

## **Descriptions**

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The Alabama Community College System Course Directory lists common course names, numbers, and descriptions used by all of Alabama's two-year colleges. Courses that satisfy Areas I-IV of the General Studies curriculum at all public Alabama colleges and universities are indicated by the appropriate Area notation. Other courses that may transfer and may meet requirements for articulated programs have the following codes:

*Code A - AGSC* - approved transfer courses in Areas I-IV that are common to all institutions.

*Code B* - Area V courses that are deemed appropriate to the degree and pre-major requirements of individual students.

*Code C* - Potential Area V transfer courses that are subject to approval by respective receiving institutions.

Catalog numbers ending with the number one (as ENG 101) indicate that the course is ordinarily to be considered as the first part of a course sequence consisting of two semester's work; the catalog number of the second part of the sequence ends with the number two (as ENG 102). While credit is earned separately for each course, to satisfy requirements in such subjects, it is generally necessary to take both courses.

Courses numbered 001-099 are offered for institutional credit. These courses are not designed to transfer and do not count toward graduation. Courses numbered 100 through 199 are primarily for freshmen; courses numbered 200 through 299 are primarily for sophomores. Courses requiring no prerequisites are open to all students regardless of the catalog number.

The College reserves the right to cancel any course for which the demand is insufficient. The term "credit" indicates the number of semester-hours of credit granted after successfully completing a course. Prerequisite or co-requisite requirements are listed with the course description in the catalog. It is the responsibility of the student to know these requirements and follow them when registering. The instructor of the course and the appropriate division chair must approve any waiver of these requirements.

A complete list of the courses being offered is published each term in the class schedule.

Note: Theory, lab and credit hours are indicated in parenthesis at the end of each course title below and are presented in the following format: (theory hours, lab hours, credit hours).

### **Advanced Manufacturing**

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#### **ADM 100. Industrial Safety (3-0-3)**

This course is an introduction to general issues, concepts, procedures, hazards, and safety standards found in an industrial environment. This safety course is to make technicians aware of safety issues associated with their changing work environment and attempt to eliminate industrial accidents.

#### **ADM 101. Precision Measurement (2-2-3)**

This course covers the use of precision measurement instruments utilized in inspection. In addition, basic print reading techniques reverse engineering, and related industry standards required in advanced manufacturing disciplines are covered. Upon completion, students should be able to demonstrate correct use of precision measuring instruments, interpret basic prints and apply basic reverse engineering techniques. This is a CORE course and is aligned with NIMS certification standards.

### **ADM 102 Computer Aided Design (1-4-3)**

This course is an introduction to basic Computer Aided Design functions and techniques using “hands-on” applications. Topics include terminology, hardware, basic computer aided design (CAD) and operating system functions, file manipulation, industry standards for CAD drawings, and basic CAD software applications in producing softcopy and hardcopy. At the completion of this course, students should be proficient in the production of two-dimensional drawings that meet technical standards including setting up print styles and exporting drawings to the appropriate format. This is a CORE course.

### **ADM 103. Introduction to Computer Integrated Manufacturing (CIM) and Materials & Processes (2-2-3)**

This course provides an overview of the materials and processes used in advanced manufacturing. In addition, this course is a basic introduction to concepts related to the computer integrated manufacturing (CIM) process. The student will be exposed to the theory behind the complete automation of a manufacturing plant with all processes functioning under computer control and digital information tying them together. The technician’s role in the process improvement of not only the cell but the full CIM system, related safety, and inspection and process adjustment are also covered. This is a CORE course.

### **ADM 104. Introduction to Thermal/Electrical Principles (1-4-3)**

This course serves as an introduction to electrical/electronic, air conditioning, and refrigeration principles. Instruction is provided in electrical theory and a fundamental overview of circuit analysis of resistive, capacitive, resonant, and tuned circuits. In addition, the basic theory and principles of heating, ventilation, air conditioning, and refrigeration (HVAC/R) system components; common and specialty tools for HVAC/R; and applications of the concepts of basic compression refrigeration are covered. Upon completion, the student should have a basic knowledge of electricity/electronics theory and be able to identify and understand the functions of HVAC/R system components, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system. This is a CORE course.

### **ADM 105. Fluid Systems (1-4-3)**

This course includes the fundamental concepts and theories for the safe operation of hydraulic and pneumatic systems used with industrial production equipment. Topics include the physical concepts, theories, laws, air flow characteristics, actuators, valves, accumulators, symbols, circuitry, filters, servicing safety, and preventive maintenance and the application of these concepts to perform work. Upon completion, students should be able to service and perform preventive maintenance functions on hydraulic and pneumatic systems. This is a CORE course.

### **ADM 106. Quality Control Concepts (3-0-3)**

This course provides an overview of the materials and processes and quality assurance topics used in commercial and specialized manufacturing products. Emphasis is placed on process evaluation techniques that can be extrapolated to other system areas such as new products and new technology. Emphasis is also placed on quality assurance including the history of the quality movement, group problem solving, and statistical methods such as statistical process control (SPC), process capability studies, and the concepts associated with lean manufacturing.

## **Accounting**

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### **ACC 115. College Accounting (3-2-4)**

This course introduces basic accounting principles for a sole proprietorship. Topics include the complete accounting cycle with end-of-period statements, bank reconciliation, payrolls, and petty cash. Upon completion, students should be able to demonstrate an understanding of accounting principles and apply those skills to a business organization. Code C

### **ACC 129. Individual Income Taxes (2-2-3)**

This course introduces the relevant laws governing individual income taxation. Emphasis is placed on filing status, exemptions for dependents, gross income, adjustments, deductions, and computation of tax. Upon completion, students should be able to complete various tax forms pertaining to the topics covered in the course. Code C

### **ACC 140. Payroll Accounting (1-2-2)**

**Prerequisite:** ACC 115 or BUS 241

This course covers federal and state laws pertaining to wages, payroll taxes, payroll tax forms, and journal and general ledger transactions. Emphasis is placed on computing wages; preparing appropriate payroll tax forms; and journalizing/posting transactions. Upon completion, students should be able to analyze data, make appropriate computations, complete forms, and prepare accounting entries. Code C

### **ACC 149. Introduction to Accounting Spreadsheets (3-0-3)**

**Prerequisite:** CIS 146

This course provides a working knowledge of computer spreadsheets and their use in accounting. Topics include pre-programmed problems, model-building problems, beginning-level macros, graphics, and what-if analysis enhancements of template problems. Upon completion, students should be able to use a computer spreadsheet to complete many of the tasks required in accounting. Code C (Dual listed as CIS 113, OAD243)

### **ACC 150. Computerized General Ledger (2-2-3)**

**Prerequisite:** ACC 115, BUS 241 or consent of instructor

This course introduces microcomputer applications related to the major accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting package to solve accounting problems. Code C

### **ACC 220. Intermediate Accounting I (3-2-4)**

**Prerequisite:** BUS 242

This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and statements and extensive analyses of balance sheet components. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards. Code C

## **ACC 221. Intermediate Accounting II (3-2-4)**

**Prerequisite:** ACC 220, BUS 242

This course is a continuation of ACC 220. Emphasis is placed on special problems which may include leases, bonds, investments, ratio analyses, present value applications, accounting changes, and corrections. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. Code C

## **Air Conditioning/Refrigeration Technology**

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### **ACR 111. Principles of Refrigeration (1-4-3)**

This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer, HVAC/R system components, common, and specialty tools for HVAC/R, and application of the concepts of basic compression refrigeration. Upon completion, students should identify system components and understand their functions, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system. This is a CORE course.

### **ACR112. HVACR Service Procedures (1-4-3)**

This course covers system performance checks and refrigerant cycle diagnosis. Emphasis is placed on the use of refrigerant recovery/recycle units, industry codes, refrigerant coils and correct methods of charging and recovering refrigerants. Upon completion, students should be able to properly recover/recycle refrigerants and demonstrate safe, correct service procedures which comply with the no-venting laws.

### **ACR 113. Refrigeration Piping Practices (1-4-3)**

The course introduces students to the proper installation procedures of refrigerant piping and tubing for the heating, ventilation, air conditioning and refrigeration industry. This course includes various methods of working with and joining tubing. Upon completion, students should comprehend related terminology, and be able to fabricate pipe, tubing, and pipe fittings. This is a CORE course.

### **ACR 119. Fundamentals of Gas Heating Systems (1-4-3)**

This course provides instruction on general service and installation for common gas furnace system components. Upon completion, students will be able to install and service gas furnaces in a wide range of applications.

### **ACR 120. Fundamentals of Electric Heating Systems (1-4-3)**

This course covers the fundamentals of electric heating system systems. Emphasis is placed on components, general service procedures, and basic installation. Upon completion, students should be able to install and service electric heating systems and heat pumps.

### **ACR 121. Principles of Electricity for HVAC/R (1-4-3)**

This course is designed to provide the student with the basic knowledge of electrical theory and circuitry as it pertains to air conditioning and refrigeration. This course emphasizes safety, definitions, symbols, laws, circuits, and electrical test instruments. Upon completion students should understand and be able to apply the basic principles of HVACR circuits and circuit components. This is a CORE course.

### **ACR 148. Heat Pump SYSTEMS I(1-4-3)**

This course provides basic instruction on the operation and servicing of heat pump systems. Additional emphasis is placed on basic theory and application of refrigerants for heat pump systems and on basic service of components. Upon completion students will be able to install and service heat pumps.

### **ACR 183. Special Topics in Air Conditioning and Refrigeration (1)**

This course provides students with opportunities to experience hands-on application of specialized instruction in various areas related to the air conditioning and refrigeration industry.

## **Anthropology**

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### **ANT 200. Introduction to Anthropology (3-0-3)**

**Core, Area IV**

This course is a survey of physical, social, and cultural development and behavior of human beings. Code A

## **Art**

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### **ART 100. Art Appreciation (3-0-3)**

**Core, Area II**

**Prerequisite: Completion of developmental English and reading coursework if needed. (ENG 093 and RDG 085)**

This course is designed to help the student find personal meaning in works of art and develop a better understanding of the nature and validity of art. Emphasis is on the diversity of form and content in original art work. Upon completion, students should understand the fundamentals of art, the materials used and have a basic overview of the history of art. Code A

### **ART 113. Drawing I (0-6-3)**

This course provides the opportunity to develop perceptual and technical skills in a variety of media. Emphasis is placed on communication through experimenting with composition, subject matter and technique. Upon completion, students should demonstrate and apply the fundamentals of art to various creative drawing projects. Code B

### **ART 114. Drawing II (0-6-3)**

**Prerequisite: ART 113**

This course advances the students drawing skills in various art media. Emphasis is placed on communication through experimentation, composition, technique and personal expression. Upon completion, students should demonstrate creative drawing skills, the application of the fundamentals of art, and the communication of personal thoughts and feelings. Code B

### **ART 121. Two-Dimensional Composition I (0-6-3)**

This course introduces the basic of concepts of two-dimensional design. Topics include the elements and principles of design with emphasis on the arrangements and relationships among them. Upon completion, students should demonstrate an effective use of these elements and principles of design in creating two-dimensional compositions. Code B

### **ART 203. Art History I (3-0-3)**

**Core, Area II**

**Prerequisite: Completion of developmental English and reading coursework if needed. (ENG 093 and RDG 085)**

This course covers the chronological development of different forms of art, such as sculpture, painting, and architecture. Emphasis is placed on history from the ancient period through the Renaissance. Upon completion, students should be able to communicate a knowledge of time period and chronological sequence including a knowledge of themes, styles and of the impact of society on the arts. Code A

### **ART 204. Art History II (3-0-3)**

**Core, Area II**

**Prerequisite: Completion of developmental English and reading coursework if needed. (ENG 093 and RDG 085)**

This course covers a study of the chronological development of different forms of art, such as sculpture, painting and architecture. Emphasis is placed on history from the Baroque to the present. Upon completion, students should be able to communicate a knowledge of time period and chronological sequence including a knowledge of themes, styles and of the impact of society on the arts. Code A

### **ART 231. Watercolor Painting I (0-6-3)**

**Prerequisite: ART 113, ART 121, or consent of instructor**

This course introduces materials and techniques appropriate to painting on paper with water-based medium. Emphasis is placed on developing the technical skills and the expressive qualities of watercolor painting. Upon completion, students should be able to demonstrate a basic proficiency in handling the techniques of watercolor and how it can be used for personal expression. Code C

### **ART 233. Painting I (0-6-3)**

**Prerequisite: ART 113, ART 121, or consent of instructor**

This course is designed to introduce the student to fundamental painting processes and materials. Topics include art fundamentals, color theory, and composition. Upon completion, students should be able to demonstrate the fundamentals of art and discuss various approaches to the media and the creative processes associated with painting. Code C

### **ART 234. Painting II (0-6-3)**

**Prerequisite: ART 233**

This course is designed to develop the student's knowledge of the materials and procedures of painting beyond the introductory level. Emphasis is placed on the creative and technical problems associated with communicating through composition and style. Upon completion, students should be able to demonstrate the application of the fundamentals of painting and the creative process to the communication of ideas. Code C

### **ART 286. Art for Teachers (3-0-3)**

This course provides the opportunity for prospective teachers to experience and analyze art in order to effectively incorporate the art curriculum into the classroom. Emphasis is placed on the exploration of teaching skills using art knowledge and the aesthetic experience. Upon completion, students should be able to demonstrate the ability to communicate art knowledge and the validity of the art curriculum. Code C

## **Automotive Manufacturing Technology**

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### **AUT 210. Industrial Robotics (3-0-3)**

This course covers principles of electro-mechanical devices. Topics include the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion, students should be able to apply the principles of electro-mechanical devices.

### **AUT 211. Industrial Robotics Lab (0-4-2)**

This lab covers the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion students should be able to apply the principles of electro-mechanical devices.

### **AUT 212. Robot Operation and Programming (2-2-3)**

This training course is designed to provide the basic skills needed to operate and program the robot cell. The course provides both classroom and performance based hands on training in the use of controls, operations, and part programming.

## **Basic Study Skills/Personal Development**

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### **BSS 100. Career Planning and Personal Development (1-0-1) or (3-0-3)**

This courses is designed to provide an awareness of and preparation for the world of work. It provides direction in career planning by evaluating individual interest, values, skills, and personality needs to set career goals and establish strategies to achieve those goals. Code C

### **BSS 118. College Study Skills (1-0-1)**

This course covers skills and strategies designed to improve study behaviors. Topics include time management, note taking, test taking, memory techniques, active reading strategies, critical thinking, communication skills, learning styles, and other strategies for effective learning. Upon completion, students should be able to apply appropriate study strategies and techniques to the development of an effective study plan. Code C

### **BSS 121. Managing a Team (1-0-1)**

This course focuses on the process of the individual with an awareness of the reality in the collective teamwork approach for the workplace emphasizing process-orientation. Topics include how teams work, team effectiveness, team-building techniques, positive thinking, and leadership principles. Upon completion, students should be able to demonstrate an understanding of how teamwork strengthens ownership, involvement, and responsibility in the workplace. Code C

### **BSS 220. Professional Transition (1-0-1)**

This course provides preparation for meeting the demands of employment or education beyond the community college experience. Emphasis is placed on strategic planning, gathering information on workplaces or colleges, and developing human interaction skills for professional, academic, and/or community life. Upon completion, students should be able to successfully make the transition to appropriate workplaces or senior institutions. Code C

## **Biology**

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### **BIO 103. Principles of Biology I (3-2-4)**

**Core, Area III**

**Prerequisite: Regular admission status; MTH 098**

**All developmental coursework as identified by the COMPASS Test should be completed or appropriate mathematics placement score.**

This is an introductory course for science and non-science majors. It covers physical, chemical, and biological principles common to all organisms. These principles are explained through a study of cell structure and function, cellular reproduction, basic biochemistry, cell energetics, the process of photosynthesis, and Mendelian and molecular genetics. Also included are the scientific method, basic principles of evolution, and an overview of the diversity of life with emphasis on viruses, prokaryotes, and protist. A 120-minute laboratory is required. Code A

### **BIO 104. Principles of Biology II (3-3-4)**

**Core, Area III**

**Prerequisite: BIO 103**

This course is an introduction to the basic ecological and evolutionary relationships of plants and animals and a survey of plant and animal diversity, including classification, morphology, physiology, and reproduction. A 180-minute laboratory is required. Code A

### **BIO 201. Human Anatomy and Physiology I (3-2-4)**

**Prerequisite: BIO 103**

Human Anatomy and Physiology I covers the structure and function of the human body. Included is an orientation of the human body, basic principles of chemistry, a study of cells and tissues, metabolism, joints, and integumentary, skeletal, muscular, and nervous systems, and the senses. Dissection, histological studies, and physiology are featured in the laboratory experience. A 120-minute laboratory is required. Code B

### **BIO 202. Human Anatomy and Physiology II (3-2-4)**

**Prerequisite: BIO 103 and BIO 201**

Human Anatomy and Physiology II covers the structure and function of the human body. Included is a study of basic nutrition, basic principles of water, electrolyte, and acid-base balance, the endocrine, respiratory, digestive, excretory, cardiovascular, lymphatic, and reproductive systems. Dissection, histological studies, and physiology are featured in the laboratory experience. A 120-minute laboratory is required. Code B

### **BIO 220. General Microbiology (2-4-4)**

**Prerequisite: BIO 103; 4 semester hours of chemistry recommended**

This course includes historical perspectives, cell structure and function, microbial genetics, infectious diseases, immunology, distribution, physiology, culture, identification, classification, and disease control of microorganisms. The laboratory experience includes micro-techniques, distribution, culture, identification, and control. Two 120-minute laboratories are required. Code B



## **Building Construction**

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### **BUC 111. Basic Construction Layout (1-4-3)**

This course provides students basic building layout skills. Topics include the builder's level, transit, and basic site layout techniques. Upon completion, students should be able to solve differential leveling problems, set up and operate the builder's level and transit, build batter boards, and perform basic construction layout procedures.

