business decision making process The focus will be on decision support systems and will provide introductions to important modern decision-aiding tools and approaches including network analysis, linear and non-linear programming, optimization, simulation, groupware, artificial intelligence (expert systems, neural networks, genetic programming), pattern recognition, executive information systems, data warehousing, and data mining. Prerequisites: ITM 153, 451 or CS 122, 392. *One semester; three credits*

■ INTERDISCIPLINARY STUDIES COURSE

IDS 101. DIMENSIONS OF FAITH AND CITIZENSHIP

This interdisciplinary course provides an introduction to faith and citizenship through an introduction to the Christian Brothers University community. The course asks students to identify and assess their roles and responsibilities as citizens in the multiple communities to which they belong. The core CBU and Lasallian values of faith, community, service, and integrity provide a context for understanding local, national, and global dimensions of faith and citizenship. Opportunities for community service will be offered. This course is designed as part of a shared first-year experience. All students enrolled in a section of IDS 101 will be required to enroll in a paired section of ENG 111, forming a learning community. *One semester; three credits*

■ LATIN COURSES

The foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of School of Arts concerning these classes.

LATN 101-102. ELEMENTARY LATIN

An introduction to the fundamentals of the Latin language. Although the primary goal of the elementary sequence of courses through Latin 201 is to prepare students to use Latin documents in a wide variety of academic contexts, students will develop all four language skills: reading, writing, listening, and speaking. Offered in sequence in Fall and Spring. *Two semesters; eight credits*

LATN 201. INTERMEDIATE LATIN

The final course in the elementary language sequence. To prepare students for the advanced reading courses, the course will emphasize reading and discussing documents primarily from the late republic and Augustan Age. In addition to developing their reading comprehension, students will continue to work on their aural-oral proficiency. Prerequisite: Latin 102 or the equivalent. Offered in Fall. *One semester; four credits*

LATN 210-219. READING COMPONENT IN LATIN.

Readings from classic texts of literature, history, culture, biography, or religion. Prerequisite: Latin 201 or the equivalent. Offered in Fall or Spring. *One semester; one to three credits*

■ MANAGEMENT COURSES

Requirements for the degree are found on Page 78.

MGMT 300. INTERNATIONAL BUSINESS & CULTURAL EXPERIENCE

This course introduces students to the business, political, economic, and cultural environments of a selected country. Experiential study, classroom lectures, and activities including site visits, guest lectures, and cultural experiences are integrated to develop a comprehensive understanding of the country selected. The course content includes a visit to the country selected for study. Open to all students with approval from the Dean of the School of Business. Students must have a valid passport. Course may be repeated for different countries. (Same as MKTG 300) *One semester; three credits*

MGMT 337. PRINCIPLES OF ORGANIZATION AND MANAGEMENT

An examination of the management functions and the basic concepts and principles of man-

agement. Major topics include the history of management, planning and decision making, organizational structure and design issues, leadership theory, and control. Social, legal and ethical principles and an international perspective are also developed. Prerequisite: Junior standing. *One semester; three credits*

MGMT 339. OPERATIONS MANAGEMENT
An in-depth look at the production/operations functions of organizations. Topics will include product and process strategies, quality programs, location and layout strategies, inventory control techniques, and a comparison of the operational strategies used by both manufacturing and service organizations. The course will integrate quantitative modeling with business problem solving. Prerequisites: STAT 222 and MGMT 337. *One semester; three credits*

MGMT 352. ORGANIZATIONAL BEHAVIOR
The psychology of organizations and their effect on individuals and groups. Topics include motivation theory, power and authority, communication, teamwork, leadership, job design and organizational structures. Other issues include globalization, cultural diversity, ethics and technology. Prerequisite: MGMT 337 and Junior standing. (Same as PSYC 352) *One semester; three credits*

MGMT 400. MANAGEMENT INTERNSHIP (Formerly BUS 400)
Under the supervision of a faculty member from the appropriate department, students in the School of Business, after receiving the approval of the faculty, are placed in the offices of cooperating firms to receive on-the-job training under the supervision of members of the firm. Credit is granted upon acceptance of periodic reports and a final summary report of work done verified by the authorized supervisor and the instructor. *Pass/Fail Grading. One semester; three credits*

MGMT 412. HUMAN RESOURCES MANAGEMENT
Personnel administration principles and philosophy. Man as employer and employee. Major topics include recruiting, hiring, training, promotion, health and welfare, and employee safety. In addition, the legal environment surrounding human resource issues will be studied. Prerequisite: MGMT 337. *One semester; three credits*

MGMT 420. INTERNATIONAL BUSINESS
An introduction to the field of international business and the implications of international trade and globalization upon American business. Topics include the comparison of political economies and cultures, global trade and investment strategies, foreign investment, regional economic integration, foreign exchange markets, strategic alliances and global marketing. Prerequisite: MGMT 337. *One semester; three credits*

MGMT 460-466. SPECIAL TOPICS IN MANAGEMENT
These courses are designed to permit intensive study into topics of special interest and timeliness in the area of Management. Prerequisite: MGMT 337. *One semester; three credits*

MGMT 490. SEMINAR IN LEADERSHIP
Readings, critical evaluation and analysis of selected topics in current management literature, research and practice. Individual and group analyses and presentations of assigned topics. Major research project to be presented to faculty and senior students. Prerequisites: MGMT 337, MKTG 311, and FIN 327. *One semester; three credits*

MGMT 498. BUSINESS POLICY/STRATEGIC PLANNING
This course will consist of a series of lectures and practice exercises in research methods and case analysis. The study of corporate and business level policy and strategy making is developed using a top-management perspective. A research report along with case analysis papers will be prepared by each member of the class. In-class case assignments will be used for discussion and evaluation. Prerequisite: ACCT 270 or 320; BLAW 301, 302; FIN 327; MGMT 337; MKTG 311; STAT

222. *One semester; three credits*

■ MARKETING COURSES

Requirements for the major are found on Page 79.

MKTG 311. PRINCIPLES OF MARKETING
Addresses the marketing functions directed toward organizational customers and prospects who buy goods and services necessary for the operation of their own businesses. Concepts of purchasing strategy, material management, and organizational buying behavior are integrated into electronic developments, strategic alliances and partnerships, and just in time. Prerequisite: Junior standing. Corequisite: STAT 222. *One semester; three credits*

MKTG 324. MARKETING RESEARCH AND INTELLIGENCE
The study of techniques and principles for systematically monitoring environments-collecting, recording, analyzing, and interpreting data that can aid decision makers who are involved with marketing of goods, services, or ideas. The application of intelligence and research findings in the development of marketing strategy is emphasized. The class employs research cases and projects to enhance students' practical research and intelligence skills. Prerequisite: MKTG 311. *One semester; three credits*

MKTG 334. MARKET AND CONSUMER BEHAVIOR
This investigation into consumer behavior brings together relevant research and applications from the behavioral sciences and other fields of marketing. The course will evaluate the decision process that individuals use as they obtain and use goods and services. The course will investigate the factors employed to identify and measure market segments. Emphasis is placed on an analysis of consumer behavior as a basis for marketing strategy. Prerequisite: MKTG 311. *One semester; three credits*

MKTG 338. SELLING AND SALES MANAGEMENT
This course will provide a detailed investigation of that portion of the Marketing Mix pertaining to promotion with specific emphasis on Personal Selling. While some discussion will be given to sales techniques, the major emphasis will be concerned with the management of the outside sales force and the activities of that sales force. Prerequisite: MKTG 311. *One semester; three credits*

MKTG 348. BUSINESS TO BUSINESS MARKETING
Addresses the marketing functions directed toward organizational customers and prospects who buy goods and services necessary for the operation of their own businesses. Concepts of purchasing strategy, material management and organizational buying behavior are integrated into electronic developments, strategic alliances and partnerships, and JIT. Prerequisite: MKTG 311. *One semester; three credits*

MKTG 400. MARKETING INTERNSHIP (Formerly BUS 400)
Under the supervision of a faculty member from the appropriate department, students in the School of Business, after receiving the approval of the faculty, are placed in the offices of cooperating firms to receive on-the-job training under the supervision of members of the firm. Credit is granted upon acceptance of periodic reports and a final summary report of work done verified by the authorized supervisor and the instructor. *Pass/Fail Grading. One semester; three credits*

MKTG 411. MARKETING POLICY AND STRATEGY
This course is aimed at bridging the gap between classroom training and the business/marketing environment. Case studies are developed to address marketing opportunities and problems. A methodology is developed to evaluate marketing situations within a logical and practical framework. This framework is supported by sound marketing theories and concepts. Instruction by the case method requires high participation by students. Emphasis is placed on the development

and implementation of marketing strategies to accomplish missions of organizations. Prerequisite: MKTG 311. *One semester; three credits*

MKTG 418. PHYSICAL DISTRIBUTION AND TRAFFIC MANAGEMENT
This course offers the basic elements of physical distribution. Topics include inventory management, warehouse location and management, packaging and materials handling, transportation modes and selection, and the interaction of these elements in an integrated physical distribution center. Prerequisite: MKTG 311. *One semester; three credits*

MKTG 433. PROMOTIONAL STRATEGY
This course is designed to provide the student with the communication processes used in marketing. The course builds on the base of an understanding of consumer behavior by treating the fields of advertising, sales promotion, personal selling, reseller stimulation, and other communications skills as part of the overall promotional mix. The course develops fundamental considerations as a background to a focus on managerial issues and problems. The various communication methods are treated as variables to communicate the want satisfying attributes of products and services. Prerequisite: MKTG 311. *One semester; three credits*

MKTG 440. ENTREPRENEURSHIP
This course provides a foundation for an understanding of the variables and functions in the start-up of new business ventures. More and more businesses are being started, and the opportunities are there for such actions. The development of strategic plans and feasibility studies are essential for successful introduction of new businesses. It includes the study of theory, while developing a practical knowledge of the marketing management system and key concepts for new ventures. This course is designed to enable new enterprises a stronger opportunity to achieve a higher quality of success. Prerequisites: MGMT 337 and MKTG 311. *One semester; three credits*

MKTG 460-466. SPECIAL TOPICS IN MARKETING
Courses are designed to permit intensive study into topics of special interest and timeliness in the area of marketing. Prerequisite: MKTG 311. *One semester; three credits*

■ MATHEMATICS COURSES

Requirements for the degree are found on Page 110 and 112.
Note: Most Mathematics courses require the use of a graphing calculator.

MATH 100. BASIC ALGEBRA
This course is designed for students who need a refresher in basic math skills. Topics include reviews of fractions, signed numbers, order of operations, factoring, exponents; algebraic expresiions; linear equations and inequalities in one variable; graphing points and lines in the Cartesian coordinate system; equations of lines. The course does not supply any portion of the mathematics credits required in any CBU degree program. You may not receive credit for MATH 100 after completing any mathematics course numbered above 100. *One semester; three credits*

MATH 103. FUNDAMENTALS OF ALGEBRA
The course is designed to give the student fundamental quantitative and algebraic skills needed in other mathematics and science courses. Topics include: equations and inequalities, absolute value, linear systems, exponents, factoring, rational expressions, rational exponents, quadratic equations, and functions. The course does not supply any portion of the mathematics credits required in any CBU degree program. You may not receive credit for MATH 103 after completing any mathematics course numbered above 103. Prerequisite: One year of high school algebra and passing a placement exam. *One semester; three credits*

MATH 105. FINITE MATH (Formerly MATH 112)
This course contains introductory topics in mathematics for students in arts and business. Topics

include lines, linear systems, matrices, linear programming, introduction to counting functions, polynomial, exponential and logorithmic models, financial math. Prerequisites: MATH 100 or 103 or Passing a placement exam. Offered in the Fall and Spring. See Math Center web page. *One semester; three credits*

MATH 106. APPLIED MATH WITH AN INTRODUCTION TO CALCULUS
(Formerly MATH 111) This course contains introductory topics in mathematics for students in arts and business. Topics include: functions; graphs; linear, polynomial, rational, exponential, and logarithmic models; introduction to differential and integral calculus. A student can receive credit for only one of MATH 106 or MATH 131. Prerequisite: MATH 105 or MATH 117. Offered in the Fall and Spring. *One semester; three credits*

MATH 117. PRECALCULUS
The goals of the course are to teach the student the basic concepts of college algebra, linear equations, quadratic equations, word problems, functions, graphs, exponential and logarithmic functions, right triangle trigonometry, trigonometric functions. The course stresses problem solving by the student with the use of a graphing calculator. A student can receive credit for only one of MATH 117 or 129. A grade of "C" or better in this course is required to proceed to MATH 131. Prerequisite: MATH 103 or equivalent. Offered in the Fall and Spring. *One semester; three credits*

