOVEMENT FOR THE ACTOR IV. Principles of weapons combat for the stage, including broadsword, rapier and dagger, quarterstaff. (2).

364. MUSICAL THEATRE PRACTICUM III. Voice and movement studies for the musical theatre student. Prerequisite: consent of instructor. May be repeated once for credit. (1).

370. INTRODUCTION TO SCENIC DESIGN. Introduction to scenic design for the theatre with emphasis on script analysis, elevations and techniques of rendering. (3).

- 371. PERIOD PATTERNMAKING.** Making patterns for period garments using flat pattern and draping techniques. Prerequisite: THEA 277. (3).
- 372. INTRODUCTION TO LIGHTING DESIGN.** Introduction to lighting design with emphasis on script analysis, the functions of light for the production and the development of the light plot. (3).
- 374. INTRODUCTION TO THE HISTORY OF DRESS AND DÉCOR I.** Survey of period styles in dress and décor as relevant to theatre arts from ancient Egypt to 1600. (3).
- 375. INTRODUCTION TO COSTUME DESIGN.** Introduction to costume design for the theatre with emphasis on script analysis, figure drawing and rendering, character definition and control of the design elements. (3).
- 376. BASIC PATTERN DRAFTING AND DRAPING.** Study of essential techniques in creating basic sloper patterns and developing those patterns into modern or period garments. Prerequisite: THEA 273 or consent of instructor. (3).
- 377. INTRODUCTION TO THE HISTORY OF DRESS AND DÉCOR II.** Survey of period styles in dress and décor as relevant to theatre arts from 1650 to the present. (3).
- 378. THEATRE PRODUCTION TECHNIQUES V.** Production practicum for theatre performances using traditional and advanced methods and technology. Prerequisite: consent of instructor. (3).
- 385. INTRODUCTION TO THEATRE MANAGEMENT.** Analysis and promotion, finance, and organization of educational, professional, and community theatre. Prerequisites: THEA 271 and consent of instructor. (3).
- 393, 394, 493, 494. PRODUCTION STUDIES FOR DESIGNERS I-IV.** Supervised projects in advanced techniques of technical production; projects critiqued and evaluated by design faculty. (3,3,3,3).
- 410, 411. SENIOR PERFORMANCE STUDIES I, II.** Concentrated studio training emphasizing dialects, period movement, verse analysis and scene work drawn from period drama. Prerequisite: satisfactory completion of THEA 310 and 311. (3, 3).
- 421. MUSICAL THEATRE LITERATURE I.** Studies of American musical theatre literature from 1850 to 1930. (3).
- 422. MUSICAL THEATRE LITERATURE II.** Studies of American musical literature from 1930 to the present. (3).
- 440. COSTUME DESIGN FOR FILM AND TELEVISION.** An introduction to costumes for feature films, television, commercials, and video. Prerequisite: consent of instructor. (3).
- 441. COSTUME SHOP MANAGEMENT.** Introduction to functions of a professional costume shop, including budgets, fittings, working with designers, rentals, supervision of staff. Prerequisite: consent of instructor: (3).
- 463. MUSICAL THEATRE PRACTICUM IV.** Voice and movement studies for the musical theatre student. Prerequisite: consent of instructor. May be repeated once for credit. (1).
- 465. MUSICAL THEATRE PERFORMANCE I.** Basic techniques of performing in musical comedy. Prerequisite: consent of instructor. May be repeated once for credit. (3).
- 466. MUSICAL THEATRE PERFORMANCE II.** Practical experience in performance and production of musical comedy scenes. Prerequisite: consent of instructor. May be repeated once for credit. (3).
- 470. SCENIC DESIGN.** In-depth exploration of the basic principals and techniques of scenic design with emphasis on conceptualization and composition. (3).
- 471. LIGHTING DESIGN.** In-depth exploration of the basic principals and techniques of lighting design with emphasis on conceptualization, color theory and the physics of light. (3).

- 474. COSTUME DESIGN.** A technical approach to costume design through an introduction to textiles, dyes, fabric modifications, and dressmaker details. Prerequisite: consent of instructor. (3).
- 475. CAD PATTERN DRAFTING.** Introduction to the use of AutoCAD in drafting period costumes. Prerequisite: THEA 376 or consent of instructor. (3)
- 476. INTRODUCTION TO SCENE PAINTING.** Introduction to the use of standard scenic painting media and techniques in traditional and modern scene painting. Prerequisite: THEA 275 or consent of instructor. (3).
- 478. ADVANCED COMPUTER-AIDED DESIGN FOR THEATRE.** Practical use and application of computer-aided design programs in the scene design process. Prerequisite: THEA 276. (3)
- 481. DIRECTING.** Role and responsibilities in organizing and coordinating elements of play production. Prerequisite: consent of instructor. (3).
- 482. DIRECTING TECHNIQUES.** Supervised studio projects to develop competency in rehearsal techniques. Prerequisite: consent of instructor. (3).
- 484. DIRECTING PRACTICUM.** Supervised studio projects designed to demonstrate proficiency in directing. Prerequisite: consent of instructor. (2).
- 485. FUNDAMENTALS OF STAGE MANAGEMENT I.** Development of experience and familiarity with all technical and mechanical operating systems used in contemporary professional theatre. (1). Prerequisite: THEA 271, 272, 273, or consent of instructor.
- 486. FUNDAMENTALS OF STAGE MANAGEMENT II.** Development of experience and familiarity with techniques of organizing auditions, preparing and maintaining prompt books, and calling shows. Prerequisite: THEA 485. (1).
- 499. SENIOR REVIEW.** A capstone course assessing the attained knowledge of theatre for B.A. and B.F.A. students. Course will cover theatre history, theatre literature, and career planning, including the structure and processes of professional theatre. Prerequisite: senior status. (Z grade). (1).