### **BUC 112. Construction Measurements and Calculations (3-0-3)**

This course focuses on the mathematics and calculations used in building construction. Topics include direct and computed measurements and practical applications of mathematical formulas. Upon completion, students should be able to apply measurement and mathematical formulas used in building construction.

### **BUC 133. Standard Building Codes (3-0-3)**

This course focuses on building codes, real estate, and project scheduling. Topics include real estate, project planning, specifications, company structure and organization, building codes and related legal aspects. Upon completion, students should be able to identify the components of the construction process, locate information in building code books, plan construction projects and understand the implications of various real estate issues.

### **BUC 210. Current Topics in Building Construction (1-4-3)**

This course focuses on current trends and emerging technologies in construction trades. Emphasis is placed on, but not limited to, field engineering, ironwork, concrete system design, materials and methods of construction, supervision, construction scheduling, sketching for builders, craft foremanship, and the total station. Upon completion, students should have developed new skills in areas of specialization.

## **Business**

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### **BUS 100. Introduction to Business (3-0-3)**

This is a survey course designed to acquaint the student with American business as a dynamic process in a global setting. Topics include the private enterprise system, forms of business ownership, marketing, factors of production, personnel, labor, finance, and taxation. Code C

### **BUS 105. Customer Service (3-0-3)**

This course presents the foundations required for developing skills and knowledge to work effectively with internal and external customers. The student will gain an understanding of the skills, attitudes, and thinking patterns needed to win customer satisfaction and loyalty. Code C

### **BUS 146. Personal Finance (3-0-3)**

This course is a survey of topics of interest to the consumer. Topics include budgeting, financial institutions, basic income tax, credit, consumer protection, insurance, house purchase, retirement planning, estate planning, investing, and consumer purchases. Code C

### **BUS 150. Business Math (3-0-3)**

This course is a study of practical business mathematics. Topics include fundamental processes of arithmetic with emphasis on decimals and percentages, markup, discounts, bank reconciliation, simple and compound interest discounting notes, depreciation methods and present value. Code C

**BUS 175. Retailing (3-0-3)**

This course is a study of the principles and practices of retailing. Topics include planning, policies and procedures of distribution, store design, layout and location, the economic and social role of retailing, competitive strategies, and retail management. Code C

**BUS 186. Elements of Supervision (3-0-3)**

This course is an introduction to the fundamentals of supervision. Topics include the functions of management, responsibilities of the supervisor for management employee relations, organizational structure, project management, and employee training and rating. (Dual listed as MST 111) Code C

**BUS 189. Human Relationships (3-0-3)**

This course enables employees to better understand actions and motivations within the organizational structure. Topics include general principles of human behavior operating in the workplace. Code C

**BUS 215. Business Communication (3-0-3)**

**Prerequisite:** ENG 101 or ENG 131

This course covers written, oral, and nonverbal communications. Topics include the application of communication principles to the production of clear, correct, and logically organized faxes, e-mail, memos, letters, resumes, reports, and other business communications. Code C

**BUS 241. Principles of Accounting I (3-0-3)**

This course is designed to provide a basic theory of accounting principles and practices used by service and merchandising enterprises. Emphasis is placed on financial accounting, including the accounting cycle and financial statement preparation. Code B

**BUS 242. Principles of Accounting II (3-0-3)**

**Prerequisite:** BUS 241

This course is a continuation of BUS 241. In addition to a study of financial accounting, this course also places emphasis upon managerial accounting, with coverage of corporations, statement analysis, introductory cost accounting, and use of information for planning, control, and decision-making. Code B

**BUS 263. The Legal and Social Environment of Business (3-0-3)**

This course provides an overview of the legal and social environment for business operations with emphasis on contemporary issues and their subsequent impact on business. Topics include the Constitution, the Bill of Rights, the legislative process, civil and criminal law, administrative agencies, trade regulations, consumer protection, contracts, employment, and personal property. Code B

**BUS 271. Business Statistics I (3-0-3)**

**Prerequisite:** MTH 100 or equivalent

This is an introductory study of basic statistical concepts applied to economic and business problems. Topics include the collection, classification, and presentation of data, statistical description and analysis of data, measures of central tendency and dispersion, elementary probability, sampling, estimation, and introduction to hypothesis testing. Code B

### **BUS 272. Business Statistics II (3-0-3)**

**Prerequisite:** BUS 271

This course is a continuation of BUS 271. Topics include sampling theory, statistical inference, regression and correlation, chi square, analysis of variance, time series index numbers, and decision theory. Code B

### **BUS 275. Principles of Management (3-0-3)**

This course provides a basic study of the principles of management. Topics include planning, organizing, staffing, directing, and controlling with emphasis on practical business applications. Code B

### **BUS 276. Human Resource Management (3-0-3)**

This course provides an overview of the responsibilities of the supervisor of human resources. Topics include the selection, placement, testing, orientation, training, rating, promotion, and transfer of employees. (Dual listed as MST 201) Code C

### **BUS 279. Small Business Management (3-0-3)**

This course provides an overview of the creation and operation of a small business. Topics include buying a franchise, starting a business, identifying capital resources, understanding markets, managing customer credit, managing accounting systems, budgeting systems, inventory systems, purchasing insurance, and the importance of appropriate legal counsel. (Dual listed as MST 215) Code C

### **BUS 280. Industrial Management (3-0-3)**

This course provides an overview of management in an industrial setting. Topics include operations analysis, research and development, physical facilities, production planning, productivity improvement, product flow, quality control, jobs and wages, and employee motivation. (Dual listed as MST 217) Code C

### **BUS 285. Principles of Marketing (3-0-3)**

This course provides a general overview of the field of marketing. Topics include marketing strategies, channels of distribution, marketing research and consumer behavior. Code B

## **Chemistry**

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### **CHM 104. Introduction to Inorganic Chemistry (3-3-4)**

**Core, Area III**

**Prerequisite:** MTH 098 or equivalent math placement score

This survey course of general chemistry is for students who do not intend to major in science or engineering and may not be substituted for CHM 111. Lecture will emphasize the facts, principles, and theories of general chemistry, including math operations, matter and energy, atomic structure, symbols and formulas, nomenclature, the periodic table, bonding concepts, equations, reactions, stoichiometry, gas laws, phases of matter, solutions, pH, and equilibrium reactions. Laboratory is required. Code A

### **CHM 105. Introduction to Organic Chemistry (3-3-4)**

**Core, Area III**

**Prerequisite:** CHM 104 or CHM 111

This is a survey course of organic chemistry and biochemistry for students who do not intend to major in science or engineering. Topics will include basic nomenclature, classification of organic compounds, typical organic reactions, reactions involved in life processes, the function of bio- molecules, and the handling and disposal of organic compounds. Laboratory is required. Code A

### **CHM 111. College Chemistry I (3-3-4)**

**Core, Area III**

**Prerequisite:** MTH 112 or equivalent math placement score

This is the first course in a two-semester sequence designed for the science or engineering major who is expected to have a strong background in mathematics. Topics in this course include measurement, nomenclature, stoichiometry, atomic structure, equations and reactions, basic concepts of thermochemistry, chemical and physical properties, bonding, molecular structure, gas laws, kinetic-molecular theory, condensed matter, solutions, colloids, and some descriptive chemistry topics. Laboratory is required. Code A

### **CHM 112. College Chemistry II (3-3-4)**

**Core, Area III**

**Prerequisite:** CHM 111

This is the second course in a two-semester sequence designed primarily for the science and engineering student who is expected to have a strong background in mathematics. Topics in this course include chemical kinetics, chemical equilibria, acids and bases, ionic equilibria of weak electrolytes, solubility product principle, chemical thermodynamics, electrochemistry, oxidation-reduction, nuclear chemistry, an introduction in organic chemistry and biochemistry, atmospheric chemistry, and selected topics in descriptive chemistry, including the metals, nonmetals, semimetals, coordination compounds, transition compounds, and post-transition compounds. Laboratory is required. Code A

### **CHM 221. Organic Chemistry I (3-3-4)**

**Prerequisite:** CHM 112

This is the first course in a two-semester sequence. Topics in this course include nomenclature, structure, physical and chemical properties, synthesis and typical reactions for aliphatic, alicyclic, and aromatic compounds with special emphasis on reaction mechanisms, spectroscopy, and stereochemistry. Laboratory is required and will include the synthesis and confirmation of representative organic compounds with emphasis on basic techniques. Code B

### **CHM 222. Organic Chemistry II (3-3-4)**

**Prerequisite:** CHM 221

This is the second course in a two-semester sequence. Topics in this course include nomenclature, structure, physical and chemical properties, synthesis and typical reactions for aliphatic, alicyclic, aromatic, and biological compounds, polymers and their derivatives, with special emphasis on reaction mechanisms, spectroscopy, and stereochemistry. Laboratory is required and will include the synthesis and confirmation of representative organic compounds with emphasis on basic techniques. Code B

## **Child Care and Development**

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### **CHD 100. Introduction to Early Care and Education of Children (3-0-3)**

This course introduces the child care profession, including the six functional areas of the Child Development Associate (CDA) credential. Emphasis is placed on using positive guidance techniques, setting up a classroom, and planning a schedule. Upon completion students should be able to create and modify children's environments to meet individual needs, use positive guidance to develop positive relationships with children, and promote children's self-esteem, self-control and self-motivation.

### **CHD 201. Child Growth and Development Principles (3-0-3)**

This course introduces students to the child education and care profession. It is designed to increase understanding of the basic concepts of child development and the developmental characteristics of children from birth through age 8/9 years. This course is the foundation for planning appropriate activities for children and establishing appropriate expectations of young children. This class also offers an opportunity to study the developmental domains (social, emotional, cognitive/language and physical). Course includes observations of the young child in early childhood settings. This is a CORE course.

### **CHD 202. Children's Creative Experiences (3-0-3)**

This course focuses on fostering creativity in preschool children and developing a creative attitude in teachers. Topics include selecting and developing creative experiences in language arts, music, art, science, math and movement with observation and participation with young children required. On completion, student will be able to select and implement creative and age-appropriate experiences for young children.

### **CHD 203. Children's Literature and Language Development (3-0-3)**

This course surveys appropriate literature and language arts activities designed to enhance young children's speaking, listening, prereading, and writing skills. Emphasis is placed on developmental appropriateness as related to language. Upon completion, students should be able to create, evaluate, and demonstrate activities that support a language-rich environment for young children. This is a CORE course

### **CHD 204. Methods and Materials for Teaching Children (3-0-3)**

This course introduces basic methods and materials used in teaching young children. Emphasis is placed on students compiling a professional resource file of activities used for teaching math, language arts, science, and social studies concepts. Upon completion students will be able to demonstrate basic methods of creating learning experiences using developmental appropriate techniques, materials, and realistic expectations. Course includes observations of young children in a variety of childcare environments. This is a CORE course.

### **CHD 205. Program Planning for Educating Young Children (3-0-3)**

This course provides students with knowledge to develop programs for early child development. Specific content includes a review of child development concepts and program contents. Upon completion students will be able to develop and evaluate effective programs for the education of young children.

### **CHD 206. Children's Health and Safety (3-0-3)**

This course introduces basic health, nutrition and safety management practices for young children. Emphasis is placed on setting up and maintaining a safe, healthy environment for young children including specific procedures for infants and toddlers and procedures regarding child- hood illnesses and communicable diseases. This is a CORE course.

### **CHD 208. Administration of Child Development Programs (3-0-3)**

This course includes appropriate administrative policies and procedures relevant to preschool programs. Topics include local, state and federal regulations; budget planning; record keeping; personnel policies and parent involvement. Upon completion, students should be able to identify elements of a sound business plan, develop familiarity with basic record-keeping techniques, and identify elements of a developmentally appropriate program.

### **CHD 210. Educating Exceptional Children (3-0-3)**

This course explores the many different types of exceptionalities found in young children. Topics include speech, language, hearing and visual impairments, gifted and talented children, mental retardation, emotional, behavioral, and neurological handicaps. Upon completion, students should be able to identify appropriate strategies for working with children.

### **CHD 211. Child Development Seminar (1-0-1)**

This course provides students with knowledge of a variety of issues and trends related the child- care profession. Subject matter will vary according to industry and student needs. Upon completion students should be able to discuss special topics related to current trends and issues in child development.

### **CHD 214. Families and Communities in Early Care and Education Programs (3-0-3)**

#### **Prerequisite: CHD 101**

This course will provide students information about how to work with diverse families and communities. Students will be introduced to family and community settings, their important relationship to children, and the pressing needs of today's society. Students will study practice techniques for developing these important relationships and effective communication skills.

### **CHD 217. Math and Science for Young Children (3-0-3)**

This course provides students with information on children's conceptual development and the fundamental basic concepts of both math and science. Students learn various techniques for planning, implementing and evaluating developmentally appropriate activities. Students will also learn about integrated curriculum.

## **Computer Information Systems**

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### **CIS 101B. Computer Applications Lab (Blackboard) (0-2-1)**

This lab is designed to allow instructors to provide additional implementation of computer concepts as needed. This course may be duplicated with an alpha suffix added to the course number. This course may be scheduled as an Experimental Lab (2:1) or Manipulative Lab (3:1). (See Board Policy 705.01).