MATH 129. FUNCTIONS AND ENGINEERING CALCULUS I
The goals of this course are to teach the student basic concepts of college algebra and trigonometry and important concepts of calculus and its applications. Topics include: linear and quadratic equations; algebraic, exponential, and logarithmic functions and their graphs; right triangle trigonometry; trigonometric function; the derivative and its interpretations; the definite integral and its interpretations; the Fundamental Theorem of Calculus; rules of differentiation and integration; and applications of derivatives and integrals. The course requires a graphing calculator and stresses problem solving. A student can receive credit for only one of MATH 117 or MATH 129 and for only one of MATH 129 or MATH 131. Six lectures and two recitation period per week. Prerequisite: MATH 103 or equivalent. *One semester; six credits*

MATH 131. CALCULUS I
The goals of the course are to teach the student important concepts of calculus and its applications. Topics include functions, the derivative and its interpretations, the definite integral and its interpretations, the Fundamental Theorem of Calculus, rules of differentiation, applications of the derivative and antiderivatives. Three lectures and one laboratory period per week. A student can receive credit for only one of MATH 117 or 129. Prerequisite: MATH 117. This prerequisite is waived for a student who passes a departmental placement test. A grade of "C" or better in this course is required to proceed to MATH 132. Offered in the Fall and Spring. *One semester; three credits*

MATH 132. CALCULUS II
The goals of the course are to teach the student additional important concepts of calculus begun in MATH 131. Topics include integration including parts, partial fractions and use of tables, applications of integration, differential equations and modeling, approximations using Taylor and Fourier polynomials and series. Prerequisite: MATH 129 or 131. Offered in the Fall and Spring. *One semester; three credits*

MATH 141. INTRODUCTION TO DISCRETE MATHEMATICS
This course considers a variety of discrete mathematical themes and subjects. These themes include problem solving, abstraction, representation, mathematical reasoning and proof, recursion, induction, modeling and synthesis. Topics include logic, graphs, sets, algorithms and combinatorics. Prerequisite: MATH 106 or 117 or MATH 129 or 131. Offered in the Spring

semester. *One semester; three credits*

MATH 151. NUMERICAL CONCEPTS FOR ELEMENTARY TEACHERS
This course includes concepts essential to mathematics foe elementary school teaching candidates. Topics include: set theory, numbers and numeration, number theory, rational numbers, and problem solving. This course does not meet the CBU General Education Math requirement. Prerequisite: MATH 100 or equivalent. Offered in the spring semester. *One semester; three credits*

MATH 152. MATH TOPICS FOR ELEMENTARY TEACHERS
This course includes concepts essential to mathematics for elementary school teaching candidates. Topics include: informal geometry, measurement, problem solving, descriptive statistics, and elementary probability. This course does not meet the CBU General Education Math requirement: Prerequisite: MATH 100 or equivalent. Offered in the fall semester.

MATH 201. APPLIED STATISTICS
The course concerns the use of statistical methodology in planning, presentation, analysis and interpretation of scientific experiments and field observations. Topics are chosen from elements of probability and statistical inference, including estimates of parameters, confidence intervals, tests of hypotheses for quantitative and qualitative observations, correlation, nonparametric methods. Its goal is to allow science majors to analyze real data in a correct statistical manner. Offered in the Fall semester. Prerequisite: MATH 129 or 131. *One semester; three credits*

MATH 231. DIFFERENTIAL EQUATIONS
This course is an introduction to the concepts and methods of ordinary differential equations. Topics include: first-order equations, elementary numerical methods, qualitative analysis, second-order homogeneous linear equations, the methods of undetermined coefficients and variation of parameters for nonhomogeneous equations, Laplace transforms, and models in science and engineering. Prerequisite: MATH 132. Offered in the Fall and Spring semesters. *One semester; three credits.*

MATH 232. CALCULUS III
Algebra of vectors in a plane and in space; the calculus of vectors; vector functions; basic concepts of multivariable calculus; partial derivatives; multiple integrals. Prerequisite: MATH 231. Offered in the Fall and Spring. *One semester; three credits*

MATH 301. GEOMETRY AND HISTORY OF MATHEMATICS
The course contains topics in geometry and the history of mathematics. Topics include Euclidean and non-Euclidean geometry, mathematical structures and the historical development of mathematical concepts. Prerequisite: MATH 132. Offered every other year. *One semester; three credits*

MATH 308. STATISTICS
The course considers statistical methods with applications in engineering and science. Topics are selected from an introduction to probability, descriptive statistics, sampling methods, design of statistical experiments, concepts of hypothesis testing and confidence intervals, correlation, linear regression and analysis of variance. Offered in the Spring semester. Prerequisite: MATH 232. *One semester; three credits*

MATH 309. PROBABILITY
The course considers fundamental topics in probability with applications in engineering and science. Topics are selected from: basic concepts in probability, random variables, expectation, variance, covariance, moment generating functions, common distributions such as binomial, hypergeometric, Poisson, geometric, uniform, normal, exponential, chi-square, T and F distribution, probability models, central limit theorem and functions of a random variable, bivariate,

marginal, and conditional distributions. Offered in the Fall semester. Prerequisite: MATH 232. *One semester; three credits*

MATH 329. APPLIED NUMERICAL ANALYSIS
The course teaches the student the basic techniques of modeling and numerical computation with emphasis on applications and the use of numerical software. Topics will be chosen from the following: modeling of physical systems with algebraic, differential and integral techniques; algorithms for approximation; fitting functions to data; algorithms for the solution of linear systems and for finding eigenvalues and eigenvectors; algorithms for the solution of differential and integral equations; Fourier transforms. Offered in the Fall semester. Prerequisite: MATH 232 and a computer language. *One semester; three credits*

MATH 401. LINEAR ALGEBRA
This course contains an introduction to the basic concepts of linear algebra; namely Gaussian elimination, the theory of simultaneous linear equations, determinants, vector spaces, eigenvalues, eigenvectors and linear transformations. The course includes applications of linear algebra to selected topics from engineering, biology, and business. Prerequisite: MATH 232. Offered in the Fall of every other year. *One semester; three credits*

MATH 402. ABSTRACT ALGEBRA
The course contains an introduction to some basic concepts of abstract algebra, namely groups, rings, and fields and includes applications. Prerequisite: MATH 232. Offered in the Spring semester of even numbered years. *One semester; three credits*

MATH 405. DISCRETE MATHEMATICS
This course is an introduction to graph theory and combinatorics. The topics will be chosen from the following: the basic properties of graphs and digraphs, graphs as models, Eulerian and Hamiltonian circuits, graph coloring, trees, network algorithms, generating functions, and recurrence relations. Prerequisite: MATH 231. Offered in the Spring of every other year. *One semester; three credits*

MATH 413. COMPLEX ANALYSIS (Formerly MATH 403)
This course concerns itself with the rudiments and techniques of complex analysis. Topics that are covered include: complex sequences, the derivative of a complex function, the Cauchy-Riemann equations, integration in the complex plane and the Cauchy-Goursat theorem, Cauchy's integral formula, Morera's theorem, Taylor and Laurent series, residue theory, and the evaluation of definite integrals. Prerequisite: MATH 232. Offered in the Fall semester of even numbered years. *One semester; three credits*

MATH 414. REAL ANALYSIS (Formerly MATH 302)
The course develops the theory of calculus. It stresses the proofs of the theorems for functions of one variable. Topics include sequences, series, functions, limits, continuity, differentiation and integration. Prerequisite: MATH 232. Offered in the Spring semester of odd numbered years. *One semester; three credits*

MATH 470-479. TOPICS IN MATHEMATICS
This course is designed to meet the current needs of the students and to express the particular interests of the instructor. Prerequisites: Junior standing, MATH 232 and Permission of instructor. *One semester; one to three credits*

MATH 481-482. SENIOR SEMINAR I AND II
The student conducts an independent investigation in some field of mathematics. The course requires both written and oral reports. In addition, the student must pass a comprehensive

assessment test in mathematics. Prerequisites: Junior or Senior standing and approval of the department head. Offered in sequence in the Fall and Spring. *One semester each; one and two credits respectively.*

■ MECHANICAL ENGINEERING COURSES

Requirements for the degree are found on Page 92.

ME 112. SCIENTIFIC PROGRAMMING
This course covers fundamental programming techniques used to solve engineering problems that require repetitive or iterative calculations. Emphasis is placed on writing structured, portable, efficient, and understandable Fortran programs. Also covered: interfacing Fortran codes with other languages and high-level applications, syntax for other computer languages. Corequisite: MATH 131. Offered in the Spring semester. *One semester; three credits*

ME 121. SOLIDS MODELING (Formerly ME 111)
Emphasis on visual aspects of engineering communications, expression of ideas, developing spatial concepts as related to design. Design is taught using 3-D modeling and parametric design. CAD applications. Offered in the Fall and Spring. *One semester; three credits*

ME 200. MECHANICS OF SOLIDS
Principles of statics, equilibrium of coplanar and non-coplanar force systems. Axial load, shear and bending moment diagrams. Differential equations of beams. Study of stresses due to axial, bending and torsional loads and combined loading. Mohr's circle of stress. Design techniques. Column design equations. Prerequisite: PHYS 150. (Same as CE 200) *One semester; three credits*

ME 201. MANUFACTURING PROCESSES
Production of common engineering materials. Heat treatment theory and processes. Study of machining, casting, metal forming, fabrication of plastics, ceramics, composites, welding, inspection, material testing, automation. Plant tours. Reports. Demonstrations. Two lectures and one three-hour lab each week. Prerequisite: ME 121. Offered in the Fall semester. *One semester; three credits*

ME 202. DYNAMICS
Kinematics and kinetics of particles and rigid bodies in two dimensions. Force-mass-acceleration, work-energy, and impulse-momentum methods will be covered. Prerequisites: ME 200 or CE 201. Offered in the Fall and Spring. *One semester; three credits*

ME 301. ENGINEERING INSTRUMENTATION LABORATORY
A laboratory course designed to instruct the student in the theory and use of various engineering instruments and transducers. Emphasis is placed on appropriate error analysis in the reduction, analysis, and reporting of data. Technical report preparation is emphasized. Two lecture periods and one laboratory period of three hours. (Same as ECE 201) Prerequisite: ECE 221. Offered in the Fall semester. *One semester; two credits*

ME 302. ENERGY SYSTEMS LABORATORY
Experimental study of basic fluid flow and heat transfer phenomena, flow-measurements, impulse turbine, centrifugal pump, fluid circuit systems, electrical analogies, basic heat conduction experiments, free and forced convention, thermal radiation, temperature measurements, subsonic wind tunnel model studies, lift and drag measurements. Technical report preparation and presentation is emphasized. One laboratory period of three hours and lecture. Prerequisites: ME 301, 313. Corequisite: ME 306. Offered in the Spring semester. *One semester; two credits*

ME 305. ENGINEERING THERMODYNAMICS I
Fundamental laws and basic development of the classical macroscopic approach to thermodynamics. First and second laws, state relations, cycles. Applications to engineering systems. Prerequisites:

MATH 132 and PHYS 150. Offered in the Fall and Spring. *One semester; three credits*

ME 306. HEAT TRANSFER
An introductory treatment of conduction, convection, and radiation heat transfer. Analysis of steady and unsteady heat conduction in simple geometries, boundary layer analysis and empirical correlations for convection, and basic theory of radiation heat transfer. Prerequisite: ME 313. Prerequisite or corequisite: MATH 329. Offered in the Spring semester. *One semester; three credits*

ME 312. MECHANICS OF DEFORMABLE SOLIDS
Axial load, shear, and bending moment diagrams. Differential equations of beams. Study of stresses due to axial, bending, and torsional loads and combined loading. Mohr's circle of stress. Design techniques. Column design equations. Prerequisite: CE 201. Offered in the Spring semester. *One semester; three credits.*

ME 313. FLUID MECHANICS
Mechanical and thermodynamic properties of fluids. Theory of fluid statics. Conservation laws in integral and differential form. Dimensional analysis and dimensionless groups. Dynamics of frictionless incompressible flow. Modified Bernoulli equation. Flow of viscous fluids. Pipe flow theory. Empirical formulas and charts. Introduction to boundary layer theory, turbulence, one-dimensional steady compressible flow, and open channel flow. Prerequisites: MATH 232 and ME 202, 305. Offered in the Fall semester. *One semester; three credits*