All 500-level courses in theatre arts can be taken only for graduate credit.

- 505, 506. MOTION PICTURE TECHNIQUES I, II.** Methods and practices for the film performer. Prerequisite: consent of instructor. (3, 3).
- 521. THE BLACK PLAYWRIGHT IN AMERICA.** Development of black playwrights in American drama. (3).
- 561. ADVANCED ACTING.** Intensive exploration of acting problems, approaches and techniques. Combines lectures on acting theory with applied studio work. (3).
- 562. ADVANCED STAGE MOVEMENT.** Studies in movement techniques for the advanced actor. (3).
- 565. ADVANCED VOICE AND DICTION.** Methods of production; analysis and training of each student's voice; attention to individual career goals. (3).
- 566. ADVANCED ORAL INTERPRETATION FOR THE ACTOR.** Analysis and delivery of line studies and complete character studies of varying types and from various historical periods. Prerequisite: consent of instructor. (3).
- 569. ORIGINAL PERFORMANCE STUDIES.** A study in the creation of original performance works. Solo and group studies with nontraditional texts. (3).
- 570. SCENIC PAINTING FOR THE THEATRE.** Historical and modern theories and techniques of scenic painting for the theatre. (3).
- 571. ADVANCED THEATRE DESIGN GRAPHICS.** Exploration of the theory and techniques of drawing, composition and color as applied to design graphics for the theatre. (3).
- 572. ADVANCED STAGE COSTUMING.** Special problems in applied costume design, theory, and practice. Prerequisite: consent of instructor. (3).

573. ADVANCED STAGE LIGHTING. The history, properties and functions of stage lighting, including production styles, script analysis, lighting formulae, psychological implications of light, color, space and form, composition. (3).

576. HISTORY OF DRESS AND DÉCOR I. Historical survey of period styles in dress and décor as relevant to theatre arts from ancient Egypt to 1600. (3).

579. HISTORY OF DRESS AND DECOR II. Historical survey of trends, innovations, and developments in the history of dress and decor from 1600 to the present, as pertaining to theater arts. (3).

581. ADVANCED DIRECTING. All phases of theatre work; current theories of production; preparation of director's prompt book. Prerequisite: consent of instructor. (3).

582. ADVANCED DIRECTING TECHNIQUES. All phases of theatre work; current theories of production; preparation of production book. Prerequisite: consent of instructor. (3).

585. THEATRE MANAGEMENT. Promotion, finance and organization of educational, professional, and community theater; practical experience in university and experimental theatre. (3).

Dance–DANC

151. BALLET I. Introduction to the technical principles and stylistic elements of classical theatrical dance, including study of basic ballet theory and vocabulary. May be repeated for credit. (2).

152. CONTEMPORARY DANCE I. Fundamentals of contemporary concert dance technique, emphasizing the development of strength, flexibility, and body alignment. May be repeated for credit. (2).

153. JAZZ DANCE I. Introductory study of theatrical jazz dance technique through development of a standard jazz warm-up isolation work and locomotor movements. May be repeated for credit. (2).

154. TAP DANCE I. Introduction to tap dance technique, including study of basic tap vocabulary, fundamental rhythms, locomotor movements and tap styles. May be repeated for credit. (2).

200. DANCE APPRECIATION. Survey of the history and development of the major dance forms: ballet, contemporary, jazz, and tap, as they relate to Western social and artistic culture. (3).

251. BALLET II. Continuing development of the standard technique and vocabulary of classical ballet, with emphasis on expanded barre work and center practice. (2).

252. CONTEMPORARY DANCE II. Continuing study of contemporary dance technique, focusing on primary dance elements (space, rhythm, force, shape) and movement qualities. Emphasis on musicality, individual expression and creativity. May be repeated for credit. Prerequisite: DANC 152 or consent of instructor. (2).

253. JAZZ II. Continuing study of jazz dance technique, detailing standard jazz vocabulary and emphasizing development of strength, flexibility, control and rhythmic accuracy. Repeatable for credit. Prerequisite: DANC 153 or consent of instructor. (2).