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### **CIS 111. Word Processing Applications (3-0-3)**

**Prerequisite:** CIS 146

This course provides students with hands-on experience using word processing software. Students will develop skills common to most word processing software by developing a wide variety of documents. Emphasis is on planning, developing, and editing functions associated with word processing. Dually listed as OAD 125) Code C

### **CIS 113. Spreadsheet Software Applications (3-0-3)**

**Prerequisite:** CIS 146

This course provides students with hands-on experience using spreadsheet software. Students will develop skills common to most spreadsheet software by developing a wide variety of spreadsheets. Emphasis is on planning, developing, and editing functions associated with spreadsheets. (Dual listed as ACC149 and OAD243) Code C

### **CIS 115. Presentation Graphics Software Applications (3-0-3)**

**Prerequisite:** CIS 146

This course provides students with hands-on experience using presentation graphics software. Students will develop skills common to most presentation graphics software by developing a wide variety of presentations. Emphasis is on planning, developing, and editing functions associated with presentations. (Dual listed as OAD246) Code C

### **CIS 117. Database Management Software Applications (3-0-3)**

**Prerequisite:** CIS 146

This course provides students with hands-on experience using database management software. Students will develop skills common to most database management software by developing a wide variety of databases. Emphasis is on planning, developing, and editing functions associated with database management. (Dual listed as OAD244) Code C

### **CIS 130. Introduction to Information Systems (3-0-3)**

**Prerequisite:** CIS 146

This course is an introduction to computers that reviews computer hardware and software concepts such as equipment, operations, communications, programming and their past, present and future impact on society. Topics include computer hardware, various types of computer software, communication technologies and program development using computers to execute software packages and/or to write simple programs. Upon completion, students should be able to describe and use the major components of selected computer software and hardware. Code B

### **CIS 146. Microcomputer Applications (3-0-3)**

**Prerequisite:** MTH 098, OAD 161 or CIS 149 recommended

This course is an introduction to the most common microcomputer software applications. These software packages should include typical features of applications, such as word processing, spreadsheets, database management, and presentation software. Upon completion, students will be able to utilize selected features of these packages. This course will help prepare students for the MOS and IC3 certification. This course or an equivalent is CORE for the A.A.S. CIS programs. Code B

### **CIS 147. Advanced Microcomputer Applications (3-0-3)**

#### **Prerequisite: CIS 146**

This course is a continuation of CIS 146 in which students utilize the advanced features of topics covered in CIS 146. Advanced functions and integration of word processing, spreadsheets, database, and presentation packages among other topics are generally incorporated into the course and are to be applied to situations found in society and business. Upon completion, the student should be able to apply the advanced features of selected software appropriately to typical problems found in society and business. This course will help prepare students for the MOS certification. Code B

### **CIS 149. Introduction to Computers (3-0-3)**

#### **Prerequisite: Must have completed all development courses**

This course is an introduction to computers and their impact on society. The course covers the development of computers, their impact on society, as well as future implications of development of computer and related communication technologies. This course introduces programming and computer operating systems. Upon completion, a student will have the basic knowledge of computer technology and will be able to perform basic functions with a computer system. The course will help prepare students for the IC3 certification. Code C

### **CIS 150. Introduction to Computer Logic and Programming (3-0-3)**

#### **Prerequisite: MTH 098**

This course includes logic, design and problem solving techniques used by programmers and analysts in addressing and solving common programming and computing problems. The most commonly used techniques of flowcharts, structure charts, and pseudo code will be covered and students will be expected to apply the techniques to designated situations and problems. This is a CORE course for CIS. Code C

### **CIS 151. Graphics for the World Wide Web (3-0-3)**

This course will provide an overview to the theory, tools and techniques necessary for creating high-quality graphics using design software tools. This course may be substituted with CAT 150

Imaging I: Principles of Photography and Introduction to Photoshop and CAT 180 Imaging II: Techniques of Photoshop and Painter or equivalent. Code C

### **CIS 153. Introduction to Unity 3D Scripting (1-4-3)**

This course teaches Unity 3D in game scripting along with programming basics. This course will prepare students with basic knowledge of Namespaces and Classes, Conditional statements and loops, Unity 3D GUI, Unity's Mono Behaviors, proper formatting skills, and firm understanding of Unity and .Net data types.

### **CIS 160. Multimedia for the World Wide Web (3-0-3)**

#### **Prerequisite: CIS 150**

This course covers contemporary, interactive multimedia technology systems, focusing on types, applications, and theories of operation. In addition to the theoretical understanding of the multimedia technologies, students will learn how to digitize and manipulate images, voice, and video materials, including authoring a web page utilizing multimedia. Code C



### **CIS 171. Fundamentals of Unix/Linux (2-2-3)**

#### **Prerequisite: CIS 130**

This course presents fundamental applications in Unix/Linux. Included in this course are skills development for OS installation and setup, recompile techniques, system configuration settings, file/folder structures and types, run levels, basic network applications, and scripting. Additionally, the course presents security features from an administrative and user consideration. Code C

### **CIS 182. Help Desk Applications (3-0-3)**

#### **Prerequisite: CIS 146**

The main purpose of this course is to provide students with a comprehensive understanding of the helpdesk environment and the knowledge, skills, and abilities necessary to work in the user support industry. Students will learn problem-solving and communications skills that are very valuable when providing user support. Through hands-on exercises and case projects students will learn how to apply their knowledge and develop their ideas and skills. Code C

### **CIS 185. Computer Ethics (3-0-3)**

#### **Prerequisite: CIS 146 or consent of instructor**

This course will survey the various issues surrounding computer ethics. Code C

### **CIS 189. Co-op for CIS I (0-6-3)**

#### **Prerequisite: Consent of instructor and minimum of 12 hours in CIS**

This course is part of a series wherein the student works in a degree/program related job. Emphasis is placed on student's work experience as it integrates academic knowledge with practical application through exposure to computer practices in informational technologies environment. The grade is based on the employer's evaluation of each student's productivity, content of a descriptive report submitted by the student, and student development and assessment of a learning contract. Code C

### **CIS 191. Introduction To Computer Programming Concepts (3-0-3)**

#### **Prerequisite: CIS 150; Corequisite: CIS 193**

This course introduces fundamental concepts, including an algorithmic approach to problem solving via the design and implementation of programs in selected languages. Structured programming techniques involving input/output, conditional statements, loops, files, arrays and structures, and simple data structures are introduced. Students are expected to write programs as part of this course. Code B

### **CIS 193. Introduction to Computer Programming Lab (0-2-1)**

#### **Corequisite: CIS 191**

This lab is designed to allow instructors to provide additional implementation of programming concepts as needed. This course may be duplicated with an alpha suffix added to the course number. Code C

### **CIS 196. Commercial Software Applications (3-0-3)**

#### **Prerequisite: CIS 146**

This is a "hands-on" introduction to software packages, languages, and utility programs currently in use, with the course being able to repeat for credit for each different topic being covered. Emphasis is placed on the purpose capabilities and utilization of each package, language or program. Upon completion, students will be able to use the features selected for the application covered. Code C

### **CIS 207. Introduction to Web Development (3-0-3)**

At the conclusion of this course, students will be able to use specified markup languages to develop basic Web pages. Code C

### **CIS 208. Intermediate Web Development (3-0-3)**

**Prerequisite:** CIS 207

This course builds upon basic skills in Web authoring. Various Web authoring tools are introduced. Upon completion, students will be able to use these tools to enhance Web sites. Code C

### **CIS 210. Case Study in Computer Skills Application (0-2-1)**

**Corequisite:** CIS 212

This course is designed to provide students with a capstone experience incorporating the knowledge and skills learned in the Computer Information systems program into student projects/ case studies. Special emphasis is given to student skill attainment. Code C

### **CIS 212. Visual Basic Programming (3-0-3)**

**Prerequisite:** CIS 150; **Corequisite:** CIS 210

This course emphasizes BASIC programming using a graphical user interface. The course will emphasize graphical user interfaces with additional topics on such topics as advanced file handling techniques, simulation, and other selected areas. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests. Code B

### **CIS 214. Security Analyst (Pen Testing) (3-0-3)**

This course introduces students to the concept of security analysis, or penetration testing, of information systems. Students will evaluate the security of a computer system or network, assessing security risks from the position of a potential attacker. Emphasis is on identifying security flaws and providing technical solutions.

### **CIS 215. C# Programming (3-0-3)**

**Prerequisite:** CIS 130 or CIS 150

This course is an introduction to the C# programming language. The goal of this course is to provide students with the knowledge and skills they need to develop C# applications for the Microsoft .NET Platform. Topics include program structure, language syntax, and implementation details. Code C

### **CIS 222. Database Management Systems (3-0-3)**

**Prerequisite:** CIS 130 or CIS 150

This course will discuss database system architectures, concentrating on Structured Query Language (SQL). It will teach students how to design, normalize and use databases with SQL, and to link those to the Web. Code C

### **CIS 223. Three-Dimensional Computer Modeling (3-0-3)**

This course is a study in 3D computer modeling and 3D painting beginning with primitive shapes and creating compelling 3D objects for use in model libraries, games, print material, web sites, visual simulation, and architectural applications. Powerful operations for modeling and 3D painting are incorporated into an interface that is simple and intuitive to use. Code C

### **CIS 224. Three-Dimensional Computer Animation (3-0-3)**

This course is a study in 3D computer animation. Course contents include a review of 3D modeling, rendering the 3D animations, compositing and special effects for both video and digital editing, video and film recording, storyboarding and sound design, technical testing and production estimates and scheduling. Code C

### **CIS 245. Cyberterrorism (3-0-3)**

This course focuses on ways that computers can be used to assist in terrorist activity. Students will learn to assess the potential of various kinds of cyber-attacks and will learn to devise plans and contingencies against future attacks. Topics include current U.S. policy regarding infrastructure protection and various avenues of addressing threats. Code C

### **CIS 246. Ethical Hacking (3-0-3)**

This course emphasizes scanning, testing, and securing computer systems. The lab-intensive environment provides opportunities to understand how perimeter defenses work and how hackers are able to compromise information systems. With awareness of hacking strategies, students learn to counteract those attempts in an ethical manner. Code C

### **CIS 249. Microcomputer Operating Systems (3-0-3)**

#### **Prerequisite: CIS 146**

This course provides an introduction to microcomputer operating systems. Topics include a description of the operating system, system commands, and effective and efficient use of the microcomputer with the aid of its system programs. Upon completion, students should understand the function and role of the operating system, its operational characteristics, its configuration, how to execute programs, and efficient disk and file management. Code C

### **CIS 251. C++ Programming (3-0-3)**

#### **Prerequisite: CIS 130 or CIS 150**

This course is an introduction to the C++ programming language including object oriented programming. Topics include: problem solving and design; control structures; objects and events; user interface construction; and document and program testing. Code B

### **CIS 252. Advanced C++ Programming (3-0-3)**

#### **Prerequisite: CIS 251**

This course is a continuation of C++ programming. Techniques for the improvement of application and systems programming will be covered, and other topics may include memory management, C Library functions, debugging, portability, and reusable code. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests. Code C

### **CIS 261. COBOL Programming (3-0-3)**

#### **Prerequisite: CIS 150 or CIS 130**

This course is an introduction to the COBOL programming language. Included are structured programming techniques, report preparation, arithmetic operations, conditional statements, group totals, and table processing. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests. Code B

### **CIS 268. Software Support (3-0-3)**

This course provides students with hands-on practical experience in installing computer software, operating systems, and troubleshooting. The class will help to prepare participants for the A+ Certification sponsored by CompTIA. This course is a suitable substitute for CIS 239, Networking Software. If used this is a CORE course for the AAT and AAS CIS programs. Code C

### **CIS 269. Hardware Support (3-0-3)**

This course provides students with hands-on practical experience in installation and troubleshooting computer hardware. The class will help to prepare participants for the A+ Certification sponsored by CompTIA. This is a suitable substitute for CIS 240, Networking Hardware. If used this is a CORE course for the AAT and AAS CIS programs. Code C

### **CIS 270. CISCO I (3-0-3)**

This course is the first part of a four-part curriculum leading to CISCO Certified Network Associate (CCNA) certification. This course concentrates on the physical part of networking including basic electronics, computer basics, network basics, addressing, number conversions, cabling, and planning. After completing this course the student will be able to: identify the functions of each layer of the OSI reference model; describe data link and network addresses; define and describe the function of the MAC address; explain the five conversion steps of data encapsulation; describe the different classes of IP addresses and subnetting; identify the functions of the TCP/IP network-layer protocols. Code C

### **CIS 271. CISCO II (3-0-3)**

#### **Prerequisite: CIS 270**

This course is the second part of a four-part curriculum leading to CISCO Certified Network Associate (CCNA) certification. This course concentrates on router configuration. After completing this course the student will be able to: prepare the initial configuration of a router and enable IP; control router passwords and identification; configure IP addresses; add the RIP and IGRP routing protocols to a configuration. Code C

### **CIS 272. CISCO III (3-0-3)**

#### **Prerequisite: CIS 271**

This course is the third part of a four-part curriculum leading to CISCO Certified Network Associate (CCNA) certification. This course concentrates on LAN design, routing, switching, and network administration. After completing this course the student will be able to: describe LAN segmentation using bridges, routers, and switches; distinguish between cut-through and store and forward LAN switching; describe the operation of the Spanning Tree Protocol and its benefits; describe the benefits of virtual LANs. Code C

### **CIS 273. CISCO IV (3-0-3)**

#### **Prerequisite: CIS 272**

This course is the fourth part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. This course concentrates on WANs and WAN design. After completing this course the student will be able to: differentiate between LAPB, Frame Relay, ISDN, HDLC, PPP, and DDR; list commands to configure Frame Relay LMIs, maps, and sub-interfaces; identify PPP operations to encapsulate WAN data on CISCO routers; identify ISDN protocols, function groups, reference points, and channels; describe CISCO's implementation of ISDN BRI. Code C

### **CIS 275. Workstation Administration (3-0-3)**

**Prerequisite:** CIS 130 or CIS 269

This course provides a study of client system administration in a network environment. Topics include installing, monitoring, maintaining, and troubleshooting client operating system software and managing hardware devices and shared resources. Students gain hands-on experience in client operating system installation and basic administration of network workstations. Code C

### **CIS 276. Server Administration (3-0-3)**

**Prerequisite:** CIS 130 or CIS 269

This course introduces network operating system administration. Topics included in this course are network operating system software installation, administration, monitoring, and maintenance; user, group, and computer account management; shared resource management; and server hardware management. Students gain hands-on experience in managing and maintaining a network operating system environment. Code C

### **CIS 277. Network Services Administration (3-0-3)**

**Prerequisite:** CIS 130 or CIS 199

This course provides an introduction to the administration of fundamental networking services and protocols. Topics included in this course are implementing, managing and maintaining essential network operating system services such as those for client address management, name resolution, security, routing and remote access. Students gain hands-on experience performing common network infrastructure administrative tasks. Code C

### **CIS 278. Directory Services Administration (3-0-3)**

**Prerequisite:** CIS 130 or CIS 270

This course provides a study of planning, implementing, and maintaining a network directory service. Topics included in this course are planning and implementing network directory organizational and administrative structures. Students gain hands-on experience using a directory service to manage user, group, and computer accounts, shared folders, network resources, and the user environment. Code C

### **CIS 280. Network Security (3-0-3)**

**Prerequisite:** CIS 130 or CIS 270

This course provides a study of threats to network security and methods of securing a computer network from such threats. Topics included in this course are security risks, intrusion detection, and methods of securing authentication, network access, remote access, Web access, and wired and wireless network communications. Upon completion students will be able to identify security risks and describe appropriate counter measures. Code C

### **CIS 281. System Analysis and Design (3-0-3)**

**Prerequisite:** CIS 146 and one programming language

This course is a study of contemporary theory and systems analysis and design. Emphasis is placed on investigating, analyzing, and documenting computer systems. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests. Code C

### **CIS 282. Computer Forensics (3-0-3)**

**Prerequisite:** CIS 130 or CIS 270

This course introduces students to methods of computer forensics and investigations. This course helps prepare students for the International Association of Computer Investigative Specialists (IACIS) certification. Code C

### **CIS 284. CIS Internship (0-6-3)**

**Prerequisite:** Consent of instructor and minimum of 18 semester hours in CIS

This course is designed to provide the student with an opportunity to work in a degree/program related environment. Emphasis is placed on the student's "real world" work experience as it integrates academics with practical applications that relate meaningfully to careers in the computer discipline. Significance is also placed on the efficient and accurate performance of job tasks as provided by the "real world" work experience. Grades for this course will be based on a combination of the employer's evaluation of the student, and the contents of a report submitted by the student. Upon completion of this course, the student should be able to demonstrate the ability to apply knowledge and skills gained in the classroom to a "real world" work experience. Code C