ME 314. ENGINEERING ECONOMY (Formerly ME 314 Engineering Factors in Design)
Fundamentals of engineering economy. Cost concepts. Time value of money and equivalence. Economic analysis of alternatives. Replacement analysis. Depreciation and after-tax analysis. Effects of inflation on economic analysis. (Same as CH E 314, ECE 314, CE 314) Prerequisite: Junior Standing. *One semester; three credits*

ME 316. ENGINEERING THERMODYNAMICS II
Concepts of reversibility, irreversibility, and availability. Power and refrigeration systems. First Law analysis of gas-vapor mixtures. Introduction to psychrometry. Thermochemical reactions including combustion processes, fuel properties, and equilibrium composition. Prerequisite ME 305. Offered in the Fall semester. *One semester; three credits*

ME 317. KINEMATICS
A study of relative motion and geometry of machine parts and mechanisms without reference to force or mass. Graphical and analytical solutions for the displacement, velocity, and acceleration of planar mechanisms. General case of acceleration including Coriolis component. Computer programming and numerical techniques applied to velocity and acceleration analysis of cycles. Prerequisites: ME 121, 202. Offered in the Fall semester. *One semester; three credits*

ME 318. DYNAMICS OF MACHINES
The dynamic analysis of machine parts by use of the principles of linear and angular momentum and the work-energy relationships. Graphical and analytical methods. Analysis and balancing of shaking forces in machines, flywheel analysis, basic gear analysis, gyroscopic forces in machines. Three lectures each week. Prerequisite: ME 317. Offered in the Spring semester. *One semester; three credits*

ME 319. PRINCIPLES OF PACKAGING
(Same as CH E 319). *One semester; three credits*

ME 320. DISTRIBUTION/MEDICAL DEVICE PACKAGING
(Same as CH E 320). *One semester; three credits*

ME 400. THE COMPLEAT ENGINEER (Same as CH E 400, ECE 400, and CE 400)
This course deals with a wide array of issues facing the practicing engineer. Topics include: engineering ethics; regulatory issues; health, safety, and environmental factors; reliability, maintainability, produciblity, sustainability; and the context of engineering in the enterprise, in society, and as part of the global economy. Prerequisite: Permission of the department. *One semester; three credits*

ME 401. MECHANICAL SYSTEMS LABORATORY
Laboratory experiments are performed in stress analysis and experimental mechanics on a project team basis. Emphasis is placed on experimental technique, data analysis and report preparation and presentation. Each student also prepares a state of the art report on a topic selected by the department faculty. Prerequisite: ME 301. Corequisite: ME 420. Offered in the Fall semester. *One semester; two credits*

ME 407-408. MECHANICAL ENGINEERING PROJECT
Industry sponsored projects are initiated early in the first semester of the student's senior year and are completed and formally presented in a report (written and oral) to the sponsor, faculty and students in the following semester. Prerequisite: Permission of the department, ME 407 prerequisite for ME 408. Taken in sequence in the Fall and Spring. *Two semesters; six credits*

ME 416. THERMAL ENVIRONMENTAL ENGINEERING
Refrigeration, vapor compression and absorption. Psychrometrics, basic air-conditioning processes, physiological effects, heat load calculations. Air conditioning system design will be emphasized. Three lectures each week. Prerequisites: ME 306, 316. *One semester; three credits*

ME 419. MECHANICAL VIBRATIONS
Fundamentals of vibration theory applied to mechanical systems. Un-damped and damped, single and multiple degree of freedom, vibrating systems. Steady state analysis of free and forced vibrations; critical speeds and balancing, vibration isolation, instrumentation. Three lectures each week. Prerequisites: ME 202 and MATH 231. *One semester; three credits*

ME 420. MACHINE DESIGN
An integrated treatment of the design of mechanical systems combining static and dynamic load analysis, stress analysis, material selection, and failure analysis. Includes many advanced topics in stress analysis. Three lectures each week. Prerequisites: ME 201, 318. Corequisite: ME 401. Offered in the Fall semester. *One semester; three credits*

ME 421. THERMAL SYSTEMS ANALYSIS AND DESIGN
An integrated treatment of the analysis and design of thermal systems. Primarily concerned with industrial thermal processes, cycles and associated equipment. Prerequisite: ME 306. Offered in the Fall semester. *One semester; three credits*

ME 422. CONTROL SYSTEMS ENGINEERING
Analysis and design of linear control systems. Transfer functions, block diagrams, and state-variable representation. Feedback concepts and stability analysis in both the frequency and time domain. Design by Root locus, Bode plots, and State variable methods. Emphasis on use of computational software for complex cases. (Same as ECE 322 Linear Control Systems) Prerequisites: MATH 231 and ME 202. Offered in the Spring semester. *One semester; three credits*

ME 424. DESIGN OF MACHINE ELEMENTS
An examination of the processes commonly used in the design of typical mechanical system components. Exploration of standardized design conventions, including design codes and handbooks, and the original design of non-standard components. Case studies and code histories

are discussed. Subjects include: screw threads, mechanical connections, welding, bonded joints, springs, lubrication, bearings, gears, shafts, clutches and brakes, couplings, and mechanical drive systems. Two lectures and one discussion class each week. Prerequisites: ME 401, 420. *One semester; three credits*

ME 425. DISCRETIZATION METHODS
An introduction to the numerical solution of ordinary and partial differential equations. The concepts of round-off error, truncation error, consistency and stability. Solution methods for elliptic, parabolic, and hyperbolic partial differential equations. Comparisons and contrasts of various finite-difference, finite-element, and finite-volume methods. Students will apply various techniques to obtain solutions for mechanical and energy system problems. A design project is required. Prerequisites: ECE 112, MATH 232, and ME 200, 313. *One semester; three credits*

ME 428. MATERIALS SCIENCE
Fundamental concepts of materials science including the structure and properties of materials. The internal structures of metals, ceramics, and polymers are examined to develop an understanding of their mechanical, electrical, physical, and chemical properties. Prerequisites: CHEM 115 and Junior standing. *One semester; three credits*

ME 429. SELECTION OF MATERIALS
Importance of materials selection as part of the design process will be discussed. 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. Prerequisite: ME 200. *One semester; three credits*

ME 432. PRINCIPLES OF GAS DYNAMICS
Concepts of compressible flow. Steady streamtube flow. Supersonic flow and shock waves. Prandtl-Meyer flow. Supersonic nozzle and diffuser flow. Fanno and Rayleigh flow. Unsteady one-dimensional flow. *One semester; three credits*

ME 433. PROPULSION SYSTEMS
Design and operating fundamentals of air-breathing and rocket engines. Propulsion dynamics. Flow and combustion thermodynamics. Engine system and component performance characteristics. Advanced propulsion systems. Prerequisites: ME 313, 316. *One semester; three credits*

ME 435. INTERMEDIATE MANUFACTURING
Introduction to advanced parametric computer-aided design and manufacturing (CADM) techniques. Students learn to design parts and assemblies using tools that enable parametric design. A design project is carried through from "blank screen" to production of computer numerical control (CNC) code and fabrication. Also provided is an introduction to structural and thermal analysis tools that are integrated with the CADM program. An oral report on advanced manufacturing technology is required. Occasional field trips to local manufacturing facilities. Prerequisites: ME 201 and Senior standing. *One semester; three credits*

ME 442. INTERNAL COMBUSTION ENGINES
Principles of spark ignition and compression engines. Both two and four-stroke engines are considered. Fuel combustion, cooling, and turbocharging effects. Experimental methods of determining engine performance. Guest lecturers and plant tours. Prerequisites: ME 306, 316. *One semester; three credits*

ME 444. DESIGN OPTIMIZATION
An intermediate design synthesis course with emphasis on strategies for determining optimum design. Includes optimum design problem formulation, numerical methods for constrained and unconstrained optimization, heuristic procedures, algorithmic strategies, thermal and

mechanical systems applications. Industrial design cases are studied. Prerequisite: Permission of instructor. *One semester; three credits*

ME 445. CONCURRENT DESIGN
An advanced design methods course with emphasis on concurrency of analysis, design, and manufacturing. Working in teams, students take several mechanical engineering projects from "blank sheet" to working hardware. Aggressive schedules highlight the inadequacy of traditional sequential design methods; extensive use of computer aided design and manufacturing (CADM) technology allows realistic training in modern product design practice. Two lectures and one three-hour team activity each week. Prerequisites: ME 435, Junior standing and Permission of instructor. *One semester; three credits*

ME 446. DESIGN OF MECHANISMS
A fundamental design course with emphasis on graphical and analytical mechanism synthesis techniques for path generation, function generation, and rigid body guidance. A design project is required. Prerequisite or corequisite: ME 420. *One semester; three credits*

ME 448. ROBOTICS
An intermediate level treatment of the multifaceted nature of robotics. Overview of robotic components and subsystems. Autonomous robots; industrial robots. Kinematics, statics, and dynamics of manipulators; trajectory planning and control; sensors for unstructured environments; hierarchical control; machine vision based control; applications. One design and testing project is required. Prerequisites: ME 317 and Permission of the instructor. *One semester; three credits*

ME 495. INTERNSHIP IN MECHANICAL ENGINEERING
Students majoring in mechanical engineering may be placed in the engineering offices of contracted firms to receive job training under the supervision of qualified engineers. Tasks completed as part of the internship must be approved by an authorized work supervisor. Credit is granted upon faculty approval of periodic review reports and a final summary report describing the work performed. Minimum time 200 hours. Prerequisites: Junior standing and Permission of the department. *Pass/Fail Grading. One semester; three credits*

ME 498. TOPICS IN MECHANICAL ENGINEERING
Lectures, readings, discussions and research on special areas and advancements in mechanical engineering. Problems or projects of an interdisciplinary nature are encouraged. A written report may be required. Prerequisites: Senior standing and Approval of department. *One semester; one to three credits*

■ MUSIC COURSES

MUSC 111. MUSIC APPRECIATION
Open to all students. An introduction to perceptive music listening through study of melody, harmony, rhythm, texture, etc. Extensive listening to characteristic selections and major forms from different periods of music. *One semester; three credits*

MUSC 112. WORLD MUSIC
This course is open to all students. It is an introduction to perceptive music listening through the study of music from various cultures and music traditions from around the world. *One semester; three credits*

MUSC 113. FUNDAMENTALS OF MUSIC THEORY
Open to all students. A study of the basic elements of music including scales, intervals, triads, meter, note values, simple ear training, harmony, sight singing. *One semester; three credits*

MUSC 115-116; 125-126; 135-136; 145-146. CHORALE
Performance-oriented class. Choral music of various periods and styles studied, rehearsed and

performed. Admission by audition. One credit each semester. Offered in the Fall and Spring. *Eight semesters; one credit each*

MUSC 117-118; 127-128; 137-138; 147-148. CB SINGERS
Special performing ensemble selected from Chorale membership. This group provides numerous programs for campus, civic, and area activities during the academic year. Two hours credit granted per semester. Includes chorale participation. Offered in the Fall and Spring. *Eight semesters; two credits each*

MUSC 131-132; 231-232; 331-332; 431-432. PRIVATE PIANO INSTRUCTION
Arranged only by audition. One half-hour lesson per week is given for which daily practice is required. Offered in the Fall and Spring. *Eight semesters; one credit each*

MUSC 133-134; 233-234; 333-334; 433-434. PRIVATE VOICE INSTRUCTION
Arranged only by audition. One half-hour lesson per week is given for which daily practice is required. Offered in the Fall and Spring. *Eight semesters; one credit each*

MUSC 141. CLASS VOICE I
Class instruction in basic techniques of breathing, tone production, diction, and phrasing by using a simple song repertoire. Daily practice required. Offered in the Fall and Spring. *One semester; one credit*

MUSC 142. CLASS VOICE II
Continuation of Class Voice I with group and individual instruction in basic techniques of breathing, tone production, diction and phrasing by using a simple song repertoire. Daily practice required. Offered in the Fall and Spring. *One semester; one credit*

MUSC 151. CLASS PIANO I
A combination of group/private instruction in basic piano techniques for students with very little or no prior training. Daily practice required. Offered Fall and Spring, *One semester; one credit*

MUSC 152. CLASS PIANO II
Continuation of Class Piano I with group/private instruction in basic piano techniques for students with very little or no prior training. Daily practice required. Offered in the Fall and Spring. *One semester; one credit*

MUSC 290-299. SPECIAL TOPICS IN MUSIC
Selected topics of special interest at an introductory level. *One semester; three credits*

MUSC 475. SENIOR RECITAL
A public recital using a culmination of music literature studied within the department. Program will be evaluated and approved by instructor prior to public performance. *One semester; three credits*

MUSC 480-485. SPECIAL STUDIES IN MUSIC
Content and credit variable with interest and instructor. Prerequisite: Approval by Department Chair. *One semester; one to three credits*

■ NATURAL SCIENCE COURSES

Requirements for the degree are found on Page 113.