254. TAP II. Expansion and development of tap dance technique and vocabulary, emphasizing speed, control, precise articulation, rhythmic accuracy and effective dynamics. Repeatable for credit. Prerequisite: DANC 154 or consent of instructor. (2).

255. THEATRE DANCE I. Development of a basic practical knowledge of choreographed movement in the musical theatre. Includes study of derivative musical/rhythmic forms and elementary Broadway dance vocabulary and styles. Repeatable for credit. Prerequisite: DANC 151 or 152 or consent of instructor. (2).

351. BALLET III. Progressive study of technical and theoretical principles of classical dance, emphasizing development of adagio and allegro vocabulary. May be repeated for credit. Prerequisite: DANC 251 or consent of instructor. (2).

- 352. CONTEMPORARY DANCE III.** Progressive development of contemporary concert dance technique, including study of relevant choreographers, dance styles and aesthetic valuing. May be repeated for credit. Prerequisite: DANC 252 or consent of instructor. (2).
- 353. JAZZ III.** Progressive development of jazz dance technique through application of relevant music theory and consideration of space, dynamics, phrasing and performance elements. Repeatable for credit. Prerequisite: DANC 253 or consent of instructor. (2).
- 354. TAP III.** Progressive and continuing study of tap dance technique, emphasizing advanced-level floor work and syncopations. Includes study and comparison of major tap styles and aesthetics. Repeatable for credit. Prerequisite: DANC 254 or consent of instructor. (2).
- 355. THEATRE DANCE II.** Continuing and progressive study of representative musical theatre dance styles, relative to period (1900 to present) and ethnic derivation. Repeatable for credit. Prerequisite: DANC 255 or consent of instructor. (2).
- 450. DANCE COMPOSITION I.** An introduction to dance composition creatively and objectively through the basic elements of dance, time, space, and energy. (2).
- 451. BALLET IV.** Progressive and continuing study of classical dance, emphasizing control, balance, strength and coordination in mastering technical and stylistic elements of ballet. Prerequisite: DANC 351 or consent of instructor. (2).
- 452. CONTEMPORARY DANCE IV.** Refinement and mastery of skills in contemporary concert dance through continuing in-depth study and evaluation of prominent modern dance theories, techniques, and choreographic approaches. Prerequisite: DANC 352 or consent of instructor. (2).
- 453. JAZZ DANCE IV.** Progressive study of jazz dance techniques through a comparative study of styles and methods. Emphasis on technical proficiency and mastery of body isolation/coordination in rhythmic syncopations. Prerequisite: DANC 353 or consent of instructor. (2).
- 454. TAP DANCE IV.** Refinement and mastery of tap dance skills, with emphasis on development of technique and styles of tap as a contemporary concert dance form. Prerequisite: DANC 354 or consent of instructor. (2).
- 455. DANCE COMPOSITION II.** Continuation of Dance 450, focuses on theme and variation vs. motif and development, silence, sound, and music. Includes a final choreography project suitable for stage presentation. (2). Prerequisite: DANC 450.
- 456. THEATRE DANCE REPERTORY I.** Development and performance of dance from the musical theatre repertory. May be repeated for credit. Prerequisite: consent of instructor. (2).
- 457. THEATRE DANCE REPERTORY II.** Development and performance of dance from the musical theatre repertory. May be repeated for credit. Prerequisite: consent of instructor. (2).
- 458. CONCERT DANCE REPERTORY I.** Development and performance of concert choreography. May be repeated for credit. Prerequisite: consent of instructor. (2).
- 459. CONCERT DANCE REPERTORY II.** Development and performance of concert choreography. May be repeated for credit. Prerequisite: consent of instructor. (2).
- 460. DANCE COMPOSITION II.** Composition study involving theme and variation, motif and development, silence, sound and music, utilization of properties and other art forms, and group work. Prerequisite: Two years of dance technique courses and DANC 450. (2).
- 461. BALLET V.** Advanced study of classical ballet. (2).
- 471. BALLET VI.** Advanced study of classical ballet. (2).

THEOLOGY *See the College of Liberal Arts Section on Departmental Major and Minor Requirements.*

UNIVERSITY STUDIES—UNIV

101. THE UNIVERSITY IN PRINCIPLE AND IN PRACTICE. The mission, values, and constituencies of a comprehensive public university; ethical and social concerns affecting its functioning. (Required of all matriculating undergraduates.) (1).

301. INTRODUCTION TO UNDERGRADUATE SCIENTIFIC RESEARCH. An introduction to principles and practices of scientific research. Topics include the scientific method, research design, responsible conduct of research, scientific literature, data analysis and presentation, writing reports, and oral presentations. This course may not be used for major or minor credit. Prerequisite: consent of instructor. (3).

URBAN ADMINISTRATION *See the Department of Political Science.*

ZOOLOGY *See the Department of Biology.*