### **CIS 285. Object Oriented Programming (3-0-3)**

**Prerequisite:** CIS 150

This course is an advanced object-oriented programming course and covers advanced program development techniques and concepts in the context of an object-oriented language, such as C++ or Java. Subject matter includes object-oriented analysis and design, encapsulation, inheritance, polymorphism (operator and function overloading), information hiding, abstract data types, reuse, dynamic memory allocation, and file manipulation. Upon completion, students should be able to develop a hierarchical class structure necessary to the implementation of an object-oriented software system. Code B

### **CIS 287. SQL Server (3-0-3)**

**Prerequisite:** CIS 269

This course will provide students with the technical skill required to install, configure, administer and troubleshoot SQL Server client/server database management system. At the completion of this series students will be able to: identify the features of SQL Server and the responsibilities and challenges in system administration; identify the benefits of integrating SQL Server and setup clients for SQL Server; install and configure SQL Server; manage data storage using database devices and partition data using segments; manage the user accounts; manage user permissions; identify the various task scheduling and alerting abilities of SQL Executive; identify the concepts used in replication and implement replication of data between two SQL Services; identify the types of backup and create backup devices; identify the factors effecting SQL Server performance and the need for monitoring and tuning; locate and troubleshoot problems that occur on the SQL Server. Code C

### **CIS 289. Wireless Networking (3-0-3)**

**Prerequisite:** CIS 130 or CIS 270

The purpose of this course is to allow students to explore current issues related to wireless technology. Students will be able to develop and maintain wireless networks using advancements in current technology. Code C

### **CIS 291. Case Study in Computer Science (3-0-3)**

#### **Prerequisite: Consent of instructor**

This course is a case study involving the assignment of a complete system development project for analysis, programming, implementation, and documentation. Topics include planning system analysis and design, programming techniques, coding and documentation. Upon completion, students should be able to design, code, test and document a comprehensive computer information system. Code C

### **CIS 294. Special Topics (3-0-3)**

#### **Prerequisite: Consent of instructor**

This course allows study of currently relevant computer science topics, with the course being able to be repeated for credit for each different topic covered. Course content will be determined by the instructor and will vary according to the topic being covered. Upon completion, the student will be able to demonstrate knowledge of the course topic through completion of assignments and appropriate tests. Code C

### **CIS 299. Directed Studies in Computer Science (3-0-3)**

#### **Prerequisite: Consent of instructor**

This course allows independent study under the direction of an instructor. Topics to be included in the course material will be approved by the instructor prior to or at the beginning of the class. Upon completion, the student will be able to demonstrate knowledge of the topics as specified by the instructor. Code C

## **Criminal Justice**

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### **CRJ 100. Introduction to Criminal Justice (3-0-3)**

This course surveys the entire criminal justice process from law enforcement to the administration of justice through corrections. It discusses the history and philosophy of the system and introduces various career opportunities. Code B

### **CRJ 110. Introduction to Law Enforcement (3-0-3)**

This course examines the history and philosophy of law enforcement, as well as the organization and jurisdiction of local, state, and federal agencies. It includes the duties and functions of law enforcement officers. Code B

### **CRJ 117. Community Relations (3-0-3)**

This course discusses the role of the police officer in achieving and maintaining public support. It includes public information, juvenile relations, public relations, service and mobilizing community involvement and cooperation. Code C

### **CRJ 140. Criminal Law and Procedure (3-0-3)**

This course examines both substantive and procedural law. The legal elements of various crimes are discussed, with emphasis placed on the contents of the Alabama Code. Areas of criminal procedure essential to the criminal justice profession are also covered. Code C

### **CRJ 146. Criminal Evidence (3-0-3)**

This course considers the origins of the law of evidence and current rules of evidence. Types of evidence and their definitions and uses are covered as well as the functions of the court regarding evidence. Code C

**CRJ 147. Constitutional Law (3-0-3)**

This course involves constitutional law as it applies to criminal justice. It includes recent Supreme Court decisions affecting criminal justice professionals, such as the right to counsel, search and seizure, due process, and civil rights. Code C

**CRJ 150. Introduction to Corrections (3-0-3)**

This course provides an introduction to the philosophical and historical foundations of corrections in America. Incarceration and some of its alternatives are considered. Code B

**CRJ 160. Introduction to Security (3-0-3)**

This course surveys the operation, organization and problems in providing safety and security to business enterprises. Private, retail, and industrial security is covered. Code B

**CRJ 177. Criminal and Deviant Behavior (3-0-3)**

This course analyzes criminal and deviant behavior systems. An emphasis is placed on sociological and psychological theories of crime causation. (Dual listed as SOC 217) Code C

**CRJ 178. Narcotics/Dangerous Drugs (3-0-3)**

This course surveys the history and development of drug abuse in society. Theories of drug abuse and identification and classification of drugs are covered. Strategies for combating the drug problem are discussed. Code C

**CRJ 208. Introduction to Criminology (3-0-3)**

This course delves into the nature and extent of crime in the United States, as well as criminal delinquent behavior and theories of causation. This study includes criminal personalities, principles of prevention, control, and treatment. Code B

**CRJ 209. Juvenile Delinquency (3-0-3)**

This course examines the causes of delinquency. It also reviews programs of prevention and control of juvenile delinquency as well as the role of the courts. (Dual listed as SOC 209) Code B

**CRJ 216. Police Organization and Administration (3-0-3)**

This course examines the principles of organization and administration of law agencies. Theories of management, budgeting, and various personnel issues are covered. Code C

**CRJ 220. Criminal Investigation (3-0-3)**

This course explores the theory and scope of criminal investigation. The duties and responsibilities of the investigator are included. The techniques and strategies used in investigation are emphasized. Code C

**CRJ 227. Homicide Investigation (3-0-3)**

This course covers the principles, techniques, and strategies of homicide investigation. Topics emphasized include ballistics, pathology, toxicology, immunology, jurisprudence, and psychiatry. Code C

**CRJ 290. Selected Topics-Seminar in Criminal Justice [ (1-3)-0-(1-3)]**

This course involves reading, research, writing, and discussion of selected subjects relating to criminal justice. Various contemporary problems in criminal justice are analyzed. This course may be repeated with approval from the department head. Code C



## **Economics**

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### **ECO 231. Principles of Macroeconomics (3-0-3)**

**Core, Area IV**

**Prerequisite: MTH 098**

This course is an introduction to macroeconomic theory, analysis and policy applications. Topics include the following: scarcity, demand and supply theory, national income analysis, major economic theories concerning monetary and fiscal policies such as stabilization measures, the banking system, and economic issues or problems including international trade. Code A

### **ECO 232. Principles of Microeconomics (3-0-3)**

**Core, Area IV**

**Prerequisite: MTH 098**

This course is an introduction to microeconomic theory, analysis, and applications. Topics include scarcity, the theories of consumer behavior, production and cost, markets, output and re- source pricing, and international aspects of microeconomics. Code A

## **Education**

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### **EDU 100. Exploring Teaching as a Profession (2-0-2)**

This course provides students with an opportunity to explore teaching as a career. The role of the teacher, the benefits of teaching, and the steps to becoming a teacher are some of the topics that will be explored. Students will be exposed to examples of good teaching and self-assess their personal and professional qualities. Code C

## **Emergency Medical Technology/Technician**

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### **EMS 100. Cardiopulmonary Resuscitation I (1-0-1)**

This course provides students with concepts as related to areas of basic life support to include coronary artery disease, prudent heart living, symptoms of heart attack, adult one-and-two rescuer CPR, first aid for choking, pediatric basic life support, airway adjuncts, EMS system entry access, automated external defibrillation (AED), and special situations for CPR. Upon course completion, students should be able to identify situations requiring action related to heart or breathing conditions and effectively implement appropriate management for each condition. Students successfully completing this course will receive appropriate documentation of course completion.

### **EMS 104. First Aid for Students of Health Related Professions (1-0-1)**

This course is designed for students who plan to enter a health related profession and provides educational concepts related to first aid for various health disciplines. The course includes instruction in the emergency administration of oxygen, use of airway adjuncts, medication administration techniques, equipment for mechanical breathing, suctioning techniques, and automated external defibrillation (AED). Upon course completion, students should have the ability to recognize emergency situations requiring immediate action and appropriately manage these situations.

### **EMS 118. Emergency Medical Technician (6-6-0-9)**

This course is required to apply for certification as an EMTB. This course provides students with insights into the theory and application of concepts related to the profession of emergency medical services. Specific topics include: EMS preparatory, airway maintenance, patient assessment, treating trauma patients, various medical procedures, treating infants and children, and various EMS operations. This course is based on the Emergency Medical Technician-Basic National Standard Curriculum.

### **EMS 119. Emergency Medical Technician Clinical (0-0-3-1)**

This course is required to apply for certification as an EMT basic. This course provides students with clinical education experiences to enhance knowledge and skills learned in the EMS 118, Emergency Medical Technician. This course helps student prepare for the National Registry Exam. Students will be required to complete clinical skills in a hospital setting or an ambulance.

### **EMS 155. Advanced Emergency Medical Technician (5-6-0-8)**

#### **Corequisite: EMS 156**

This course is required to apply for certification as an Advanced Emergency Medical Technician (AEMT). This course introduces the theory and application of concepts related to the profession of the AEMT. The primary focus of the AEMT is to provide basic and limited advanced emergency medical care and transportation for critical and emergent patients who access the emergency medical system. This individual possesses the basic knowledge and skills necessary to provide patient care and transportation. Topics include: extending the knowledge of the EMT to a more complex breadth and depth, intravenous access and fluid therapy, medication administration, blind insertion airway devices, as well as the advanced assessment and management of various medical illnesses and traumatic injuries. This course is based on the NHTSA National Emergency Medical Services Education Standards. Requires licensure or eligibility for licensure at the EMT level and EMS 156 must be taken as a co-requisite.

### **EMS 156. Advanced Emergency Medical Technician Clinical (0-0-6-2)**

#### **Corequisite: EMS 155**

This course is required to apply for certification as an Advanced Emergency Medical Technician (AEMT). This course provides students with clinical education experiences to enhance knowledge and skills learned in EMS 155. This course helps prepare students for the National Registry AEMT Exam. The student will have the opportunity to use the basic and advanced skills of the AEMT in the clinical and field settings under the direct supervision of licensed healthcare professionals. Requires licensure or eligibility for licensure at the EMT level and EMS 155 must be taken as a co-requisite. Students will be required to complete clinical skills in a hospital setting or an ambulance.

## **English**

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### **ENG 080. English Laboratory (0-1-1IC)**

This course, which may be repeated as needed, provides students with a laboratory environment where they can receive help from qualified instructors on English assignments at the developmental level. Emphasis is placed on one-to-one guidance to supplement instruction in English courses. A student's success in this course is measured by success in those other English courses in which the student is enrolled.

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### **ENG 093. Basic English II (3-0-3IC)**

#### **Prerequisite: Appropriate COMPASS score**

This course is a review of composition skills and grammar. Emphasis is placed on coherence and the use of a variety of sentence structures in the composing process and on standard American written English usage. Students will demonstrate these skills chiefly through the writing of paragraph blocks and short essays.

### **ENG 101. English Composition I (3-0-3)**

#### **Core, Area I**

#### **Prerequisite: Successful completion of ENG 093; or a score of 62 or better on the writing section of COMPASS; or a score of 16 or better on the ACT (or equivalent SAT score)**

English Composition I provides instruction and practice in the writing of at least six extended compositions and the development of analytical and critical reading skills and basic reference and documentation skills in the composition process. English Composition I may include instruction and practice in library usage. Code A

### **ENG 102. English Composition II (3-0-3) Core, Area I**

#### **Prerequisite: A grade of "C" or better in ENG 101 or the equivalent**

English Composition II provides instruction and practice in the writing of six (6) formal, analytical essays, at least one of which is a research project using outside sources and/or references effectively and legally. Additionally, English Composition II provides instruction in the development of analytical and critical reading skills in the composition process. English Composition II may include instruction and practice library usage. Code A

### **ENG 131. Applied Writing I (3-0-3)**

#### **Prerequisite: Appropriate score on the COMPASS placement test or the equivalent**

This course is a study of various types of written documents required in scientific, technical, and other specialized fields. Emphasis is placed on production of such documents, including research, documentation, graphical displays, the abstract, appropriate diction, grammar, punctuation and audience. Students will demonstrate the ability to produce effective reports, letters, memoranda, and similar documents. Code C

### **ENG 246. Creative Writing I (3-0-3)**

#### **Prerequisite: ENG 102 or consent of instructor**

This course provides instruction and practice in the writing of critical analysis of imaginative forms of literature. Emphasis is placed on originality in the creative writing process, and this course may include instruction on publishing. Students will compose a significant body of imaginative literature, which may be read by or to the class. Code C

### **ENG 247. Creative Writing II (3-0-3)**

#### **Prerequisite: ENG 246 or consent of instructor**

A continuation of ENG 246, this course provides instruction and practice in the writing of critical analysis of imaginative forms of literature. Emphasis is placed on originality in the creative writing process, and this course may include instruction on publishing. Students will compose a significant body of imaginative literature, which may be read by or to the class. Code C

### **ENG 251. American Literature I (3-0-3)**

#### **Core, Area II**

#### **Prerequisite: A grade of “C” or better in ENG 102 or the equivalent**

This course is a survey of American literature from its inception to the middle of the nineteenth century. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate them to their historical and literary contexts, and understand relevant criticism and research. Code A

### **ENG 252. American Literature II (3-0-3)**

#### **Core, Area II**

#### **Prerequisite: A grade of “C” or better in ENG 102 or the equivalent**

This course is a survey of American literature from the middle of the nineteenth century to the present. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate them to their historical and literary contexts, and understand relevant criticism and research. Code A

### **ENG 261. English Literature I (3-0-3)**

#### **Core, Area II**

#### **Prerequisite: A grade of “C” or better in ENG 102 or the equivalent**

This course is a survey of English literature from the Anglo-Saxon period to the Romantic Age. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate them to their historical and literary contexts, and understand relevant criticism and research. Code A

### **ENG 262. English Literature II (3-0-3)**

#### **Core, Area II**

#### **Prerequisite: A grade of “C” or better in ENG 102 or the equivalent**

This course is a survey of English literature from the Romantic Age to the present. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate them to their historical and literary contexts, and understand relevant criticism and research. Code A

### **ENG 271. World Literature I (3-0-3)**

#### **Core, Area II**

#### **Prerequisite: A grade of “C” or better in ENG 102 or the equivalent**

This course is a study of selected literary masterpieces from Homer to the Renaissance. Emphasis is placed on major representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate them to their historical and literary contexts, and understand relevant criticism and research. Code A

## **ENG 272. World Literature II (3-0-3)**

### **Core, Area II**

#### **Prerequisite: A grade of “C” or better in ENG 102 or the equivalent**

This course is a study of selected literary masterpieces from the Renaissance to the present. Emphasis is placed on major representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate them to their historical and literary contexts, and understand relevant criticism and research. Code A

## **Fire Science**

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### **FSC 100. Orientation and Terminology of the Fire Service (3-0-3)**

This course provides the student with basic information on the organization and function of paid and volunteer fire services, the role of the firefighter in the department, firefighter safety, the science of fire, and fire behavior. Specific course topics surveyed include: Orientation and Safety, Apparatus Familiarization, Fire Behavior, Personal Protective Equipment, Rescue, and Forcible Entry. Code C

### **FSC 101. Introduction to the Fire Service (3-0-3)**

This course teaches the many functions of the fire service, its importance and origins. It is designed to acquaint the student with the philosophy and history of the fire service and fire protection, the exacting loss of life and property, and the organization and function of public and private fire protection agencies. Emphasis is placed on the organization and function of federal, state, county, city, and private fire protection. Code C

### **FSC 105. Chemistry for the Fire Service (3-0-3)**

This is a survey of general chemistry as applied to the fire service. Emphasis is on fundamental facts, principles, theories, and applications. Course will include study of states of matter, energy, common substances, laws that govern the movement of gases, chemical formulas and structure, the study of atoms and molecules, chemical reactions related to firefighting, and hazardous materials. Code C