NSCI 111. INTRODUCTION TO ASTRONOMY
The course introduces non-science students to astronomy. It includes naked-eye astronomy and a brief history of astronomy, the present-day tools of the astronomer, the solar system, the sun and stars, and finally the galaxy, the universe, and extraterrestrial life. Three lectures per week. Prerequisite: MATH 105 or higher. Corequisite: NSCI 111L. Offered in the Fall semester. *One*

semester; three credits

NSCI 111L. INTRODUCTION TO ASTRONOMY LAB
Laboratory to accompany NSCI 111. Corequisite: NSCI 111. Offered in the Fall semester. *One semester; one credit*

NSCI 114. CHEMISTRY IN CONTEXT
This course is intended to impart a greater understanding of science to students who will be future legislators, philosophers, poets, lawyers, and business men and women. Some issues addressed are: air quality; the ozone layer; nutrition; alternative energy sources. Chemical concepts are introduced as needed. Students' own experiences will be used in class. Prerequisite: MATH 105 or higher. Corequisite: NSCI 114L. Offered as needed. *One semester; three credits*

NSCI 114L. CHEMISTRY IN CONTEXT LAB
Laboratory to accompany NSCI 114. Corequisite: NSCI 114. Offered as needed. *One semester; one credit*

NSCI 115. SURVEY OF SCIENCE: HISTORY AND EXPERIMENTS
This course is intended mainly for liberal arts and business students. It will combine readings and experiments using selections from the classical writings from the Greeks to the 20th century. Authors who will be read in part include Hippocrates, Copernicus, Newton, and Darwin. Prerequisite: MATH 105 or higher. Corequisite: NSCI 115L. Offered in the Spring semester. *One semester; three credits*

NSCI 115L. SURVEY OF SCIENCE: HISTORY AND EXPERIMENTS LAB
Laboratory to accompany NSCI 115. Corequisite: NSCI 115. Offered in the Spring semester. *One semester; one credit*

NSCI 118. FUNDAMENTALS OF PHYSICAL SCIENCE
This course provides an introduction to physics, chemistry, astronomy, meteorology, and geology. It also provides elements of the history and philosophy of science as well as the interrelationships among the sciences and the interrelationships of science and other disciplines. The course is designed to cover many of the general/physical science knowledge and skill areas required for secondary school science teaching. May be taken by arts and business students to meet the science requirement but on a space available basis. Prerequisite: MATH 105 or higher. Corequisite: NSCI 118L. *One semester; three credits*

NSCI 118L. FUNDAMENTALS OF PHYSICAL SCIENCE LAB
Laboratory to accompany NSCI 118. Corequisite: NSCI 118. *One semester; one credit*

NSCI 122. THE NATURE OF LIGHT
An introduction to the field of optics for non-science majors. The question for the course is "What is light?" Different theories that model light as rays, waves, and photons are discussed to explain phenomena ranging from the formation of rainbows and mirages to the operation of lenses, lasers, holograms, and optical fibers. Prerequisite: MATH 105 or higher. Corequisite: NSCI 122L. *One semester; three credits*

NSCI 122L. THE NATURE OF LIGHT LAB
Laboratory to accompany NSCI 122. Corequisite: NSCI 122. *One semester; one credit*

NSCI 126. FORENSIC ANTHROPOLOGY
The subspecialty of Physical Anthropology that involves identification and law enforcement. Students are exposed to the human skeleton and taught to examine bones for sex, age, ancestry, and stature differences. Interpretation of skeletal crime trauma is stressed. The most recent techniques and analyses in the forensic sciences, along with current and controversial trends

in anthropology, are discussed. Authentic case studies are used to illustrate the applied field of anthropology. This course is intended for applied psychology and science students. It assumes a basic familiarity with human biology. Prerequisite: MATH 105 or higher. Corequisite: NSCI 126L (Same as CJ 126 and ANTH 126) *One semester; three credits*

NSCI 126L. FORENSIC ANTHROPOLOGY LAB
Laboratory to accompany NSCI 126. Corequisite: NSCI 126 (Same as CJ 126L and ANTH 126L) *One semester; one credit*

NSCI 128. PHYSICAL ANTHROPOLOGY
This course is designed to introduce the student to the field of physical/biological anthropology, with an emphasis on human evolution. The larger themes investigated are the fundamentals of biological anthropology, major principles underlying our evolutionary history, and a review of the fossil evidence in an attempt to understand the development of the human species. Prerequisite: MATH 105 or higher. Corequisite: NSCI 128L. (Same as ANTH 128). *One semester; three credits*

NSCI 128L. PHYSICAL ANTHROPOLOGY LAB
Laboratory to accompany NSCI 128. It includes working with hominid casts, and primate and modern human skeletal material. Corequisite: NSCI 128. (Same as ANTH 128L). *One semester; three credits*

NSCI 190-199. SPECIAL TOPICS IN NATURAL SCIENCE
Courses in different areas of the natural sciences that are not offered on a regular basis. These include courses taught by visiting faculty members with special or unique qualifications or new courses taught by existing faculty members. Prerequisite: MATH 105 or higher. Corequisite: Corresponding lab course. *One semester; three credits*

NSCI 190L-199L. SPECIAL TOPICS IN NATURAL SCIENCE LABORATORIES
Laboratories to accompany NSCI 190-199. Corequisite: Corresponding NSCI 190-199 course. *One semester; one credit*

NSCI 410. SENIOR THESIS I
An independent investigation in some area of the natural sciences. A choice of topic for research is made, and a written description of the proposed research including bibliographical references is submitted. Required of Natural Science majors. Prerequisite: Senior standing. *One semester; one credit*

NSCI 411. SENIOR THESIS II
The research proposed in NSCI 410 is carried out. A formal written report and an oral presentation are required. Required of Natural Science majors. Prerequisite: NSCI 410. *One semester; one credit*

■ NAVY ROTC CLASSES

Navy ROTC courses are offered through The University of Memphis under the instruction of The University of Memphis faculty.

■ ORIENTATION COURSE

ORIN 100. ORIENTATION
Orientation is normally held in the Fall semester for all first year students. The purpose of the course is to bring about the best possible transition from high school to C.B.U. It is conducted in small groups by a special corps of paraprofessional upperclass persons who have successfully completed intensive summer training. ORIN 100 is under the supervision of the Director of Counseling. *Pass/Fail Grading. One semester; zero credit*

■ PHILOSOPHY COURSES

Requirements for the Religion and Philosophy degree are found on Page 53.

PHIL 201. INTRODUCTION TO LOGIC
A study of valid and fallacious reasoning, deductive and inductive. Formal logical structures such as the syllogism will be examined, as well as the logic of ordinary discourse and the avoidance of "informal" fallacies. Offered in the Fall semester. *One semester; three credits*.

PHIL 219. SOCIAL AND POLITICAL PHILOSOPHY
A philosophical investigation into basic questions of politics and society and the moral foundations of human social existence. Topics may include human rights, equality, distributive justice, authority, punishment and coercion, and the nature of the good or just society. (Same as CJ 219) *One semester; three credits*

PHIL 220. CONTEMPORARY MORAL ISSUES
A philosophical examination of a number of significant and controversial contemporary moral problems. Topics will vary but may include abortion, capital punishment, sexual morality, animal rights, environmental ethics, freedom of speech, discrimination, and affirmative action. The treatment of these topics will develop in the context of the tradition of philosophical ethics. Offered in the Spring semester. *One semester; three credits*

PHIL 224. THEORIES OF HUMAN NATURE
An examination of several major theories of human nature with special emphasis on the ethical implications of these theories. A consideration of such questions as whether humans are by nature either good or evil, individual or social, free or determined in their actions, and whether they have some natural purpose or end. Offered in the Fall semester. *One semester; three credits*

PHIL 234. HONORS THEORIES OF HUMAN NATURE
An intensive study of classical, modern, and postmodern theories of human nature through the reading of original texts. There will be an emphasis on the philosophical concepts and the ethical implications of the theories. Prerequisite: Membership in Honors Program. *One semester; three credits*

PHIL 317. ANCIENT PHILOSOPHY
An in-depth treatment of selected philosophers from the ancient and medieval periods including Plato and Aristotle. Prerequisites: HUM 150 or one previous Philosophy course. *One semester; three credits*

PHIL 318. MODERN PHILOSOPHY
An in-depth treatment of selected philosophers from the 17th to the 19th centuries, beginning with Descartes. Does not presuppose PHIL 317. Prerequisites: HUM 150 or one previous Philosophy course. *One semester; three credits*

PHIL 320. CONTEMPORARY PHILOSOPHY
An introduction to the major currents of 20th Century philosophical thought in America and Europe. The focus will be on the question of the meaning of subjective existence. Answers to this question will be examined from the perspectives of analytic philosophy, pragmatism, existentialism, and contemporary continental thought. Prerequisites: HUM 150 or one previous Philosophy course. *One semester; three credits*

PHIL 321. SCIENCE AND HUMAN VALUES
A study of ethical and value issues relating to science. The course will consider both the historical significance of the development of science for the values of Western culture and the ethical and social implications of contemporary scientific developments and practices. Prerequisite: Junior

standing. *One semester; three credits*

PHIL 322. MEDICAL ETHICS (Formerly PHIL 422)
A review and evaluation of various theories of moral philosophy and an investigation into some of the current moral issues in the fields of biology and medicine. *One semester; three credits*

PHIL 323. BUSINESS ETHICS
An analysis of business ethics, the responsibilities of business firms to employees, owners, consumers, and society. Prerequisite: Junior standing. Offered in the Fall and Spring. *One semester; three credits*

PHIL 324. TECHNOLOGY AND HUMAN VALUES
A philosophical examination of social and ethical issues relating to technology. Topics include the ethical responsibilities of engineers; ethical and social issues associated with risk assessment, environment and resources, and technology in a global context; and the impact of modern technology on human values. Prerequisite: Junior standing. *One semester; three credits*

PHIL 325. ENVIRONMENTAL ETHICS
A study of ethical and social issues concerning the relation of humans to the natural environment. Topics include the history of environmental ethics, the application of various ethical theories and concepts to environmental concerns, and the relevance of the scientific, technological, economic, legal, and socio-political considerations in the analysis of current issues in environmental ethics. *One semester; three credits*

PHIL 335. PHILOSOPHY OF RELIGION
An examination of philosophical issues relating to religion, the concept of God, arguments for and against God's existence, the nature of religious experience, knowledge, faith, the problem of evil and free will. (Same as RS 335) *One semester; three credits*

PHIL 340. ETHICAL THEORY
An examination of various philosophical theories, including those of Aristotle, Kant, and Mill, concerning moral values. Questions discussed include the following: whether morality is best defined in terms of rights, duties, consequences, authenticity of commitment, or models of virtue, and whether morality can be judged by some absolute standard or is always relative (and if so, to what?). Prerequisites: HUM 150 or one previous Philosophy course. Offered in the Fall semester. *One semester; three credits*

PHIL 350. PHILOSOPHY OF THE ARTS
A study of various philosophical responses to questions concerning art. Topics include the nature of art, the relation between different arts, the nature of artistic creation, and the problem of evaluating works of art. Examples from literature, music, and the visual arts. *One semester; three credits*

PHIL 391-396. SPECIAL TOPICS IN ETHICS
Selected philosophical topics in the area of meta-ethics, normative ethics, or applied ethics; content variable with instructor. Satisfies the moral values General Education Requirement. *One semester; three credits*

PHIL 491-496. SPECIAL TOPICS IN PHILOSOPHY
Selected philosophical topics; content variable with instructor. *One semester each; one to three credits each*

PHIL 499. SENIOR SEMINAR
The seminar, for Religion and Philosophy majors in their Senior year, includes an independent study project on a topic related to their previous years of study toward the major. *One semester;*

three credits

■ PHYSICAL EDUCATION COURSE

PE 201. RHYTHMIC ACTIVITIES AND GAMES
Activities and games designed for teaching of elementary students. Offered in the Spring semester. *One semester; one credit*

■ PHYSICS COURSES

Requirements for the degree are found on Page 114.

PHYS 150. PHYSICS I
A beginning course in physics covering the topics of kinematics, dynamics, gravitation, work, energy, momentum, rotational kinematics and dynamics. Prerequisite: MATH 129 or 131. Corequisite: PHYS 150L. Offered in the Fall and Spring. *One semester; three credits*

PHYS 150L. PHYSICS I LABORATORY
Laboratory to accompany PHYS 150. Corequisite: PHYS 150. Offered in the Fall and Spring. *One semester; one credit*

PHYS 201. INTRODUCTORY PHYSICS I
A general physics course covering the topics of mechanics, heat, and sound. Designed primarily for biology majors. Prerequisite: High school algebra and trigonometry or MATH 117. Corequisite: PHYS 201L. Offered in the Fall semester. A student can receive credit for only one of PHYS 150 and PHYS 201. *One semester; three credits*

PHYS 201L. INTRODUCTORY PHYSICS I LABORATORY
Laboratory to accompany PHYS 201. Corequisite: PHYS 201. Offered in the Fall semester. *One semester; one credit*

PHYS 202. INTRODUCTORY PHYSICS II
A continuation of PHYS 201 covering the topics of electricity and magnetism, light, and modern physics. Prerequisite: PHYS 150 or PHYS 201. Corequisite: PHYS 202L. Offered in the Spring semester. *One semester; three credits*

PHYS 202L. INTRODUCTORY PHYSICS II LABORATORY
Laboratory to accompany PHYS 202. Corequisite: PHYS 202. Offered in the Spring semester. *One semester; one credit*

PHYS 251. PHYSICS II
A second course in physics covering electric forces, electric fields, voltage, capacitance, current, resistance, magnetic forces, magnetic fields, induction, oscillations, and waves. Prerequisite PHYS 150. Corequisite: PHYS 251L. Offered in the Fall and Spring. *One semester; three credits*

PHYS 251L. PHYSICS II LABORATORY
Laboratory to accompany PHYS 251. Corequisite: PHYS 251. Offered in the Fall and Spring. *One semester; one credit*

PHYS 252. PHYSICS III
A third course in physics covering geometrical optics, interference, diffraction, quantum theory, waves and particles, atomic physics, special relativity, radioactivity, and nuclear physics. Prerequisite: PHYS 251. Offered in the Fall and Spring. *One semester; three credits*

PHYS 252L. PHYSICS III LABORATORY
Laboratory to accompany PHYS 252. Prerequisite or corequisite: PHYS 252. Offered once per year. *One semester; one credit*

PHYS 337. ELECTRICITY AND MAGNETISM
(Same as ECE 406) Offered in the Fall semester. *One semester; four credits*

PHYS 347. SPECIAL RELATIVITY
A study of the theory of special relativity including the experimental background of special relativity, relativistic kinematics including the doppler effect, and relativistic dynamics including the equation $E=mc^2$. Prerequisite: PHYS 252. Offered once every two years. *One semester; one credit*

PHYS 353. SOLID STATE PHYSICS
An introductory study of the physics of solids including crystal lattice vibrations and waves, the free electron model, electron energy bands, semiconductor electrical properties, junctions, and optical properties. Prerequisites: PHYS 252 and MATH 232. Offered in the Fall semester. *One semester; three credits*

PHYS 380. ADVANCED MECHANICS
Primarily an advanced study of the kinetics and dynamics of single particles; Newton's laws; concepts of momentum, work, energy; and conservation principles. Prerequisites: PHYS 251 and MATH 232. Offered in the Fall semester of odd numbered years. *One semester; three credits*

PHYS 400. INTERNSHIP IN PHYSICS
Students majoring in physics, engineering physics, or natural science receive on-the-job training in the offices or laboratories of cooperating firms. To receive credit, the student must submit periodic reports and a detailed final report of the work done. The authorized supervisor of the firm must verify these reports. Prerequisites: Junior standing and approval of the Physics faculty. *Pass/Fail Grading. One semester; one to three credits*

PHYS 415. OPTICS
A study of electromagnetic radiation, with emphasis on the visible portion of the spectrum. Topics include optical detectors, superposition of waves, interference, far-field and near-field diffraction, polarization, waveguides and optical fibers, and laser theory. Prerequisites: PHYS 252 and MATH 232. Offered in the Fall semester of even numbered years. *One semester; three credits*

PHYS 415L. OPTICS LABORATORY
Laboratory to accompany PHYS 415. Corequisite: PHYS 415. Offered in the Fall semester of even numbered years. *One semester; one credit*

PHYS 447. QUANTUM MECHANICS I
A detailed introduction to quantum mechanics including thermal radiation, deBroglie's postulate, Schrodinger's equation, one-electron atoms, spin and transition rates. Prerequisites: PHYS 252 and MATH 232. Offered in the Fall semester of odd numbered years. *One semester; three credits*

PHYS 448. QUANTUM MECHANICS II
A continuation of the study of quantum mechanics including statistical mechanics, time-independent and time-dependent perturbation theory, and scattering. Prerequisite: PHYS 447. Offered in the spring semester of even numbered years. One semester; three credits

PHYS 451. ADVANCED PHYSICS LABORATORY
A laboratory course in advanced selected experiments. A written report on each experiment is required. Prerequisite: PHYS 252L. Offered in the Spring semester of odd numbered years. *One semester; two credits*

PHYS 460. THEORETICAL PHYSICS
A continuation of the study of selected topics in physics. Topics vary depending on student and faculty interest. Topics from mechanics and optics are typically covered including accelerated reference frames, Lagrangian and Hamiltonian mechanics, Fourier optics and nonlinear optics. Prerequisites: PHYS 380, 415. Offered in the Spring semester of odd numbered years. *One semester; three credits*

PHYS 491. RESEARCH I
An independent investigation in some field of physics. A choice of topic for research is made, and a written description of the proposed research including bibliographical references is required. Prerequisite: Departmental approval or Senior standing. Offered in the Fall semester. *One semester; zero credit*

PHYS 492. RESEARCH II
The research proposed in PHYS 491 is carried out. A formal written report plus an oral presentation to the class and the departmental faculty is required. Prerequisite: PHYS 491. Offered in the Spring semester. *One semester; two credits*

PHYS 495. SPECIAL TOPICS IN PHYSICS
Directed work on a special topic in physics approved by the department. Up to three hours credit. *One semester; one to three credit*

PHYS 499. SENIOR COMPREHENSIVES
Second semester seniors are required to take a comprehensive examination on selected fields of physics as prepared and administered by the department faculty. A passing score is required for graduation. Offered in the Spring semester. *One semester; zero credit*

■ POLITICAL SCIENCE COURSES

POLS 112. AMERICAN GOVERNMENT
This course is a survey of the American political system. Topics include the Constitution, federalism, interaction between the three branches of the federal government (legislative, executive, and judicial), political actors outside government (interest groups, media, political parties), state and local government, political culture, civil liberties, civil rights, and public policy. Offered in the Fall and Spring. No prerequisite. *One semester; three credits*

POLS 113. WORLD POLITICS
This course examines how politics unfold at the global level. Topics of study include: global actors and institutions (nation-states, international organizations, and non-governmental organizations, multi-national corporations), conflict and cooperation, and the role of culture, ideology, and economics, and geography. No prerequisite. *One semester; three credits*

POLS 210. COMPARATIVE POLITICS
Comparison of contemporary nation-states in different regions of the world. The political, governmental, and economic systems of specific countries will be emphasized. The course will include discussion of democratic and non-democratic regimes, and different constitutional models (federal, unitary, parliamentary, presidential). The role of culture, history, ideology, religion, and geography in shaping political systems will be included. Prerequisite: POLS 112 or 113 or permission of the instructor. *One semester; three credits*

POLS 220. POLITICS AND SCIENCE FICTION
Examination of political and social themes contained in science fiction and fantasy literature and film. Issues include identity, the Self and the Other, conflict and war, the organization of society, and utopia/anti-utopia. Activities include critical reading of texts and the use of metaphors in fiction. *One semester; three credits*

UPPER DIVISION COURSES ARE OPEN TO STUDENTS WHO HAVE SOPHOMORE STANDING AND MEET SPECIFIC COURSE PREREQUISITES, IF ANY.

POLS 320. POLITICAL IDEAS
Theories of the origin of the state and political ideologies, including Nationalism, Democracy, Democratic Socialism, Anarchism, Classical Liberalism and Conservatism, Authoritarianism, Totalitarianism, Marxism, Leninism, Maoism, Fascism, National Socialism, race, gender, and third-world ideologies. Prerequisite: POLS 113 or permission of the instructor. *One semester; three credits*

POLS 340. NAZI GERMANY
(Same as HIST 340) Prerequisites: HIST 104, POLS 113, 320, or permission of the instructor. *One semester; three credits*

POLS 360. AMERICAN POLITICAL THOUGHT
From the Colonial Period to the present with emphasis on the European origins, the American Revolution, the Constitution, the slavery issue, 20th Century reform, and contemporary liberal and conservative ideas and movements. Prerequisite: POLS 112 or HIST 151 or permission of instructor. Offered as needed. *One semester; three credits*

POLS 370. INTERNATIONAL LAW
The history, formation and application of international law. Issues discussed include the sources of international law, the law of treaties, and rules regarding diplomacy, human rights, war/peace, war crimes, nationality, territory, and the global commons. Course readings shall include both secondary sources and legal texts. Prerequisites: Any political science or history course, or GD/HUM 200 or permission of the instructor. Recommended, but not Required: POLS 113. *One semester; three credits*

POLS 375. UNITED STATES FOREIGN POLICY
(Same as HIST 375). Prerequisite: any political science or history course or Permission of the instructor. Recommended, but not required, one of the following: HIST 152 or POLS 112 or POLS 113. *One semester; three credits.*

POLS 390-399. HONORS SPECIAL TOPICS
Special topics in political science open to members of the Honors Program or by Permission of the instructor. *One semester; three credits*

POLS 401. U.S. CONSTITUTIONAL LAW
An examination of the structure of U.S. government and the limits on governmental power through detailed analysis of the U.S. Constitution and Supreme Court decisions interpreting it. The course will also examine the appropriate scope of judicial review in a democratic society. Prerequisite: POLS 112 or HIST 151 or permission of the department head. *One semester; three credits*

POLS 470-479. TOPICS IN POLITICAL SCIENCE
Topics vary with instructor. Prerequisite: Permission of instructor. *One semester each; one to three credits each*

POLS 480-489. TOPICS IN LAW
Topics vary with instructors, e.g. Criminal Justice, Legal Research, etc. Prerequisite: Permission of the department head. *One semester each; one to three credits each*

POL 490-499. INTERNSHIPS
Content varies with specific internship program. Prerequisite: Permission of Political Science Internship Director. *One semester each; one to three credits.*

PRE-LAW COURSE

PREL 200. PRE-LAW PRACTICUM
The Pre-Law Practicum will prepare students for the challenges of law students. Emphasis will be on personal-statement preparation, LSAT preparation, and the application process. Students will also have an opportunity to investigate a number of different areas of the law a number of different areas of the law through collaboration with local law professionals. *One semester; one credit*

■ PSYCHOLOGY COURSES

Requirements for the degree are found on Page 52.