### **FSC 110. Building Construction Principles (3-0-3)**

This course highlights and assesses the problems and hazards to fire personnel when a building is attacked by fire or is under stress from other factors dealing with collapse. Emphasis is placed on construction principles: wood, ordinary, steel, concrete, and truss construction. Code C

### **FSC 120. National Incident Management System (NIMS) I (3-0-3)**

This course introduces the student to the incident command system, its organizational structure, history, principles, and features and the National Incident Management System as a template for integration of public and private entities working together on emergency incidents. Tabletop exercises and scenarios will be used to give the student opportunity to apply the practical aspects of the incident command system and to demonstrate its relationship to the National Incident Management System. The course will also introduce students to the concepts and principles of the National Response Framework and the National Response Plan. Students will be given the opportunity to take online exams of certification for FEMA IS-100, IS-200, IS-700 and IS-800. This course will meet the NIMS baseline training requirements for the above mentioned courses. Code C

### **FSC 130. Introduction to Fire Suppression (3-0-3)**

This course is a study of organizational structure, fire suppression, fire suppression equipment, characteristics and behavior of fire, and fire hazard properties of ordinary materials. Emphasis is placed on the most common structural, vehicle, and urban interface fires. Code C

### **FSC 131. Fire Extinguishment Principles (3-0-3)**

This is a study of water supplies and services, fire extinguishing chemicals, and the selection and use of extinguishing agents. Emphasis is placed on dry chemical, dry powder, foam and halogenated agents. Code C

### **FSC 151. Introduction to Fire Prevention/Education (3-0-3)**

This course is an introduction to the history and philosophy of fire prevention and the need for fire prevention education. Course includes fire prevention functions, development, and enforcement of fire prevention codes and regulations. It also includes the design and implementation of age appropriate education materials and benefits of community relations, support, and pro- grams. Code C

### **FSC 160. Hazard Awareness (3-0-3)**

This course includes the basic awareness of characteristics and behavior of solids, liquids, and gases when involved in fire. Emphasis is placed on characteristics, storage, and handling of various materials. Code C

### **FSC 161. Hazardous Materials Awareness and Operations (3-0-3)**

This course is for emergency response personnel who may be first on the scene of a hazardous materials emergency. First responders at the awareness level are expected to recognize the presence of hazardous materials, protect themselves, secure the area, and call for trained personnel. At the operational level, the first responder uses the knowledge gained from the awareness level to act in a defensive posture to protect people, the environment, or property from the effects of an unplanned hazardous materials release. This course meets the requirements of the mandatory Awareness/Operational training in hazardous materials required by Title III - Emergency Planning and Community Right-to-Know Act of 1986 and NFPA 472, Standard on Professional Competence of Responders to Hazardous Materials Incidents current edition. Code C

### **FSC 170. Fire Hydraulics and Water Supply (3-0-3)**

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water and fire protection and to apply hydraulic principles to analyze and resolve water supply problems. Code C

### **FSC 201. Fire Instructor I (3-0-3)**

A course that trains participants to teach a class from a prepared lesson plan. This course introduces the student to the concept of utilizing training aids to enhance his/her presentation, how to properly select these training aids, and how to use the training aid selected. Subject areas for this course include: Communication, Concepts of Learning, Methods of Teaching, Organizing the Class, Performance Evaluations, Testing and Evaluations, The Lesson Plan, Teaching Techniques, and the Use of Instructional Materials. The student will give several presentations during the week, all leading to the final fifteen minute graded presentation on the final day of class. Code C

### **FSC 202. Fire Instructor II (3-0-3)**

This course provides the Fire Instructor I with the next level of understanding for the training of personnel. This course trains the participants to perform job and task analysis, develop goals and objectives, and develop a lesson plan along with the coordinating training aids, and student tests and evaluation. During the course, the students are divided into groups, each of which is responsible for the development of a lesson plan to be presented to the class on the final day. Code C

### **FSC 203. Fire Instructor III (3-0-3)**

This course is intended for the instructor who is ready to assume a leadership role by moving into the upper management level of his/her department. This course consists of subjects designed to give the instructor more knowledge of management and supervision so that he/she can make basic evaluations of employee relations and assume a more proactive role in their department. If you bring your own laptop computer the required software is Microsoft Word and PowerPoint. Code C

### **FSC 208. Fire Combat Tactics and Strategy (3-0-3)**

This course is designed to offer the advanced firefighter or beginning fire officer the necessary information and related techniques to ensure effective fire scene operations. Topics of study include: Pre-fire Planning, Tactical Operations, and Scene Management Techniques. Students are given the opportunity to participate in group activities, discussions, and practical exercises to further enhance the learning experience and reinforce methodology discussed. Code C

### **FSC 210. Tactical Considerations for Building Construction (3-0-3)**

This course includes a detailed study of known hazards of various construction types and tactical and operational considerations for safe fireground/incident operations. Emphasis is placed on firefighter safety and survival. Code C

### **FSC 220. National Incident Management System (NIMS) II (3-0-3)**

This course will extend the students understanding of NIMS I and allow them to operate in several complex roles in a Unified Command system. These positions may include Command and General Staff, Incident Command, and deputies and/or assistants to the Incident Commander. This is accomplished by utilizing tabletop exercises and real-time scenarios. This course will meet the baseline requirements for the NIMS 300 and NIMS 400. Code C

### **FSC 230. Rescue Technician: Rope (3-0-3)**

This course in rope rescue techniques includes a classroom review of equipment, knots and rope safety. Instruction events include: establishing need for rope rescue; uses and limitations of equipment; knotcraft; safety aspects; anchoring systems; rescue rappelling; third man rescue; lowering systems and other aspects of rope rescue. Code C

### **FSC 231. Rescue Technician: Confined Space (3-0-3)**

This course is designed for both fire department personnel and private industry, this course provides responders with a comprehensive understanding of accidents involving a confined space. It teaches the responder how to recognize the hazard, access the victim, stabilize the victim and the proper procedures for retrieval. Practical and classroom sessions focus on the three primary hazards associated with confined space rescue: physical, atmospheric, and physiological. Realistic training evolutions using the latest in equipment and techniques ensure student retention of this material. Code C

### **FSC 232. Rescue Technician: Trench (3-0-3)**

A course designed to offer a combination of classroom and practical evolutions that allow the student to learn proper techniques to make open trenches and excavations safe for victim access and removal. The class is made realistic by actual sheeting and shoring operations of “unsafe” trenches, by using shoring equipment, and practice in developing skills in lifting practices within the trench environment. Code C

### **FSC 233. Rescue Technician: Structural Collapse (3-0-3)**

This course is designed to comply with NFPA 1006, Standard for Rescue Technician Professional Qualifications. It is an intense course which addresses heavy construction collapse and emphasizes the following discipline areas: breaching and breaking, lifting and moving, interior shoring, exterior shoring, and cutting and burning. Code C

### **FSC 234. Rescue Technician: Surface Water (3-0-3)**

This course combines classroom and field instruction that includes, but is not limited to: water hydrology, preplanning water sites, safety, self-rescue, boat operations, in-water/shore-based rescues, rope techniques, highline rescues, and command of water incidents. Emphasis is placed on rope techniques and knots, and experience with both is highly recommended, but not required. Code C

### **FSC 235. Rescue Technician: DIVE (3-0-3)**

This course is a certification course being written by the Fire College. The description will be inserted when completed. Code C

### **FSC 236. Rescue Technician: Boat Operator (3-0-3)**

This course is a certification course being written by the Fire College. The description will be inserted when completed. Code C

### **FSC 237. Rescue Technician: Vehicle And Machinery Extrication (3-0-3)**

This course is designed to offer a combination of classroom and practical evolutions that allow the student to learn proper techniques to plan for a vehicle/machinery incident, establish fire protection, stabilize a vehicle or machine, isolate potential harmful energy sources, determine vehicle access and egress points, create access and egress openings for rescue, disentangle victims, remove a packaged victim to a designated safe area, and terminate a vehicle/machinery incident. Code C

### **FSC 239. Breathing Apparatus Specialist Course (3-0-3)**

Smoke Diver is a physically demanding, advanced firefighter course with a focus on fire suppression and structure fire rescue. Smoke Diver emphasizes rapid intervention techniques along with firefighter survival skills. The course provides realistic fire ground working conditions, requiring the participant to learn the limitations of his/her equipment. The curriculum teaches team building through intensive activities that include attack hose evolutions and multiple search team rescues. Upon completion of the Smoke Diver course, the student will return to their department with an added sense of confidence in his/her abilities and equipment. Tactics learned can be shared with other members to enhance the safety of fellow firefighters. Successful completion of the course allows the participant to receive certification and special Smoke Divers patch. Code C



### **FSC 241. Fire Investigator I (3-0-3)**

This course targets fire investigators, police officers, and company-level officers with a desire to learn more about determining the origin and cause of fire. Students wishing to attend this course should be prepared for an intense week of training and practical skills application. Topics covered include: Determining the Point of Origin, Burn Patterns, Evidence Collection and Analysis, Interviewing Techniques, and Court Procedure and Testifying. Code C

### **FSC 242. Fire Investigator II (3-0-3)**

This is an introduction to arson and incendiaryism, arson laws, methods of determining fire causes, evidence, interviewing and detaining witnesses, procedures in handling juveniles, and court procedures. Code C

### **FSC 243. Fire Investigator III (3-0-3)**

This course is a certification course being written by the Fire College. The description will be inserted when completed. Code C

### **FSC 251. Fire Inspector I (3-0-3)**

A beginning level course for firefighters and other interested parties wishing to become more involved in the aspect of fire prevention and inspections. This course is primarily designed for those entering into fire service inspections and would be extremely useful to city inspectors and company level officers. Some of the topics covered in this course include: Building Construction, Decorative Materials and Furnishings, Fire Drills, Inspection Procedure, Code Enforcement, and Fire Alarm and Communications. Code C

### **FSC 252. Fire Inspector II (3-0-3)**

This course delves deeper into the interpretation of applicable codes and standards, covers the procedure involved in various types of inspections, and prepares the inspector for the plans review process. It is an advanced level course which covers a wide range of topics some of which are: Inspection Procedure, Building Construction, Occupancy Classification and Means of Egress, Fire Protection and Water Supply Systems, Plans Review, and the Storage of Hazardous Materials. Code C

### **FSC 253. Fire Inspector III (3-0-3)**

This course provides the participant with an in-depth view of the skills and duties required of the Fire Inspector III. The Fire Inspector III is an individual at the third and most advanced level of progression, who has met the job performance requirements specified in NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plans Examiner, current edition. The Fire Inspector III performs all types of fire inspections, plans review duties, and resolves complex code-related issues. Code C

### **FSC 254. The ISO (AIA) Standards (3-0-3)**

This course is a study of insurance theory and practice, the economics of the ISO grading system and a city's fire defense and insurance rates. Included is a detailed analysis of a city's water supply, fire department, fire alarm, fire prevention, and other grading methods of fire defense. Code C

### **FSC 255. The Public Fire and Life Safety Educator (3-0-3)**

With the leading cause of death among children being unintentional injuries, the need for fire and life safety education has become evident in today's society. This course will train the student to coordinate and deliver existing comprehensive community fire and injury prevention programs designed to eliminate or mitigate situations that endanger lives, health, property, and the environment. Code C

### **FSC 261. Hazardous Materials Technician (3-0-3)**

This course is designed for the student already certified at the Hazardous Materials Awareness and Operational level, this course develops the skills already learned and provides in-depth training in the mitigation of hazardous materials incidents. Through both classroom and practical training the student becomes familiar with health and safety issues, incident management, hazard and risk analysis, personal protective clothing, and decontamination. Code C

### **FSC 262. Hazardous Materials Incident Commander (3-0-3)**

This course supplies the incident commander with the knowledge and skills to perform their role as the person responsible for all decisions relating to the management of the incident. The candidate will learn about personal protective clothing, decontamination, branch functions with the Incident Management System, and the overall tactics to properly mitigate a hazardous materials incident. Code C

### **FSC 264. Airport Fire Fighter (3-0-3)**

Designed for fire departments, both civilian and military, whose primary mission is aircraft fire and rescue. This course meets the training requirements of both NFPA 1003 and FAA FAR Part 139.319. The course covers such topics as: Airport Familiarization, Aircraft Rescue and Firefighting Apparatus, Aircraft Types, Engines and Systems, and Aircraft Rescue and Firefighting Procedures. These classroom sessions are followed by practical exercises in turret operations, and extinguishment of wheel/brake, engine, interior cabin, and fuel spill fires through the use of handlines. This course will be held at a facility where various aircraft and apparatus are available. Code C

### **FSC 266. Wildland Fire Fighter (3-0-3)**

This course introduces the student to basic wildland firefighting and the strategies and tactics involved during suppression operations including fire line safety, and emphasizing the wildland fire orders and watch-out situations. This course covers fire behavior, fire weather, fuel types, safety equipment and guidelines, incident size up, determining resource needs, direct vs. indirect attack, burn-out, and backfiring. Code C

### **FSC 268. Industrial Fire Protection (3-0-3)**

This course introduces the student to the problem of fire loss and fire safety in an industrial setting and the methods, techniques and programs commonly applied to industrial fire protection. Topics include loss control processes, emergency action options, safety devices and procedures, basic organization and training for industrial fire personnel and special problems in industrial settings. Code C

### **FSC 270. Industrial Fire Protection Systems (3-0-3)**

This course will teach students the design and operation of fire protection systems for commercial, residential, and special hazard environments. Students will understand the general principals of automatic sprinkler systems, heat and smoke control systems, standpipe systems, and fire detection/ alarm systems, and portable extinguishing systems. Code C

### **FSC 280. Fire Apparatus and Equipment (3-0-3)**

This course is designed to familiarize the students with the basics of modern fire apparatus and related equipment. The course will include examination of pumpers, ladders, quints, hazardous materials vehicles, and other emergency response vehicles. Students will understand the basic operation and purpose of each vehicle and identify the purpose and use of equipment routinely carried by each vehicle. Code C

### **FSC 281. Fire Apparatus Operator: Pumper (3-0-3)**

This course is designed for the firefighter who wishes to advance to the next level of his/her profession. This course consists of six modules: Preventive Maintenance, Test and Inspections, Driving/Operating, Water Supply, Sprinklers and Standpipes, and Operations. Requires valid drivers license, 16 hours of apparatus training that must be completed and documented by the student's fire department prior to attending class. Code C

### **FSC 282. Fire Apparatus Operator: Aerial (3-0-3)**

A course designed to provide the structural firefighter with the needed knowledge and skills to successfully operate aerial apparatus. A must for departments using aerial apparatus, this course covers topics such as: Types and Construction of Aerial Apparatus, Positioning Aerial Apparatus, Stabilizing Systems, and Maintenance and Testing. Code C

### **FSC 291. Fire Officer I (3-0-3)**

The Fire Officer I curriculum identifies the requirements necessary to perform the duties of a first line supervisor. This course introduces the student to the basic concepts of management and supervision by concentration on such topics as: Organizational Structure, Communication Skills, Human Resource Management, Public Relations, Planning, Emergency Service Delivery, and Safety. Code C

### **FSC 292. Fire Officer II (3-0-3)**

This course is structured for the fire officer who is ready to assume a leadership role by moving into the middle management level of his/her department. This course gives the officer more knowledge of management and supervision so that he/she can make basic evaluations of employee relations and assume a proactive role in their department. This course expands on the knowledge base attained in Fire Officer I by revisiting some of the same subjects and adding additional material. Some new subject areas include information management, government structure, and department budget planning and management. Code C

### **FSC 293. Fire Officer III (3-0-3)**

This course is specialized for the chief officer who is ready to advance into the upper management level of his/her department. This course consists of subjects designed to give the officer more knowledge of management and administration so that he/she can make basic evaluations of employee relations and assume a more proactive role in their department. This is a projects- based class. Code C