PSYC 105. GENERAL PSYCHOLOGY
An introduction to the discipline of psychology as a science of behavior. Areas of study include biological aspects of psychology, learning, sensation, perception, personality, abnormal behavior, psychological testing and research, social and developmental psychology. *One semester; three credits*

PSYC 106. PSYCHOLOGY SEMINAR
An introduction to the psychology major, this course will focus on how to make the most of a psychology degree. Topics will include careers, skill development, resumes, research, graduate school, internships, and options within the major. Students will meet once a week for one hour. Each session will be led by a Behavioral Sciences faculty member. Offered in the Spring semester. *One semester; zero credit*

PSYC 218. HUMAN DEVELOPMENT
An examination of developmental trends, principles, and processes through the lifespan. This course investigates human development at all stages and ages with attention to biological, social, and cognitive development. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 219. PERSONALITY
A survey of major personality theories in terms of conceptions, applications, and research. Emphasis is placed on the psychodynamic, dispositional, social-cognitive, and humanistic approaches. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 225. BIOLOGICAL PSYCHOLOGY
Views the study of human and animal behavior within the context of biological principles. Areas covered include brain-behavior relationships, sensory processes, and biological bases for emotional behavior, sexual behavior, and psychological disorders. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 226. PSYCHOLOGY IN THE CINEMA
This course will focus on the psychology of movies with an emphasis on the psychology of movie viewers. The course will consider movie viewing as a collective experience, the use of psychological techniques in movie-making, and the influential role of movies in society. The class will do an in-depth analysis of several movies that deal with psychological concepts. Prerequisite: PSYC 105. *One semester; three credits.*

PSYC 227. SPORT PSYCHOLOGY
Examines psychological theories and research related to sport and exercise behavior. The course is designed to introduce students to the field of sport and exercise psychology and to provide an overview of basic research and practical implementations in this applied specialization of psychology. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 228. REALITY, FANTASY, AND MEDIA
This course investigates the media construction of reality by examining media representations

such as mental illness, women, the elderly, fandom. Students examine how reality is created from a cognitive psychological and social-cognitive approach, constructive memory, inference-making, advertising, priming, perspective. Prerequisite: PSYC 105 or special permission of the instructor. (Same as SOC 228) *One semester; three credits*

PSYC 229. HONORS REALITY, FANTASY, AND MEDIA
This course investigates the media construction of reality by examining media representations such as mental illness, women, the elderly, fandom. Students examine how reality is created from a cognitive psychological and social-cognitive approach, constructive memory, inference-making, advertising, priming, perspective. Prerequisite: Membership in the Honors Program or special permission of the instructor. (Same as SOC 229) *One semester; three credits*

PSYC 230. PSYCHOPATHOLOGY (Formerly PSYC 220)
A survey of various types of mental disorders including their causes, symptoms, diagnosis, and treatment. Emphasis is placed on anxiety, sexual, dissociative, personality, cognitive and mood disorders, and schizophrenia. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 231. HONORS PSYCHOPATHOLOGY
This course will critically examine current and historical view of mental illness. Emphasis will be placed on understanding the social stigma of mental illness and placing mental illness in economic, historical, and socio-political frameworks. Prerequisite: Membership in the Honors Program. *One semester; three credits*

PSYC 232. PSYCHOLOGY AND THE CINEMA II
This class is a study of the interaction of the individual and movies. We will look at how this medium reflects and forms attitudes and ideas. Students will write in-depth analyses of selected movies. PSYC 2236 is NOT a prerequisite for this class. Prerequisite: PSYC 105. *One semester: three credits*

PSYC 235. FUNDAMENTALS OF APA WRITING STYLE AND ETHICS
Students will learn to write an APA-style research paper. They will write an APA-style Research proposal with the potential of completing the research in either the Statistical And Research Methods or Experimental Research courses. Students will also learn other Research reporting methods including Power Point and poster presentations. Students will complete certification in APA ethics. Required for all Psychology and Applied Psychology majors. Open to other students by instructor permission only. *One semester; three credits*

PSYC 240. ANIMAL COGNITION
A study of the mental processes of animals with a comparative emphasis on human-animal cognitive processes viewed within an evolutionary context. Topics include language learning and communication, concept formation, problem solving, intelligence, emotion, and construction of artifacts. Similarities in animal-human developmental processes will be examined as well as current research on animal cognition. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 245. CHILD SEXUAL ABUSE
(Same as CJ 245 and SOC 245) *One semester; three credits*

PSYC 250. SERIAL KILLERS
(Same as CJ 250 and SOC 250) *One semester; three credits*

PSYC 270. DYNAMICS OF GENDER
This class will critically examine how norms, beliefs, ideologies, language, culture and institutions influence gender behavior, traditional conceptions of masculinity and femininity, and socialization for masculine and feminine roles. (Same as SOC 270) Prerequisite: PSYC 105 or SOC 101. *One semester; three credits*

PSYC 275. GRADUATE SCHOOL AND PROFESSIONAL CAREERS IN PSYCHOLOGY
A survey of various professional careers in psychology and a through examination of the graduate school application and admissions process. Careers examined may include but are not limited to clinical/counseling, forensic, consumer, sports, educational, industrial/ organizational, and academics. This course is intended primarily for those students who plan to pursue a graduate education in psychology. Prerequisite: Sophomore standing. *One semester; three credits*

PSYC 280-287. SELECTED TOPICS IN PSYCHOLOGY
Directed work on a special topic or project in psychology. *One semester; one to three credits*

PSYC 290-299. HONORS SPECIAL TOPICS
Special topics in psychology open to members of the Honors Program or by permission of instructor. *One semester; one to four credits*

PSYC 300. DYNAMICS OF DEPRESSION
Understanding depression involves learning how it can affect daily experiences and the very course of people's lives. This course will investigate biological factors and predispositions, the relationship of depression to other disorders, mechanisms of antidepressant drugs, and coping and treatment strategies. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 301. ENGINEERING PSYCHOLOGY
Engineering psychology, also called human factors, ergonomics or usability engineering, deals with the importance of designing for human use. Equipment that is not ergonomically sound will be operated a little more slowly and be a little more prone to error. There are certain basic limitations to human performance. Our goal in this class is to provide a solid foundation in the principles of human performance and a broad overview of the field of human factors. This class provides the student with an understanding of the variables that influence human performance and the ways in which the human factors expert draws on this knowledge. The organization of the class is based on viewing the human as an information-processing system. The information-processing approach provides a common referent for studying both humans and machines. Human factors research and design decisions must be based on a thorough understanding of basic principles of human performance. The theoretical analysis of human performance requires frequent contact with real-world situations in which people actually perform. This course provides an integrated approach to the study of human factors, embedding the principles of human factors within a foundation based on contemporary views of human performance. Topics include the following: perception, cognition, movement, and environment. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 302. HONORS DYNAMICS OF DEPRESSION
Understanding depression involves learning how it can affect daily experiences and the very course of people's lives. This course will investigate biological factors and predispositions, the relationship of depression to other disorders, mechanisms of antidepressant drugs, and coping and treatment strategies. Prerequisite: Membership in the Honors Program. *One semester; three credits*

PSYC 310. DEATH AND DYING
A course considering relevant topics relating to death and the dying process from a multi-disciplinary perspective. Course content includes the meaning of death, the dying process in historical context and in contemporary culture, bereavement, grief, and mourning, approaches to terminal care, death and childhood, violent death, suicide, death industries, the right to die, and surviving death. Prerequisite: PSYC 105. (Same as SOC 310) *One semester; three credits*

PSYC 315. EDUCATIONAL PSYCHOLOGY
This course focuses on the application of psychology to the school setting. It is intended to assist students in mastering an organized sampling of scientific knowledge about human development, learning, motivation, individual differences, and evaluation. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 320. HONORS SEMINAR DEATH AND DYING
This seminar focuses on critically examining and understanding death, the dying process, grief, the ethics of life/death, and a variety of related issues. It integrates a number of multidisciplinary perspectives and resources, emphasizes the exercise of critical thinking and implements the philosophy of writing as an integral means of learning. Prerequisite: Membership in the Honors Program or special permission of the instructor. (Same as SOC 320) *One semester; three credits*

PSYC 325. TOPICS IN AGING
This course focuses on the following issues in aging: the impact of aging on the individual, the family, and society; the quality of later life; societal attitudes toward old age; problems and potentials of aging; retirement; living environments in later life; societal policies, programs and services for older Americans. The diversity in the aging process due to differences in gender, race, and social class is emphasized. (Same as SOC 325) Prerequisite: PSYC 105 or SOC 101. *One semester; three credits*

PSYC 340. FUNDAMENTALS OF COUNSELING
This course presents counseling in a broad manner covering its history, theories, processes, issues, specialties, and trends. In addition, this course concentrates on the importance of the personhood of counselors and of the multicultural, ethical, and legal environments in which counselors operate. Prerequisites: PSYC 105. *One semester; three credits*

PSYC 343. APPLIED CRISIS INTERVENTION STRATEGIES
(Same as CJ 343). *One semester; three credits*

PSYC 345. HUMAN SEXUALITY
A survey study of topics in human sexuality. Topics included are basic reproductive anatomy, hormonal influences on behaviors, attraction, relationships, sexual variations, birth control, and sexually transmitted diseases. Self-assessment surveys on sexual attitudes are discussed in class. (Same as SOC 345) Prerequisite: PSYC 105. *One semester; three credits*

PSYC 351. ADOLESCENT PSYCHOLOGY (Formerly PSYC 350)
This course is an exploration of theory and research relevant to the physical, psychological, and social transitions associated with early, middle, and late adolescence. Developmental issues examined include the formulation of identity establishing autonomy, moral development, social interaction, and the transformations associated with puberty, as well as the identification and understanding of problems and psychopathology in adolescence. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 352. INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY
This course examines the contributions of psychology to effective human resources development and management. The course content is designed for Psychology and Business majors and focuses on the practical applications of psychology in the business world. Topics include the psychology of organizations, motivations and supervision, employee selection and development, legal considerations, evaluation, and organizational development. Prerequisite: Junior standing. (Same as MGMT 352) *One semester; three credits*

PSYC 353. SOCIAL PSYCHOLOGY
A study of the social-psychological aspects of human interactions. Areas of study include: af-

filiation, social perception, attribution processes, interpersonal attraction, aggression, attitude formation, attitude change, conformity, compliance, cooperation, competition, group structure, and group dynamics. (Same as SOC 353) Prerequisite: PSYC 105 or SOC 101. *One semester; three credits*

PSYC 354. CORRELATIONAL RESEARCH METHODS
An introduction to the fundamentals of research methods and statistical analysis in the Behavioral Sciences. Students will learn and apply basics of research methodology and basic statistical techniques. Students will conduct a research project. Psychology and Applied Psychology majors must complete the course with a grade of "C" or better. Prerequisite: PSYCH 235. Required for all Psychology and Applied Psychology majors. Open to other students by instructor permission only. *One semester; three credits*

PSYC 355. EXPERIMENTAL METHODS AND STATISTICS FOR BEHAVIORAL SCIENCES
An introduction to basic experimental research design and related statistical analyses. Students will be required to design and conduct an experimental research project which will be presented to other students and faculty. Prerequisite: PSYC 354. Required for all Psychology majors. Open to other students by instructor permission only. *One semester; three credits*

PSYC 360, 361. STATISTICAL AND RESEARCH METHODS IN THE BEHAVIORAL SCIENCES (Formerly PSYC 356)
An introduction to the fundamentals of research methods and statistical analysis in the behavioral sciences. Students will learn and apply basics of research methodology and basic statistical techniques. Students will learn how to write a research manuscript and will conduct a research project. Psychology majors must complete each course with a grade of "C" or better. Prerequisite: ITM 153. PSYC 360 is a prerequisite or corequisite for PSYC 361. *One semester; two credits each*

PSYC 362, 363. EXPERIMENTAL RESEARCH IN PSYCHOLOGY
(Formerly PSYC 358)
An introduction to basic experimental research design and related statistical analyses. Students will be required to design and conduct an experimental research project which will be presented to other students and faculty. Prerequisites: PSYC 360, 361. PSYC 362 is a prerequisite or a corequisite for PSYC 363. *One semester; two credits each*

PSYC 365. DEVIANT BEHAVIOR
(Same as CJ 365 and SOC 365) *One semester; three credits*

PSYC 370. APPLICATIONS OF MEMORY
(Same as CJ 370 and SOC 370) *One semester; three credits*

PSYC 380-387. SELECTED TOPICS IN PSYCHOLOGY
Directed work on a special topic or project in psychology. *One semester; one to three credits*

PSYC 390. HISTORY OF WOMEN IN PSYCHOLOGY
This course examines the history of women psychologists from the field's inception in the 19th century to the present. Contributions of women to the field of psychology will be discussed as well as the cultural, educational and economic barriers faced throughout the field's history. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 393. HISTORY AND SYSTEMS OF PSYCHOLOGY
This course deals with the history of ideas that laid the foundation for the present science of psychology. Emphasis is placed on the origins of modern and contemporary psychology within the context of nineteenth and twentieth century thought. The philosophical origins of the study

of psychology are also explored. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 416. PSYCHOLOGY OF LEARNING
An in-depth examination of concepts, theoretical issues, and research findings involving the psychology of learning. Areas of study include classical and instrumental conditioning, principles of reinforcement and punishment, and other factors affecting learning. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 440. COGNITIVE PSYCHOLOGY
This course is designed to investigate the nature of the thinking mind. Cognitive psychology involves understanding how we gain information of the world, how it is transformed into knowledge, stored in memory, and accessed when needed. Prerequisite: PSYC 105. *One semester; three credits*

PSYC 450, 451. INDEPENDENT RESEARCH IN BEHAVIORAL SCIENCES
These courses are a two semester sequence intended for advanced (junior level status or higher) students who wish additional experience in research design and statistical analysis. In PSYC 450 the student will investigate in depth a specialized topic in psychology or sociology resulting in a proposal that will include a literature review, hypotheses and proposed research design. In PSYC 451 the student will further investigate the topic by engaging in empirical research that is then analyzed, interpreted, and presented in a manuscript. These courses are recommended for students intending to continue their education in a graduate program. Prerequisites: PSYC 362, 363 and Permission from the chair of behavioral sciences. *Two semesters; two credits each*

PSYC 455. CORRECTIONAL COUNSELING
(Same as CJ 455) *One semester; three credits*

PSYC 460. PRACTICUM IN PSYCHOLOGY
The practicum offered for majors with senior status includes several options. The first is a formal internship consisting of 100 hours of professional in-field experience. It is a well-structured program in which students will be required to meet a number of objectives related to their goals, their developing competence, and their interests in psychology and related fields. A 2.5 GPA is required to pursue this option. The second option involves a research assistantship in which seniors will assist practicing graduate-level and professional-level researchers in conducting their projects. Sound performance in the statistics and research courses is a prerequisite for this option. A third option involves the opportunity to be a teaching assistant to a full-time faculty member. This option may be particularly valuable to students seeking careers in academic fields. The guidelines and requirements for this option have been developed and will be made available to interested students upon request. A final option is an individually-designed project suited to the needs, interests, and academic strengths of the student. The project will be conducted under the direction of a full-time faculty member. Guidelines for the formal proposals are available. Plans for any of these options should be developed and approved the semester before the course is taken. Prerequisite: Senior standing. *One semester; three credits*

PSYC 480-487. ADVANCED TOPICS IN PSYCHOLOGY
Directed work on a special topic or project in psychology. *One semester; one to three credit*s

PSYC 497. PSYCHOLOGY COMPREHENSIVES
Seniors will be required to take a comprehensive examination on selected areas of psychology. Offered in the Spring semester. *Pass/Fail Grading. One semester; zero credit*

PSYC 499. ADVANCED INTERNSHIP
This course is intended for students who have completed the requirements for PSYC 460 at an exemplary level and either (a) wish to pursue further opportunities or directed field research at

their original field placement or (b) wish to pursue an additional field placement consistent with the goals of the internship program and the developing interests of the students. Permission of the Internship Director is required. *One semester; three cre*dits

■ RELIGIOUS STUDIES COURSES

Requirements for the Religion and Philosophy degree are found on Page 53.
Students are required to take one course at the 200 level before taking courses at the 300 level or above.

RS 200. UNDERSTANDING RELIGION
An inquiry into the nature of religious experience guided by the observation that the religious consciousness of individuals and cultures is reflected in story, myth, and symbol. Questions of meaning and value will be raised and examined. This course culminates with the student describing his/her own religious journey in a term paper. *One semester; three credits*

RS 217. OLD TESTAMENT (HEBREW SCRIPTURES)
Using the Old Testament as a text and a guide, the course explores the origins and early history of the Jewish people to the destruction of the Second Temple (70 C.E.) and encompasses concepts such as Covenant, Prophecy, Messiah. *One semester; three credits*

RS 218. NEW TESTAMENT
A discussion of the Christian scriptures from literary, historical, and theological points of view concentrating on the life and teachings of Christ and the spread of Christianity after His death and resurrection. Offered in the Fall semester. *One semester; three credits*

RS 220. CLASSICAL CHRISTIAN THOUGHT (Formerly RS 222)
An examination of major themes and issues in Christian theology from the time of the early Church through the Reformation. Major theologians such as Augustine, Aquinas, Luther, and Calvin will be studied among others. *One semester; three credits*

RS 221. MODERN CHRISTIAN THOUGHT
An examination of major themes and issues in Christian theology after the Reformation to the early twentieth century. The focus will be on responses within Christian theology to modern science and to the emergence of democracy and capitalism. *One semester; three credits*

RS 230. CHRISTIAN ETHICS
A critical investigation of the theological convictions grounding Christian understandings of doing what is right and being a good human person. This will include approaches to ethics from within both Catholic and Protestant Christianity, along with analysis of selected moral issues. *One semester; three credits*

RS 240. THE RELIGIOUS DIMENSION OF WORK (Formerly RS 315)
A study of the relationships between work and religion in western society. Career, studied from several perspectives, will be viewed ultimately as a vocation-a call from God. *One semester: three credits*

RS 245. HONORS RELIGION AND SCIENCE
This interdisciplinary course focuses on the way religion and science jointly contribute to our knowledge. It is based on the premise that no one source of knowledge, theological or otherwise, can alone provide a complete description of reality. Readings and guest lecturers from other disciplines will cover a wide-ranging dialogue dealing with issues in astronomy, physics, biology, and ecology. A spectrum of possibilities for the relation between religion and science will be considered, including the options of conflict, independence, dialogue, and interaction.

Prerequisite: Membership in the Honors Program or permission of the instructor. *One semester; three credits*

RS 254. CHRISTIANITY AND PEACE
An analysis of historical Christian attitudes toward war and peace. Theological and moral arguments for the pacifist and just war traditions will be analyzed, along with their application to forms of state sanctioned violence such as war and capital punishment and the new challenges to these traditions such as military intervention and terrorism. (Same as HUM 254) *One semester; three credits*

RS 256. RELIGION AND NONVIOLENT SOCIAL CHANGE
An inquiry into the traditions and practice of nonviolence in various world religions with special attention paid to how religiously based nonviolence has led to social change. Individuals such as Gandhi, Martin Luther King, Jr., and Dorothy Day, along with social movements will be considered in light of their theological commitments, social analysis, and organizational approaches. (Same as HUM 256) *One semester; three credits*

RS 260. PERSON, WORLD, AND GOD
This course will focus phenomenologically on ways to recognize God's presence in our everyday lives. How does one person's religious experience compare/contrast with another's? Personality types, prayer forms, biblical references, and theological studies will be examined in tandem with lived experiences. *One semester; three credits*

RS 270. WORLD RELIGIONS
A survey of the great religious traditions of the eastern and western worlds. Emphasis will be placed on their literature and expression in contemporary life. The religions studied are Hinduism and Buddhism from India, Confucianism and Taoism from China, Zen and Shinto from Japan, Judaism and Christianity from Palestine/Israel, and Islam from Arabia. Offered in the Spring semester. *One semester; three credits*

RS 280. CATHOLICISM
An examination of the teachings, structures, and cultural influence of Roman Catholicism with emphasis on the development of the American Catholic community after the influence of Vatican II. *One semester; three credits*

RS 285. THE CHURCH IN THE WORLD
A study of the theology and organization of various major Christian churches in terms of their relation with the world and each other. Different models of being church will be analyzed, including approaches to authority, worship, and religious pluralism. *One semester; three credits*

RS 290-299. SELECTED TOPICS IN RELIGION
Selected topics of special interest at an introductory level. Topics vary with instructor. *One semester; three credits*

RS 300. JESUS CHRIST
An investigation into the historical features of Jesus' ministry and message and His importance in the world today. The course will examine Christian doctrine about Jesus and probe the reasons for His appeal through the centuries. Prerequisite: any 200 level Scripture course—217, 218, 219, or 225. *One semester; three credits*

RS 320. RELIGION IN AMERICA
An examination of the various religious communities of the United States, how they were shaped by and helped shape the American culture. Prerequisite: any RS 200 level course. *One*

semester; three credits

RS 324. CHRISTIAN SPIRITUALITY
An examination of key figures and themes in Christian spirituality in terms of their different approaches to living the Christian life. Analysis will be made of each approach to spirituality in relation to Christian beliefs and values, the manner in which the spirituality is expressed in the daily practice of Christian life and the time period in which the spirituality developed. Prerequisite: any RS 200 level course. *One semester; three credits*

RS 326. SOCIAL AND POLITICAL THEOLOGIES
A critical examination of contemporary social and political theologies, such as liberation theology, black theology, feminist theology and womanist theology. Special attention will be given to the importance of social context in developing such theologies and their ways of drawing from and critiquing traditional Christian theological views. Prerequisite: any RS 200 level course. *One semester; three credits*

RS 330. JUSTICE AND SOCIETY
A study of issues relating to justice and human rights in contemporary social life (economic, political, cultural), focusing on the contributions of developing social justice teachings of the churches. Prerequisite: any RS 200 level course. One *semester; three credits*

RS 335. PHILOSOPHY OF RELIGION
(Same as PHIL 335) Prerequisite: any RS 200 level course. *One semester; three credits*

RS 345. GOD, EVIL AND SUFFERING
A consideration of the question of religious faith in the face of evil and seemingly senseless pain and suffering, as well as some of the more carefully-reasoned responses proffered within the history of Christian thought, both traditional and modern. *One semester; three credits*

RS 355. JUDAISM
A study of the beliefs and practices of the Jewish faith with particular emphasis on the time from the French Revolution to the present. Prerequisite: any RS 200 level course. *One semester; three credits*

RS 360. ISLAM
An analysis of the Islamic faith, its history, major beliefs, contribution to civilization around the world, and relationship with Judaism and Christianity. Course topics include the five pillars of Islam. Jihad, male/female, relations, worship and celebrations, community life, and contemporary global and geopolitical issues in relation to Islam. Prerequisite: any RS 200 level course. *One semester; three credits*

RS 371. SOCIOLOGY OF RELIGION
The study of the beliefs, practices, and organizational forms of religion using the tools and methods of sociology. Topics covered may include the relation of beliefs to social conditions, the role of religion in cultural formation and public life, religious pluralism and conflict, the nature of religious cults and sects, the influence of religion on racial, gender, and sexuality issues, and the affect modernity has on religious belief and practice. (same as SOC 371). Prerequisite: SOC 101. *One semester; three credits*

RS 375. THE PROPHETS
This course will examine the ideas of the Prophets of the Hebrew Scriptures (Old Testament) in the historical contexts in which they were presented. Students will explore the multiplicity of meanings and the many-layered intentions of the Prophets as understood by scholars spanning thousands of years. Prerequisite: any RS 200 level course. *One semester; three credits*

RS 380. PAUL: HIS LIFE AND HIS LETTERS
An historical and theological examination of the Apostle Paul and the Pauline letters, especially as they reflect the concerns of developing Christianity, including such issues as apocalypticism and the relation of Christian communities to the Jewish faith and the Roman Empire. Prerequisite: any RS 200 level course. *One semester; three credits*

RS 385. THE GOSPELS
A study of the four Gospels using contemporary techniques of biblical interpretation with particular emphasis on the developing Jewish tradition in the early Christian Community. Prerequisite: any RS 200 level course. *One semester; three credits*

RS 390-396. HONORS SPECIAL TOPICS
Special topics in religious studies open to members of the Honors Program or by permission of the instructor. *One semester: one to four credits.*

RS. 402. CONTEMPORARY RELIGIOUS THOUGHT
A serious study of one or more selected theologians and religious thinkers from the twentieth century. Prerequisite: any RS 200 level course. *One semester; three credit*

RS 405. HONORS CONTEMPORARY RELIGIOUS THOUGHT
This course is designed to study 20th century theologians and their theologies concerning scripture, tradition, and human experience. Prerequisite: any RS 200 level course and membership in the Honors Program. *One semester; three credits*

RS 485. INTERNSHIP
Combines work in a professional field with academic consideration of the relationship of that work to Religious Studies. Prerequisite: Permission of the Religious Studies Internship Director. *One semester; one to three credits*

RS 490-496. SPECIAL TOPICS IN RELIGION
Selected topics of interest to individual students or small groups. Prerequisite: Approval of instructor. *One semester; one to three credits*

RS 499. SENIOR SEMINAR
The seminar for Religion and Philosophy majors in their senior year includes an independent study project on a topic related to their previous years of study in the major. *One semester; three credits*

■ RUSSIAN COURSES

The foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of School of Arts concerning these classes.