### **FSC 294. Fire Officer IV (3-0-3)**

This course meets executive management level needs. The course is designed to meet the elements of NFPA 1021, Chapter 7. Fire Officer IV will emphasize management of fire protection services to include human resource management, multi-agency emergency service delivery with horizontal/vertical communication requirements and risk management. There will be group interactive exercises, which will reinforce class lectures. Code C

### **FSC 295. Fire Department Safety Officer (3-0-3)**

The purpose of this course is to provide training for fire officers and firefighters on the role and responsibilities of the Incident Safety Officer, and to allow participants to practice some of the key skills needed for competency as an Incident Safety Officer. This training program is for Fire Officers who could be asked to assume the duties of the Incident Safety Officer either as a staff assignment or an on-scene appointment. The program is also appropriate for firefighters who will be working on-scene with the Incident Safety Officer and must understand and appreciate the scope and duties of the job. Code C

### **FSC 297. Selected Topics in Fire Service Operations (3-0-3)**

This course provides directed reading and discussion of selected topics related to fire service operations. Emphasis is placed on student needs. Upon completion, students should be able to demonstrate skills developed to meet specific needs. Code C

### **FSC 298. Public Safety Telecommunicator (3-0-3)**

This is the only course which meets both the professional qualification objectives established by both NFPA 1061 and the Alabama Department of Public Health/Emergency Medical Dispatch. Designed for the entry level dispatcher/telecommunicator, this course will familiarize them with the basic concepts of alarm transmission and emergency dispatch procedure along with learning the skills involved with using the EMDPRS. With the emergency dispatch system, enhanced 9-1-1 centers, and the rapid development of metro dispatch centers, telecommunication training has become critical for all departments regardless of size. Code C

### **FSC 299. Legal Aspects of The Fire Service (3-0-3)**

This course introduces students to the legal obligations and responsibilities within the fire service along with the limitations and restrictions placed on emergency responders. Students will discuss and apply federal and state laws, codes, regulations and standards relevant to the fire service. Both civil and criminal law will be addressed. Code C

## **French**

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### **FRN 101. Introductory French I (4-0-4)**

This course provides an introduction to French. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of French-speaking areas. Code A

### **FRN 102. Introductory French II (4-0-4)**

#### **Prerequisite: FRN 101 or equivalent**

This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of French-speaking areas. Code A

### **FRN 201. Intermediate French I (3-0-3)**

#### **Prerequisite: FRN 102 or equivalent**

This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. Code A

## **Geographic Information Systems**

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### **GIS 106. Geographic Information Systems (2-1-3)**

This course includes instruction on capturing, storing, analyzing, and managing data and associated attributes, which are spatially referenced on earth. The instruction encompasses industry standards and a practical application into computer system software capable of integrating, storing editing, analyzing, sharing, and displaying geographically-referenced information. Upon completion students will be able to create interactive queries, analyze the spatial information, edit data maps, and present the results of all these in a real time format. Code C

## **Geography**

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### **GEO 100. World Regional Geography (3-0-3)**

#### **Core, Area IV**

This course surveys various countries and major regions of the world with respect to location and landscape, world importance, political status, population, type of economy, and external and internal organization problems and potentials. Code A

### **GEO 201. Principles of Human Geography (3-0-3)**

#### **Core, Area IV**

#### **Prerequisite: GEO 100**

This course surveys the science of location with emphasis on human activities as it relates to agricultural and industrial activities, and cities as market and production centers. Emphasis will be placed on human networks. Code A

## **Health Education**

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### **HED 224. Personal and Community Health (3-0-3)**

This course covers health problems for the individual and for the community. Areas of study include mental health, family life, physical health, chronic and degenerative disease, control of communicable diseases, and the understanding of depressants and stimulants. Healthful living habits will be emphasized. Code B

### **HED 226. Wellness (3-0-3)**

This course provides health-related education to those individuals seeking advancement in the area of personal wellness. The course has five major components: (1) fitness and health assessment, (2) physical work capacity, (3) education, (4) reassessment, and (5) retesting. Code C

### **HED 230. Safety and First Aid (3-0-3)**

HED 230 is divided into two parts. The first part concerns itself with the development of a safety education program within an organization (i.e., school, office, shop, etc.). The second part deals with physical injuries, emergency care, and treatment of those injuries. CPR certification standard Red Cross cards are given upon successful completion of American Red Cross requirements. Code B

### **HED 232. Care and Prevention of Athletic Injuries (3-0-3)**

This course provides a study of specific athletic injuries, their treatment, and preventive measures. Code C

### **HED 299. Special Topics in Health Education (3-0-3)**

This course will permit the student to focus on, examine, and address current specific issues and topics in the general area of health and disease. Topics covered will vary and this course may be repeated for credit. Code C

## **History**

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### **HIS 121. World History I (3-0-3)**

#### **Core, Area IV**

This course surveys social, intellectual, economic, and political developments that have molded the modern world. Focus is on both nonwestern and western civilizations from the prehistoric to the early modern era. Code A

### **HIS 122. World History II (3-0-3)**

#### **Core, Area IV**

This course is a continuation of HIS 121; it covers world history, both western and nonwestern, from the early modern era to the present. Code A

### **HIS 201. United States History I (3-0-3)**

#### **Core, Area IV**

This course surveys United States history during colonial, Revolutionary, early national, and antebellum periods. It concludes with the Civil War and Reconstruction. Code A

### **HIS 202. United States History II (3-0-3)**

#### **Core, Area IV**

This course is a continuation of HIS 201; it surveys United States history from the Reconstruction era to the present. Code A

### **HIS 216. History of World Religions (3-0-3)**

This course presents a comparison of the major religions of the world from a historical perspective. Emphasis is placed on the origin, development, and social influence of Christianity, Judaism, Islam, Hinduism, Buddhism, and others. (Dual listed as REL100) Code C

### **HIS 220. Contemporary Studies (3-0-3)**

This course provides a survey of contemporary problems and issues within a historical context. Topics might include nationalism, the rise of Islam as a powerful influence in the post-Cold War environment, environmental issues, and the impact of colonialism on modern, Third-World Society. Code C

### **HIS 256. African-American History (3)**

This course focuses on the experience of African-American people in the western hemisphere, particularly the United States. It surveys the period from the African origins of the slave trade during the period of exploration and colonization to the present. The course presents a comparison between the African experience in the United States and in Mexico and South America. Code B

## **Homeland Security**

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### **HLS 100. Introduction to Homeland Security and Public Safety (3-0-3)**

This course explores technical and academic qualification requirements and the interdisciplinary nature and regimen associated with first responders careers, including the Fire Service, Law Enforcement, Emergency Medical, Emergency Management, Homeland Security, and Natural Disaster Response and Recovery. This comprehensive course provides insight into federal mandates for unification of interagency information-sharing among emergency management agencies. Topics include inter- and intra-departmental communications; federal, regional, state, and local coordination; policies, procedures, and organizational levels of authority; qualifications, certifications, professional development and continuing education programs in First Responder and Public Safety professions. Code C

### **HLS 120. Homeland Security Strategies and Operational Techniques (3-0-3)**

This course provides an overview of the administrative, legislative, and operational elements of Homeland Security programs. Topics surveyed include bioterrorism, pandemic influenza, nuclear security, biometric aspects of the US-VISIT Program, intersection of homeland security and immigration, and suicide bombings, as well as a review of the history, policies, programs, and internal processes of the Department of Homeland Security, the National Strategy for Homeland Security, and the Alabama State Homeland Security Strategy. Code C

### **HLS 142. Drug Investigations and Operations (3-0-3)**

This course outlines the criminal nature of drug investigations and operations, the potential for terrorist activities in these areas, the working relationship required between law enforcement and the multiple disciplines in the Homeland Security community, and the vital nature of that relationship to the nation's counter-terrorism strategy. Topics highlighted include differences of drug-related terrorism concerns and anti-terrorism responsibilities compared with those typical of criminal or military issues; effects of definitions to help or hinder anti-terrorism work at the federal, state and local levels; and a brief overview of the tools each discipline contributes to the challenge. (Dual listed as: CRJ 178) Code C

### **HLS 155. Cyber Forensics and Information Security (3-0-3)**

This course examines techniques for analyzing risks to a computer system, extracting and documenting computer evidence stored as data or magnetically encoded information, and implementing a security policy that protects information assets from potential intrusion. Course materials parallel those of the U.S. Department of Homeland Security National Computer Forensics Institute in Hoover, Alabama. Founded in March 2007, the institute aims to provide criminal investigators, prosecutors and judges from the U.S. and other countries the training and support needed to better understand and investigate digital crimes. Code C

### **HLS 160. Infectious Disease and Pandemic Viruses (3-0-3)**

Materials for this course parallel those issued by the Centers for Disease Control, Atlanta, GA, and include the U.S. Department of Health and Human Services (HHS) Pandemic Influenza Plan. A review of the HHS's blueprint for pandemic influenza preparation and response supports discussion and scenario generation with guidance from national, state, and local policy makers and health departments. Highlighting specific needs and opportunities to build robust preparedness for and response to pandemic influenza, topics include the threat of pandemic influenza, the relationship of the HHS's Pandemic Influenza Plan to other Federal plans, and key roles and corresponding responsibilities during a pandemic. Code C

### **HLS 190. Critical Infrastructure Assessment and Protection (3-0-3)**

This course surveys the challenges faced in asset identification, strategic evaluation, pre-planning methodologies, and post-event procedures associated with critical infrastructure assessment and protection in many settings, including government facilities, local communities, businesses, industries, and ground, sea and air transportation. Topics include threats to human capital safety, assessment planning, physical plant and mechanical infrastructure threat analysis, and security procedures for cyber and information technologies. Code C

### **HLS 205. Homeland Security Legal Issues (3-0-3)**

This course provides a comprehensive introduction to the legislative underpinnings of domestic homeland security and emergency management processes within all areas of public safety: Criminal Justice, Fire Science, Emergency Medical, and Homeland Security. Significant legislation is reviewed with special consideration of concepts that define legal duties and consequences for first responders and emergency managers. Stressing the need for interagency communication and cross-agency knowledge of requirements and responsibilities, examples of topics examined include the careful approach to evidence, transfer of custody, preservation of crime scene, and evidence collection. (Multi-Prefixed as CRJ/FSC/HLS) Code C

### **HLS 207. Language Barriers in First Responder Environments (3-0-3)**

Based on the need to surmount language barriers during times of crisis, this course is designed to provide a basic but well-rounded first responder language and communication skill-set, tailored to locally prevalent languages, to enable better communication and allow rapid, safe, and legal intervention, as required. (Multi-Prefixed as CRJ/FSC/HLS) Code C

### **HLS 210. GPS and GIS Support to First Responder Careers (3-0-3)**

#### **Prerequisite: CIS 130 or equivalent**

This course introduces students to the concepts, techniques, and tools of Geographic Information Systems (GIS) and the use of Global Positioning Systems (GPS) for location and range finding. Topics include data acquisition, management, manipulation and analysis, and cartographic out-put for applications of GIS/GPS techniques in scientific and technological operations such as environmental assessment, analysis, or natural hazards, site analysis for business and industry, resource management, and land-use planning. Through hands-on exercises with ArcGIS and/or projects with related software packages, students will acquire basic skills in GIS. Code C

### **HLS 215. Mass Casualty and Triage Management (3-0-3)**

This course addresses and provides overview of the more grave aspects of Homeland Security and first responder activities. If all prevention and preemptive actions toward a natural or man-made disaster have failed and mass casualty events occur, it is first responders who provide care, support, and triage, and implement recovery methods and procedures. Topics in mass casualty and triage management include responses to chemical, biological, radiological, nuclear, and explosive devices (CBRNE), floods, wind, fire, and transportation (land, sea, air) disasters; including transportation, coordination, prioritization, and management of care for victims, relatives, and surrounding communities. (Multi-Prefixed CRJ/FSC/HLS) Code C



### **HLS 216. Management Systems in Disaster Response and Recovery (3-0-3)**

Information and technologies are worthless in disaster response without in-place management systems capable of assisting decision makers in the coordination and dissemination of the correct information to all necessary agencies and departments as quickly as possible. This course provides an overview of management systems utilized during the integration of emergency functions, response structures, technology use, information management, and decision-making during disaster response and recovery operations. The National Response Plan and the National Incident Management System will be addressed. Code C

### **HLS 217. Multi-Organizational Communications and Report Writing (3-0-3)**

Expanding upon the need for rapid and accurate interagency communications, this course highlights the necessity of standardized reporting for proper adjudication of criminal activity. The course focuses on review of the various types of local, state, and federal reporting procedures and guidelines, including incident, investigative, and progress reports and analysis of the different forms of written communications used throughout the law enforcement and Homeland Security communities. (Multi-Prefixed as CRJ/FSC/HLS) Code C

### **HLS 221. Weapons of Mass Destruction (Unclassified) (3-0-3)**

This course surveys characteristics of and trends associated with weapons of mass destruction (WMD) that are relevant to Homeland Security and defense operations. WMDs include multiple mechanisms and agents in chemical, biological, radiological, nuclear, and explosive devices (CBRNE). Topics include basic CBRNE weapons designs, general effects of weapon use, characteristics of important CBRNE agents and technologies for detection and identification of those agents, and approaches to protection from WMD (including shielding, protective equipment, decontamination, prophylaxis, etc.). Code C

### **HLS 227. Disaster Management and Recovery (3-0-3)**

This course reviews and critiques actual plans and engages students in components of effective disaster planning, exercise and scenario design, development, execution, and follow-through evaluations within and across all first responder agencies and jurisdictions. Introduced in this course is the Advanced Combat and Tactical Simulations (ACATS) software designed and developed by Lawrence Livermore National Labs at the University of California, Livermore. Natural and manmade disasters will be addressed and exercise scenarios generated for each with follow-on exercise and simulation execution. (Multi-Prefixed as CRJ/FSC/HLS) Code C

### **HLS 231. Crisis Management (3-0-3)**

This course provides an overview of issues related to crisis management, including the design and implementation of comprehensive emergency management and integrated emergency management strategic plans, and it covers key legislation impacting all first responder fields. Specific focus is given to issues relevant to planning, development, and execution of crisis communications programs for businesses and organizations, and to public relations techniques for communications throughout all crisis phases: Pre-Crisis, Crisis, and Post Crisis. (Multi-Prefixed CRJ/FSC/HLS.) Code C

### **HLS 241. Incident Management Team Operations (3-0-3)**

This course is tailored toward supervisors and managers in the first responder communities, but can be taken by all levels. The primary purpose is to provide students with training in team management operations in collaboration with the Citizens Emergency Response Training program, the Incident Command System (ICS) from the Department of Homeland Security, as mandated via Homeland Security Presidential Directive (HSPD-5), Management of Domestic Incidents of March 2004 and modified on September 18, 2009. (Multi-prefixed CRJ/FSC/HLS) Code C

### **HLS 245. Bio-Defense and Agro-Terrorism (3-0-3)**

This course provides a broad introduction and awareness of the threat of bio- and agro-terrorism to national and global security. In-depth discussions will provide a comprehensive coverage of biological and chemical agents and the threat they pose to society. A review of global concerns for bio-security, including the history of biological warfare, bioterrorism, concerns for agro-terrorism, and current initiatives in bio-defense will be included. cursory reviews of specific agents, diseases caused, detection methods, and consequence management and follow up considerations will also be considered, including topics within: GAO food processing security and recalls; security in container storage and import/export controls; meat, poultry, and fish contaminant vulnerabilities; and water and sewage monitoring. Code C

### **HLS 250. Capstone First Responder Computer Simulation Exercise (3-0-3)**

This capstone course is an advanced applications, outcome-based, research project designed to encompass all concepts and applications studied throughout the Homeland Security Certificate and/or Degree programs. Course requirements integrate all prior coursework in an applied and experiential framework through case studies, exercises, applied research, and analytical activities. Course content will be entirely real-world focused, instructor guided, and student driven. The course provides a complete real-world problem identification approach to solution-application in a comprehensive outcome-based, performance-measured program using the Advanced Combat and Tactical Simulations (ACATS) software designed and developed by Lawrence Livermore National Labs at the University of California, Livermore. Natural and manmade disasters will be addressed and exercise scenarios generated for each with follow-on exercise and simulation opportunities and executions. (Multi-Prefixed CRJ/FSC/HLS) Code C

### **HLS 290. Selected Topics Seminar in Homeland Security (3-0-3)**

The examination of current issues and concerns with Homeland Security, including upcoming National Special Security Events that mandate comprehensive security planning and response capabilities. Challenges of implementing and maintaining homeland security will be covered. The purpose of the Special Topics course is to provide students with an extra focus on 2 or 3 major issues that have current visibility in real world application or debate throughout Homeland Security and first responder arenas. Code C

## **Humanities**

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### **HUM 101. Introduction to Humanities I (3-0-3)**

This is the first course in a two-semester sequence which offers the student an introduction to the humanities using selections from art, music, literature, history, and philosophy which relates to a unifying theme. Code A

### **HUM 102. Introduction to Humanities II (3-0-3)**

This course offers the student an introduction to the humanities using selections from art, music, literature, history, and philosophy which relate to a unifying theme. Code A

### **HUM 130 Mankind and His Art (3-0-3)**

This course is an introduction to mankind's search for self-expression revealed in the music, art, and architecture of the western world from ancient times through the present day. Code C

### **HUM 298. Directed Studies in Humanities (Film Studies) (3-0-3)**

This course provides an opportunity for the student to study selected topics in humanities under the supervision of a qualified instructor. The specific topics covered will be determined by the interests of the students and faculty. The course may be repeated for credit. Code C

### **HUM 299. PTK Leadership Development (3-0-3)**

This course is a Humanities option for anyone interested in becoming a stronger, more effective leader. The course introduces basic principles of the leadership development class and provides opportunity for extensive discussion and reflection. Students will read excerpts from literature and view popular films that demonstrate examples of leadership. In addition, both in- and out- of-class experiential activities will provide leadership opportunities for the students. Phi Theta Kappa International Honor Society designed the course, but it is open to all students. Code A

## **Industrial Maintenance Technology**

### **INT 101. DC Fundamentals (2-2-3)**

#### **Corequisite: INT 103**

This course provides a study of atomic theory, direct current (DC), properties of conductors and insulators, direct current characteristics of series, parallel, and series parallel circuits. Inductors and capacitors are introduced and their effects on DC circuits are examined. Students are prepared to analyze complex DC circuits, solve for unknown circuit variables and to use basic electronic test equipment. This course also provides hands on laboratory exercises to analyze, construct, test, and troubleshoot direct current circuits. Emphasis is placed on the use of the scientific calculator and the operation of common test equipment used to analyze and troubleshoot DC and to prove the theories taught during classroom instruction. This is a CORE course.

### **INT 103. AC Fundamentals (2-2-3)**

#### **Corequisite: INT 101**

This course provides a study of the theory of alternating current (AC). Students are prepared to analyze complex AC circuit configurations with resistors, capacitors, and inductors in series and parallel combinations. Upon completion, students should be able to describe AC circuits and explain the specific AC theory functions such as RLC, impedance, phase relationships, and power factor. This course also provides hands on laboratory exercises to analyze alternating current using a variety of circuit configurations with resistors, capacitors, and inductors in series and parallel combinations. Emphasis is placed on the operation of common test equipment used to analyze and troubleshoot AC circuits to prove the theories taught. This is a CORE course.

### **INT 113. Industrial Motor Controls I (1-4-3)**

This course focuses on information regarding industrial motor controls and basic information regarding process logic controllers. Upon completion students will be able to remove, replace, and wire different types of control devices for operating industrial motors.

### **INT 117. Principles of Industrial Mechanics (2-2-3)**

This course provides instruction in basic physics concepts applicable to mechanics of industrial production equipment. Topics include the basic application of mechanical principles with emphasis on power transmission, specific mechanical components, alignment, and tension. Upon completion, students will be able to perform basic troubleshooting, repair and maintenance functions on industrial production equipment. This is a CORE course.

### **INT 134. Principles of Industrial Maintenance Welding and Metal Cutting Techniques (2-2-3)**

This course provides instruction in the fundamentals of acetylene cutting and the basics of welding needed for the maintenance and repair of industrial production equipment. Topics include oxy-fuel safety, choice of cutting equipment, proper cutting angles, equipment setup, cutting plate and pipe, hand tools, types of metal welding machines, rod and welding joints, and common welding passes and beads. Upon course completion, students will demonstrate the ability to perform metal welding and cutting techniques necessary for repairing and maintaining industrial equipment. This is a CORE course

### **INT 184. Introduction to Programmable Logic Controllers (PLCs) (2-2-3)**

This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.

### **INT 253. Industrial Robotics (2-2-3)**

This course provides instruction in concepts and theories for the operation of robotic servo motors and power systems used with industrial robotic equipment. Emphasis is on the application of the computer to control power systems to perform work. Student competencies include understanding of the functions of hydraulic, pneumatic, and electrical power system components, ability to read and interpret circuitry for proper troubleshooting and ability to perform preventative maintenance.

### **INT 284. Advanced Programmable Logic Controllers (2-2-3)**

#### **Prerequisite: INT 184**

This course includes the advanced principals of PLC's including hardware, programming, and troubleshooting. Emphasis is placed on developing advanced working programs, and trouble- shooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.

### **INT 288. Applied Programmable Logic Controllers (2-2-3)**

#### **Prerequisite: INT 184**

This course provides a comprehensive study in the theory and application of specific models of programmable logic controllers. Topics include hardware configuration, memory and addressing detail function of software, instruction types, system troubleshooting, and simple programming techniques.

## Management and Supervision

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### **MST 111. Elements of Supervision (3-0-3)**

This course is an introduction to the fundamentals of supervision. Topics include the functions of management, responsibilities of the supervisor for management employee relations, organizational structure, project management and employee training, and rating. (Dual listed as BUS186) Code C

### **MST 201. Human Resource Management (3-0-3)**

This course provides an overview of the responsibilities of the supervisor of human resources. Topics include the selection, placement, testing, orientation, training, rating, promotion, and transfer of employees. (Dual listed as BUS 276) Code C

### **MST 202. Labor Economics-Labor Relations (3-0-3)**

This is a basic management course in the field of labor. Topics include psychological and institutional factors, economic factors, and economic analysis in areas of labor-management relations. Code C

### **MST 211. Office Management and Correspondence (3-0-3)**

This course provides an overview of the workings of a business office, including the communications function. Topics include the office organization and layout, selection and training of staff, promotion of personnel, supervision functions, and oral and written communications. Code C

### **MST 215. Small Business Management (3-0-3)**

This course provides an overview of the creation and operation of a small business. Topics include buying a franchise, starting a business, identification of capital resources, understanding markets, managing customer credit, managing accounting systems, budgeting systems, inventory systems, purchasing insurance, and the importance of appropriate legal counsel. (Dual listed as BUS 279) Code C

### **MST 217. Industrial Management (3-0-3)**

This course provides an overview of management in an industrial setting. Topics include operations analysis, research and development, physical facilities, production planning, productivity improvement, product flow, quality control, jobs and wages and employee motivation. (Dual listed as BUS 280) Code C

### **MST 223. Special Studies in Personnel Administration (3-0-3)**

#### **Prerequisite: MST 201**

Under faculty supervision, this course provides a student the opportunity to develop a knowledge of current human resource management practices. Emphasis is placed on independent study of current publications approved by the instructor. Code C

### **MST 224. Special Studies in Industrial Management (3-0-3)**

#### **Prerequisite: MST 217**

Under faculty supervision, this course provides a student the opportunity to develop knowledge of current industrial management practices. Emphasis is placed on independent study of current publications approved by the instructor. Code C

### **MST 225. Special Studies In Business Management (3-0-3)**

#### **Prerequisite: MST 215**

Under faculty supervision, this course provides a student the opportunity to develop knowledge of current business management practices. Emphasis is placed on independent study of current publications approved by the instructor. Code C

### **MST 231. Management Seminar (3-0-3)**

#### **Prerequisite: 9 credit hours of MST courses**

This course offers study of current problems, issues, and developments in the areas of management. Students are guided through individual projects and outside research related to their areas of concentration and/or employment training. Code C

### **MST 235. Labor Law (3-0-3)**

#### **Prerequisite: MST 202**

This course provides an overview of the laws related to labor and employment. Topics include the study of the various federal and state statutes, including significant court decisions, relating to the rights and obligations of employers, employees, and unions. Code C

### **MST 237. Labor Arbitration Practices and Procedures (3-0-3)**

#### **Prerequisite: MST 202 and MST 235**

This course provides an overview of the history of arbitration practices and procedures. Topics include various federal and state statutes, significant court decisions, and government regulations pertaining to the practices and procedures of labor arbitration. Code C

### **MST 241. Directed Readings in Human Resource Management and Labor Relations (3-0-3)**

#### **Prerequisite: MST 111**

Under faculty supervision, this course provides a student the opportunity to research, study, and analyze current articles and publications in human resource management. Emphasis is placed on summarizing the writings as assigned by the instructor and/or mutually agreed upon by the instructor and the student. Code C

### **MST 242. Directed Readings In Industrial Management (3-0-3)**

#### **Prerequisite: MST 111**

Under faculty supervision, this course provides a student the opportunity to research, study, and analyze current articles and publications in industrial management. Emphasis is placed on summarizing the writings as assigned by the instructor and/ or mutually agreed upon by the instructor and the student. Code C

### **MST 243. Directed Readings in Business Management (3-0-3)**

#### **Prerequisite: MST 111**

Under faculty supervision, this course provides a student the opportunity to research, study and analyze current articles and publications in business management. Emphasis is placed on summarizing the writings as assigned by the instructor and/ or mutually agreed upon by the instructor and the student. Code C

### **MST 280. Management Workshop I (3-0-3)**

This course is a part of a series of workshops wherein current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business, and industry. Code C

### **MST 281. Management Workshop II (3-0-3)**

This course is a part of a series of workshops wherein current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business, and industry. Code C

### **MST 282. Management Workshop III (3-0-3)**

This course is a part of a series of workshops wherein current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business, and industry. Code C

## **Mathematics**

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### **MTH 090. Basic Mathematics (3-0-3IC)**

The purpose of this course is to provide students with skills in basic mathematics. Minimum content includes whole numbers, integers, fractions, decimals, ratio and proportions, percents, and an introduction to algebra. Additional topics may include systems of measurement and basic geometry. At the conclusion of this course students are expected to be able to perform basic mathematical operations.

### **MTH 098. Elementary Algebra (3-0-3IC)**

**Prerequisite:** MTH 090 or appropriate mathematics placement score

This course is a review of the fundamentals of algebra. Topics include the real number system, linear equations and inequalities, graphing linear equations in two variables, laws of exponents, polynomial operations, and factoring polynomials. This course is designed to provide sufficient mathematical proficiency necessary for entry into Intermediate College Algebra.

### **MTH 100. Intermediate College Algebra (3-0-3)**

**Prerequisite:** MTH 098 or appropriate mathematics placement score

This course provides a study of algebraic techniques such as linear equations and inequalities, quadratic equations, systems of equations, and operations with exponents and radicals. Functions and relations are introduced and graphed with special emphasis on linear and quadratic functions. This course does not apply toward the general core requirement for mathematics. Code B

### **MTH 110. Finite Mathematics (3-0-3)**

**Core, Area III**

**Prerequisite:** A grade of “C” or better in MTH 100, or appropriate mathematics placement score

This course is intended to give an overview of topics in finite mathematics together with their applications, and is taken primarily by students who are not majoring in science, engineering, commerce, or mathematics (i.e. students who are not required to take Calculus). This course will draw on and significantly enhance the student’s arithmetic and algebraic skills. The course includes sets, counting, permutations, combinations, basic probability (including Baye’s Theorem), and introduction to statistics (including work with Binomial Distributions and Normal Distributions), matrices and their applications to Markov chains and decision theory. Additional topics may include symbolic logic, linear models, linear programming, the simplex method, and applications. Code A

### **MTH 112. Precalculus Algebra (3-0-3)**

**Core, Area III**

**Prerequisite: A grade of “C” or better in MTH 100, or appropriate mathematics placement score**

This course emphasizes the algebra of functions including polynomial, rational, exponential, and logarithmic functions. The course also covers systems of equations and inequalities, quadratic inequalities, and the binomial theorem. Additional topics may include matrices, Cramer’s Rule, and mathematical induction. Code A

### **MTH 113. Precalculus Trigonometry (3-0-3)**

**Core, Area III**

**Prerequisite: A grade of “C” or better in MTH 112, or appropriate mathematics placement score**

This course includes the study of trigonometric (circular functions) and inverse trigonometric functions and includes extensive work with trigonometric identities and trigonometric equations. The course also covers vectors, complex numbers, DeMoirre’s Theorem, and polar coordinates. Additional topics may include conic sections, sequences, and using matrices to solve linear systems. Code A

### **MTH 116. Mathematical Applications for Nurses (3-0-3)**

**Prerequisite: MTH 090 or appropriate mathematics placement score and admission to the LPN Program**

This course provides practical applications of mathematics and includes selected topics from consumer math and algebra. Some types are integers, percents, interest, ratio and proportion, metric system, probability, linear equations, and problem solving. This is a terminal course designed for students seeking an AAS degree and does not meet the general core requirements for mathematics. Code C

### **MTH 120. Calculus and Its Applications (3-0-3)**

**Core, Area III**

**Prerequisite: A grade of “C” or better in MTH 112, or appropriate mathematics placement score**

This course is intended to give a broad overview of calculus and is taken primarily by students majoring in Commerce and Business Administration. It includes differentiation and integration of algebraic, exponential, and logarithmic functions, and applications to business and economics. The course should include functions of several variables, partial derivatives (including applications), Lagrange Multipliers, L’Hospital’s Rule, and multiple integration (including applications). Code A

### **MTH 125. Calculus I (4-0-4)**

**Core, Area III**

**Prerequisite: A grade of “C” or better in MTH 113/115, or appropriate mathematics placement score**

This is the first of three courses in the basic calculus sequence taken primarily by students in science, engineering, and mathematics. Topics include the limit of a function, the derivative of algebraic, trigonometric, exponential, and logarithmic functions, and the definite integral and its basic applications to area problems. Applications of the derivative are covered in detail, including approximations of error using differentials, maximum and minimum problems, and curve sketching using calculus. Code A



### **MTH 126. Calculus II (4-0-4)**

**Core, Area III, Spring**

**Prerequisite: A grade of “C” or better in MTH 125, or appropriate mathematics placement score**

This is the second of three courses in the basic calculus sequence. Topics include vectors in the plane and in space, lines and planes in space, applications of integration (such as volume, area, length, work, and average value), techniques of integration, infinite series, polar coordinates, and parametric equations. Code A

### **MTH 227. Calculus III (4-0-4)**

**Core, Area III, Summer**

**Prerequisite: MTH 126**

This is the third of three courses in the basic calculus sequence. Topics include vector functions of two or more variables, partial derivatives (including applications), quadratic surfaces, multiple integration, and vector calculus (including Green’s Theorem, Curl and Divergence surface integrals, and Stokes Theorem). Code A

### **MTH 231. Math for the Elementary Teacher I (3-0-3)**

**Prerequisite: A grade of “C” or better in MTH 100 or appropriate mathematics placement score**

This course is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics include logic, sets and functions operations, and properties of whole numbers and integers including number theory; use of manipulatives by teachers to demonstrate abstract concepts and by students while learning these abstract concepts as emphasized in the class. Upon completion, students are required to demonstrate proficiency in each topic studied as well as to learn teaching techniques that are grade-level and subject-matter appropriate, and test for mathematical proficiency and the learning of teaching concepts. Code B