RUSS 101-102. ELEMENTARY RUSSIAN
Elementary grammar, reading, and conversation, supplemented by assignments in the Language Center. Offered in sequence in Fall and Spring. *Two semesters; eight credits*

RUSS 201-202. INTERMEDIATE RUSSIAN.
Intermediate grammar and continued training in conversation and composition, supplemented by assignments in the Language Center. Reading of Russian texts of graded difficulty. Prerequisite: Russian 102 or the equivalent. Offered in sequence in Fall and Spring. *Two semesters; eight credits*

RUSS 205-215. SPECIAL TOPICS IN RUSSIAN.
Topics of special interest related to Russian history, literature, or culture. Offered in alternate years. *One semester; three credits*

RUSS 301-302. ADVANCED RUSSIAN.
Advanced grammar, with greater emphasis on the refinement of conversation and composition skills. Discussion of topics related to contemporary life in Russia. Prerequisite: Russian 202 or the equivalent. Offered in sequence in Fall and Spring. *Two semesters;- six credits*

■ SOCIOLOGY COURSES

SOC 101. INTRODUCTION TO SOCIOLOGY
An introduction to the sociological perspective. Sociology seeks to explain the origin and functioning of social behavior as it appears in such areas as the family, religion, economic structures, political structures, schools, deviant behavior, cultural norms, and other areas of human social interaction. As part of the process, students will be introduced to basic sociological terms, concepts, and theories. *One semester; three credits*

SOC 160. CULTURAL ANTHROPOLOGY (Formerly ANTH 150 and SOC 150)
(Same as ANTH 160) *One semester; three credits*

SOC 200. CRIMINAL JUSTICE (Formerly SOC 360)
(Same as CJ 200) Prerequisite: SOC 101. *One semester; three credits*

SOC 202. CONTEMPORARY SOCIAL PROBLEMS
The course focuses on a "systems approach" to social reality and provides students with the opportunity to comprehend, analyze, and evaluate social conditions, problems, and alternative solutions. Seeks to explore the critical assumptions that inform clashing views on controversial social issues. Students develop and practice skills of social policy analysis. Prerequisite: SOC 101 and Junior standing. *One semester; three credits*

SOC 220. SOCIAL JUSTICE AND SERVICES
(Same as CJ 220) Prerequisite: SOC 101. *One semester; three credits*

SOC 225. JUVENILE JUSTICE (Formerly SOC 355)
(Same as CJ 255) Prerequisite: SOC 101. *One semester; three credits*

SOC 228. REALITY, FANTASY, AND MEDIA
(Same as PSYC 228) Prerequisite: PSYC 105 or special permission of the instructor. *One semester; three credits*

SOC 229. HONORS REALITY, FANTASY, AND MEDIA
(Same as PSYC 229) Prerequisite: Membership in the Honors Program, PSYC 105, or special permission of the instructor. *One semester; three credits*

SOC 245. CHILD SEXUAL ABUSE
(Same as CJ 245 and PSYC 245) *One semester; three credits*

SOC 250. SERIAL KILLERS
(Same as CJ 250 and PSYC 250) *One semester; three credits*

SOC 270. DYNAMICS OF GENDER
(Same as PYSC 270) Prerequisite: PSYC 105 or SOC 101. *One semester; three credits*

SOC 279. INTRODUCTION TO ARCHAEOLOGY
(Same as ANTH 279) *One semester; three credits*

SOC 280-287. SELECTED TOPICS IN SOCIOLOGY
Directed research on a special topic or project in sociology. *One semester; one to three credits*

SOC 290-299. HONORS SPECIAL TOPICS
Special topics in behavioral sciences open to members of the Honors Program or by permission of the instructor. *One semester; one to four credits*

SOC 301. MEDICAL ANTHROPOLOGY (Formerly ANTH 305 and SOC 305)
(Same as ANTH 301) *One semester; three credits*

SOC 310. DEATH AND DYING
(Same as PSYC 310) *One semester; three credits*

SOC 315. CROSS-CULTURAL CRIMINAL JUSTICE
(Same as ANTH 315 and CJ 315) *One semester; three credits*

SOC 320. HONORS SEMINAR: DEATH AND DYING
(Same as PSYC 320) Prerequisite: Membership in Honors Program or special permission of instructor. *One semester; three credits*

SOC 325. TOPICS IN AGING
(Same as PSYC 325) Prerequisite: PSYC 105 or SOC 101. *One semester; three credits*

SOC 345. HUMAN SEXUALITY
(Same as PSYC 345) Prerequisite: PSYC 105 or SOC 101. *One semester; three credits*

SOC 351. SOCIOLOGY OF THE FAMILY
A survey of changes in family systems over the years. Areas of study include courtship, love, mate selection, parenthood, and family problems. The course also examines cross-cultural comparisons and considers alternatives to traditional family forms. Emphasis is placed on the use of the empirical evidence to evaluate popular beliefs. Prerequisite: SOC 101 or permission of the instructor. *One semester; three credits*

SOC 353. SOCIAL PSYCHOLOGY
(Same as PSYC 353) Prerequisite: PSYC 105 or SOC 101. *One semester; three credits*

SOC 362. SOCIOLOGY OF ADDICTION
A social scientific approach to the nature, role, and effects of chemical and psychological addiction in society. Explores a variety of addiction issues as they relate to the social institutions of family, education, politics, and medicine. Prerequisite: SOC 101. (Same as CJ 362) *One semester; three credits*

SOC 365. DEVIANT BEHAVIOR
(Same as CJ 365 and PSYC 365) *One semester; three credits*

SOC 370. APPLICATIONS OF MEMORY
(Same as CJ 370 and PSYC 370) *One semester; three credits*

SOC 371. SOCIOLOGY OF RELIGION
(Same as RS 371) Prerequisite: SOC 101. *One semester; three credits*

SOC 380-387. SELECTED TOPICS IN SOCIOLOGY
Directed work on a special topic or project in Sociology. *One semester; one to three credits*

SOC 390-396. HONORS SPECIAL TOPICS IN SOCIOLOGY
Directed work on a special topic or project in Sociology open to members of the Honors Program or by permission of the instructor. *One semester; one to three credits*

SOC 450, 451. INDEPENDENT RESEARCH IN SOCIOLOGY
(Same as PSYC 450, 451) Prerequisite: Permission of chair of Behavioral Sciences. *Two semesters; two credits each*

SOC 480-487. ADVANCED TOPICS IN SOCIOLOGY
Directed work on a special topic or project in Sociology. *One semester; one to three credits.*

■ SPANISH COURSES

SPAN 101, 102. ELEMENTARY SPANISH
Fundamentals of grammar and syntax. Intensive drills in understanding, speaking and reading. Fluency of oral-aural skills is the main objective. Not open for credit to native speakers of Spanish. Offered in sequence in the Fall and Spring. *Two semesters; six credits*

SPAN 103, 104. SPANISH CONVERSATION AND CULTURE I
Fundamentals of Spanish grammar and conversation applied to a specific cultural context, such as business. Does not fulfill the language requirement for Arts majors. Offered in sequence in the Fall and Spring. *Two semesters; six credits*

SPAN 201, 202. INTERMEDIATE SPANISH
Continued attention to essentials of grammar and composition. Readings in the short story and cultural texts. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 101, 102. Offered in sequence in the Fall and Spring. *Two semesters; six credits*

SPAN 203, 204. INTERMEDIATE SPANISH CONVERSATION AND CULTURE
Intermediate level Spanish grammar and conversation applied to a specific cultural context, such as business. Prerequisites: SPAN 103, 104 or the equivalent. Does not fulfill the language requirement for Arts majors. *Two semesters; three credits*

SPAN 301, 302. COMPOSITION AND CONVERSATION
Continued study of Spanish grammar and composition. Drill on difficult constructions and theme writing. Reports and discussions on selected aspects of Hispanic civilization. Not open for credit to native speakers of Spanish. Prerequisites: SPAN 201, 202 or the equivalent. Offered in sequence in the Fall and Spring. *Two semesters; six credits*

SPAN 313, 314. SPANISH LITERATURE AND CIVILIZATION
The study of the cultures of Spain and Latin America as reflected in their history, literature, and art from their origins to the present. Prerequisite: Two years of college Spanish or equivalent. Offered in sequence in the Fall and Spring. *Two semesters; six credits*

SPAN 316. BUSINESS SPANISH
An introduction to business and technology in the Spanish-speaking world from a personal, everyday life perspective. Study includes banking, telecommunications, computers, the Internet, corporate organization, interviewing, resume writing, and business correspondence. Prerequisite: Two years of college Spanish or the equivalent. Offered in the Spring semester. *One semester; three credits*

SPAN 380-389. SPECIAL TOPICS IN SPANISH.
Topics of special interest related to Spanish literature, language, or culture. Prerequisite: Spanish 302 or 314 and permission of instructor. Offered in Fall or Spring. *One semester; three credits*

SPAN 400-410. RESEARCH TOPICS IN SPANISH
Original writing projects or independent study and research in literature, pursued under the guidance of a member of the Spanish faculty. Syllabus and credit hours contracted by the student with the Spanish professor. *One semester each; one to three credits each*

The remainder of the foreign language courses under this heading are offered on the campus of Rhodes College under the instruction of Rhodes faculty. See the Dean of the School of Arts concerning these classes.

SPAN 480-489. SPECIAL TOPICS IN SPANISH.
Topics of special interest related to advanced study of Spanish literature, language, or culture. Prerequisite: Spanish 302 or 314 and permission of instructor. Offered in Fall or Spring. *One semester; three credits*

■ SPEECH COURSE

SPCH 125. SPEECH COMMUNICATION
A study of the principles of public speaking. Emphasis placed on differences between spoken and written language, organization, persuasive argument, and delivery skills. *One semester; three credits*

STATISTICS COURSES

STAT 221. ELEMENTARY BUSINESS STATISTICS (Formerly BUS 221)
A basic course in general statistical methods with applications in the field of business and economics. Content includes analysis of data in terms of measures of central tendency or averages, measures of dispersion and skewness, probability theory, and basic aspects of tests of hypotheses. Prerequisite: MATH 105 or equivalent. Prerequisite: ITM 153. *One semester; three credits*

STAT 222. INTERMEDIATE BUSINESS STATISTICS (Formerly BUS 222)
A further study in statistical methods and its application in the field of business and economics. The course content consists of additional analysis on testing hypotheses; basic quality control evaluation; time series analysis including trend, seasonal and cyclical computations; index numbers, linear regression and correlation with an introductory approach to non-linear, multiple, partial and rank correlation. Prerequisite: MATH 106 and STAT 221. Corequisite: MKTG 311. *One semester; three credits*

■ THEATRE COURSES

THEA 107-108; 207-208; 307-308; 407-408. THEATRE PRODUCTION WORKSHOP I
A set of practical courses which provide instruction and lab in five areas of theatre production: Costumes/Make-up; Acting/Directing; Scenery/Props; Light/Sound; and Publicity/Management. A minimum of 45 lab hours plus a written summary of the student's experience is required. Offered in the Fall and Spring. *Eight semesters; one credit each*

THEA 115. INTRODUCTION TO THE THEATRE
A brief but comprehensive study of the theatre, designed to arouse a wide range of interests—critical, historical, artistic—needed for a well-rounded appreciation of the whole. Includes attendance at plays for evaluation. *One semester; three credits*

THEA 127-128; 227-228; 327-328; 427-428. THEATRE PRODUCTION WORKSHOP II
A set of practical courses which provide instruction and lab in five areas of theatre production: Costumes/Make-up; Acting/Directing; Scenery/Props; Light/Sound; and Publicity/Manage-

ment. A minimum of 90 lab hours plus a written summary of the student's experience is required. Offered in the Fall and Spring. *Eight semesters; two credits each*

THEA 221. ACTING
Introduction to the craft of acting with focus on elementary techniques and principles. Designed to meet the needs of those directly concerned with theatre production but valuable also for students seeking to make better use of imagination and poise in social and professional situations. Taught primarily through improvisation with exercises in relaxation and techniques of body and voice flexibility and control. Offered in the Fall semester. *One semester; three credits*

THEA 231-239. SPECIAL TOPICS IN THEATRE
Topics in the areas of speech or theatre, based on special interest of students or special expertise of faculty. No prerequisite. *One semester; one to three credits*

THEA 315. HISTORY OF THE THEATRE
An in-depth study of the theatre including samples of dramatic literature from ancient Greece to the present. (Same as ENG 315) *One semester; three credits*

THEA 317. FIELD STUDY IN LIVE THEATRE
A study of live theatre. The plays covered will be seen during the semester at local Memphis theatres. Emphasis will be placed on contact with the professional theatre as well as opportunities to analyze and discuss the productions seen. *One semester; three credits*.

THEA 377. ORAL INTERPRETATION OF LITERATURE
The development of responsiveness to prose, poetry, and drama and the ability to communicate the logical, emotional, and aesthetic elements to others. Students certifying in elementary education will study children's literature in the content of this course. *One semester; three credits*

THEA 401-402. INDEPENDENT STUDY IN THEATRE
An individual study project that will have as its end result the presentation of a well researched thesis or an approved project in Fine Arts. Syllabus and credit hours contracted by the student with Chair of Fine Arts and Speech program. Offered in the Fall and Spring. *One semester each; one to three credits*

THEA 421-426. SPECIAL TOPICS IN THEATRE
Topics in the areas of speech or theatre, based on special interest of students or special expertise of faculty. *One semester each; one to three credits each*

THEA 475. SENIOR RECITAL
Rehearsal of monologues or concert theatre piece culminating in performance before an audience. Program will be evaluated and approved by instructor prior to public performance. Written work includes script analysis, character profiles, and detailed written critiques of videotapes of performances. *One semester; three credits*