### **MTH 232. Math for the Elementary Teacher II (3-0-3)**

**Prerequisite: MTH 231**

This course is the second of a three-course sequence and is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics include numeration skills with fractions, decimals and percentages, elementary concepts of probability and statistics, and analytic geometry concepts associated with linear equations and inequalities. The use of manipulatives and calculators in the teaching and learning process is stressed. Upon completion, students will test for mathematical proficiency and the learning of teaching concepts. Students also will demonstrate an appropriate teaching technique by preparing a lesson and teaching it to the class for their final exam grade. Code B

### **MTH 237. Linear Algebra (3-0-3)**

**Core, Area III**

**Prerequisite: MTH 126**

This course introduces the basic theory of linear equations and matrices, real vector spaces, bases and dimension, linear transformations and matrices determinants, eigen values and eigen vectors, inner product spaces, and the diagonalization of a symmetric matrix. Additional topics may include quadratic forms and the use of matrix methods to solve systems of linear differential equations. Code A

### **MTH 238. Applied Differential Equations I (3-0-3)**

**Core, Area III, Summer**

**Corequisite: MTH 227**

An introduction to numerical methods, qualitative behavior of first order differential equations, techniques for solving separable and linear equations analytically, and applications to various models (e.g. populations, motion, chemical mixtures, etc.); techniques for solving higher order linear differential equations with constant coefficients (general theory, undetermined coefficients, reduction of order, and the method of variation of parameters), with emphasis on interpreting the behavior of the solutions, and applications to physical models whose governing equations are of higher order; and the Laplace transform as a tool for the solution of initial value problems whose inhomogeneous terms are discontinuous. Code A

### **MTH 246. Mathematics of Finance (3-0-3)**

**Prerequisite: MTH 098 or appropriate mathematics placement score**

This course explores mathematical applications relevant to business practices. Types covered include simple and compound interest, credits, trades and bank discounts, annuities, amortization, depreciation, stocks and bonds, insurance, capitalization, and perpetuities. This course does not meet the general core requirement for mathematics. Code C

### **MTH 265. Elementary Statistics (3-0-3)**

**Prerequisite: MTH 100 or appropriate mathematics placement score**

This course provides an introduction to methods of statistics, including the following topics: sampling, frequency distributions, measures of central tendency, graphic representation, reliability, hypothesis testing, confidence intervals, analysis, regression, estimation, and applications. Probability permutations, combinations, binomial theorem, random variables, and distributions may be included. Code B

## **Medical Assisting**

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### **MAT 101. Medical Terminology (3-0-3)**

This course is designed for medical assistants, student nurses, and others in medically related fields. The course will focus on the more common prefixes, roots, and suffixes used to construct medical terms with these word parts to determine the meanings of new or unfamiliar terms. The student will learn a system of word building which will enable them to interpret medical terms. This is a CORE course for medical assisting. Code C

### **MAT 102. Medical Assisting Theory I (3-0-3)**

**Corequisite: MAT 101**

A description of anatomical descriptors and the cell introduces the student to and serves as an overview of the body's systems. The structure and function of the nervous, sensory, integumentary, muscular, skeletal, respiratory, and cardiovascular systems are taught with the diseases related to these systems presented. Upon completion, students should be able to demonstrate a basic working knowledge of these body systems. This is a CORE course for medical assisting. Code C

### **MAT 103. Medical Assisting Theory II (3-0-3)**

#### **Prerequisite: MAT 101 & 102**

The structure and function of the digestive, urinary, reproduction, endocrine, and immune systems are presented. Disease processes that are related to these systems will be included. Basic concepts of reproduction, growth and development, and nutrition are taught. Upon completion, students should be able to demonstrate a basic working knowledge of these body systems. This is a CORE course for medical assisting. Code C

### **MAT 111. Clinical Procedures I for the Medical Assistant (2-3-3)**

#### **Prerequisite: MAT 101**

This course includes instruction in clinical examining room procedures. Topics include asepsis, infection control, assisting with examination, and patient education. Upon completion, students will be able to demonstrate competence in exam room procedures. This is a CORE course for medical assisting. Code C

### **MAT 120. Medical Administrative Procedures I (2-3-3)**

#### **Prerequisite: MAT 101 and CIS 146 or equivalent**

This course introduces medical office administrative procedures. Topics include appointment scheduling, telephone techniques, managing the physician's schedule, handling mail, preparing and maintaining medical records, and patient orientation. Upon completion, students should be able to perform basic medical secretarial skills. This is a CORE course for medical assisting. Code C

### **MAT 121. Medical Administrative Procedures II (2-3-3)**

#### **Prerequisite: MAT 120 and MAT 101**

This course is the continuation of Medical Administrative Procedures I. Topics include physical plant maintenance, equipment, and supplies, inventories, liability coverage, medical economics, and an introduction to insurance procedures. Upon completion students should be able to manage the economics of the medical office and supervise personnel. This is a CORE course for medical assisting. Code C.

### **MAT 125. Laboratory Procedures I for the Medical Assistant (2-3-3)**

#### **Prerequisite: MAT 101**

This course provides instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collecting and processing specimens, performing selective diagnostic tests, such as a CBC, screening and follow-up of test results and OSHA/CLIA regulations. Upon completion, students should be able to perform basic lab tests/skills based on course topics. This is a CORE course for medical assisting. Code C

### **MAT 128. Medical Law and Ethics for the Medical Assistant (3-0-3)**

This course provides basic information related to the legal relationship of patient and physician. Topics to be covered include creation and termination of contracts, implied and informed consent, professional liability, invasion of privacy, malpractice, tort, liability, breach of contract, and the Medical Practice Act. Upon completion, students should be able to recognize ethical and legal implications of these topics as they relate to the medical assistant. This is a CORE course for medical assisting. Code C

## **MAT 200. Management of Office Emergencies (2-0-2)**

**Prerequisite:** MAT 101, MAT 102, MAT 103

This course is designed to instruct students in handling emergencies in the medical office. Emergencies presented will include cardiovascular emergencies, diabetic emergencies, seizures, syncope, hyperthermia and hypothermia, shock, musculoskeletal emergencies, and poisoning. Upon completion, students should be able to recognize emergency situations and take appropriate actions. This is a CORE course for medical assisting. Code C

## **MAT 211. Clinical Procedures II for the Medical Assistant (2-3-3)**

**Prerequisite:** MAT 111

This course includes instruction in vital signs and special examination procedures. Emphasis is placed on interviewing skills, appropriate triage and preparing patients for diagnostic procedures. Upon completion, students should be able to assist with special procedures. This is a CORE course for medical assisting. Code C

## **MAT 215. Laboratory Procedures II for the Medical Assistant (2-3-3)**

**Prerequisite:** MAT 125

This course instructs the student in the fundamental theory and lab application for the medical office. Microbiology, urinalysis, serology, blood chemistry, and venipuncture theory as well as venipuncture collection procedures are discussed and performed. Upon completion, students should be able to perform basic lab tests/skills on course topics. This is a CORE course for medical assisting. Code C

## **MAT 216. Medical Pharmacology for the Medical Office (3-3-4)**

**Prerequisite:** MAT 101, MAT 102, and MAT 103 and MTH 100

This course teaches the commonly administered drugs used in the medical field including their classifications, actions, indications, contraindications, and side effects on the body. Correct demonstration of drug calculation, preparation, administration, and documentation are also taught. Upon completion, students should be able to demonstrate safe drug administration and recognize common medical classifications and their patient implications. This is a CORE course for medical assisting. Code C

## **MAT 220. Medical Office Insurance (2-3-3)**

**Prerequisite:** MAT 101, MAT 121, CIS 146

In this course emphasis is placed on insurance procedures with advanced diagnostic and procedural coding in the outpatient facility. Study will include correct completion of insurance forms and coding. Upon completion, students should be able to demonstrate proficiency in coding for reimbursements. This is a CORE course for medical assisting. Code C

## **MAT 221. Medical Transcription**

This course is designed to orient students to standard medical reports, correspondence, and related documents transcribed in a medical environment through classroom instruction. Emphasis is on transcribing medical records from dictated recordings. Learn/maintain standards of ethical/professional conduct. Upon completion, the student should be able to accurately transcribe medical documents from dictated recordings. Code C

### **MAT 228. Medical Assistant Review Course (1-0-1)**

This course includes a general review of administrative and clinical functions performed in a medical office. The course will assist the student or graduate in preparing for the national credentialing examination. Code C

### **MAT 229. Medical Assisting Preceptorship (0-15-3)**

**Prerequisite:** All MAT coursework must be complete.

This course is designed to provide the opportunity to apply clinical, laboratory, and administrative skills in a physician's office, clinic or outpatient facility. The student will gain experience in applying knowledge learned in the classroom in enhancing competence, in strengthening professional communications and interactions. Upon completion, students should be able to perform as an entry-level Medical Assistant. This is a CORE course for medical assisting. Code C

### **MAT 239. Phlebotomy Preceptorship (0-15-3)**

**Prerequisite:** MAT 125, MAT 215, EMS 100

This course is designed to provide the opportunity to apply phlebotomy techniques in the physician's clinic and hospital setting. Emphasis is placed on training individuals to properly collect and handle blood specimens for laboratory testing and to interact with health care personnel, patients, and the general public. Upon completion, students should be prepared for entry-level phlebotomy and to sit for the Phlebotomy Technician Examination (ASCP). Code C

## **Music**

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### **MUS 100. Convocation (1-0-1)**

This course is designed to expose students to a variety of repertory styles and gives students an opportunity to practice individual performance skills. Emphasis is placed on exposure to performances and lectures by guest artists, faculty or students. Code C

### **MUS 101. Music Appreciation (3-0-3)**

**Core, Area II**

This course is designed for nonmusic majors and requires no previous musical experience. It is a survey course that incorporates several modes of instruction including lecture, guided listening, and similar experiences involving music. The course will cover a minimum of three (3) stylistic periods, provide a multi-cultural perspective, and will include both vocal and instrumental genres. Upon completion, students should be able to demonstrate knowledge of music fundamentals, the aesthetic/stylistic characteristics of historical periods, and an aural perception of style and structure in music. Code A

### **MUS 102. Afro-American Music (2-0-2)**

**Core, Area V**

**Prerequisite:** As required by program

This course provides a study of music composed by black Americans. Topics include the origin and development of musical styles expressed in Negro spirituals, calypso, gospel music, and jazz. Upon completion, students should be able to demonstrate knowledge, understanding, and an aural perception of the stylistic characteristics of Afro-American music. Code C

### **MUS 103. Survey of Popular Music (2-0-2)**

**Core, Area V**

**Prerequisite: As required by program**

This course provides a study of the origins, development and existing styles of popular music. Topics include ragtime, jazz, rhythm and blues, rock, country and western, folk, and world music. Upon completion, students should be able to demonstrate knowledge, understanding, and an aural perception of the stylistic characteristics of popular music. Code C

### **MUS 104. Jazz: An Introduction and History (2-0-2)**

**Core, Area V**

**Prerequisite: As required by program**

This course provides a study of the origins, development and existing styles of jazz. Topics include the blues, piano styles, Dixieland, swing, bebop, third stream, cool, free jazz, and jazz/rock fusion. Upon completion, students should be able to demonstrate knowledge, understanding, and an aural perception of the different style characteristics of jazz music. Code C

### **MUS 110 Basic Musicianship (3-0-3)**

**Prerequisite: MUS 099 or suitable placement score or permission of the instructor.**

This course is designed to provide rudimentary music knowledge and skills for the student with a limited music background. Topics include a study of notation, rhythm, scales, keys, intervals, chords and basic sight singing and ear training skills. Upon completion, students should be able to read and understand musical scores and demonstrate basic sight singing and ear training skills for rhythm, melody and harmony. Code C

### **MUS 111. Music Theory I (3-0-3) or (3-2-4)**

**Prerequisite: Consent of instructor**

This course introduces the student to the diatonic harmonic practices in the Common Practice Period. Topics include fundamental musical material (rhythm, pitch, scales, intervals, diatonic harmonies) and an introduction to the principles of voice leading and harmonic progression. Upon completion, students should be able to demonstrate a basic competency using diatonic harmony through analysis, writing, sight singing, dictation, and keyboard skills. Code B

### **MUS 112. Music Theory II (3-0-3) or (3-2-4)**

**Prerequisite: MUS 111**

This course completes the study of diatonic harmonic practices in the Common Practice Period and introduces simple musical forms. Topics include principles of voice leading used in three and four-part triadic harmony and diatonic seventh chords, non-chord tones, cadences, phrases and periods. Upon completion, students should be able to demonstrate competence using diatonic harmony through analysis, writing, sight singing, dictation, and keyboard skills. Code B

### **MUS 113. Music Theory Lab I (0-2-1)**

**Prerequisite: MUS 110 or suitable placement score or consent of instructor; (Co-requisite: MUS 111, if ear-training lab is a separate course)**

This course provides the practical application of basic musical materials through sight singing; melodic, harmonic and rhythmic dictation, and keyboard harmony. Topics include intervals, simple triads, diatonic stepwise melodies, basic rhythmic patterns in simple and compound meter, and four-part triadic progressions in root position. Upon completion, students should be able to write, sing, and play intervals, scales, basic rhythmic patterns, diatonic stepwise melodies, simple triads, and short four-part progressions in root position. Code B

### **MUS 114. Music Theory Lab II (0-2-1)**

**Prerequisite:** MUL 113 (Co-requisite: MUS 112, if ear training lab is a separate course)

This course continues the practical application of diatonic musical materials through sight singing; melodic, harmonic and rhythmic dictation, and keyboard harmony. Topics include intervals, scales, diatonic melodies with triadic arpeggiations, more complex rhythmic patterns in simple and compound meter, and four-part triadic progressions in all inversions. Upon completion, students should be able to write, sing and play all intervals, rhythmic patterns, employing syncopation and beat divisions, diatonic melodies, and four-part diatonic progressions. Code B

### **MUS 116. Computer Applications in Music (3-0-3)**

**Prerequisite:** Consent of instructor

This course introduces the history and use of computer applications in music. Topics include an introduction to computer skills, MIDI, and the application of notation and sequencing software programs (i.e. Finale, Performer). Upon completion, students should be able to demonstrate basic competency in the use of computers in music. Code C

### **MUS 161. Diction for Singers (3-0-3)**

**Prerequisite:** As required by program

This course introduces the basic rules of diction in Italian, French and German for singers. Emphasis is placed on the use of the International Phonetic Alphabet. Upon completion, students should be able to sing art songs in Italian, French, and German with correct diction. Code C

### **MUS 217. Jazz Improvisation (3-0-3)**

**Prerequisite:** Consent of instructor

This course is designed to prepare the student with the theoretical background and improvisational techniques utilized in jazz performance. Emphasis is placed on the understanding of chord structures, chord progressions, scale structures, and melodic design. Upon completion, students should be able to perform an improvisational solo with a jazz ensemble. Code C

## **Music Ensemble**

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### **(MUL) Music Ensembles (0-2-1)**

**Prerequisite:** Consent of instructor

These courses provide opportunities for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. Code B

**MUL 180-81; 280-81 Concert Choir I, II, III, IV**

**MUL 184-85; 284-85 Show Choir I, II, III, IV**

**MUL 196-97; 296-97 Show Band I, II, III, IV**

### **(MUL) Class Performance Instruction (0-2-1)**

Group instruction is available in voice and piano for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and acknowledgment of music fundamentals. Code C

**MUL101-02; 201-02 Class Piano I, II, III, IV**

**MUL111-12; 211-12 Class Voice I, II, III, IV**

## **Nursing Assistant**

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### **NAS 100. Long Term Care Nursing Assistant (3-0-3-4)**

This program fulfills the Omnibus Budget Reconciliation Act (OBRA) requirements for training of long-term care nursing assistants in preparation for certification through competency evaluation. Emphasis is placed on the development of the knowledge, attitudes, and skills required of the long-term care nursing assistant. Upon completion of this course, the student should demonstrate satisfactory performance on written examinations and clinical skills. Course graduates are awarded a certificate of completion and are eligible to take the certification examination to become a Certified Nursing Assistant (CNA).

## **Nursing**

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### **NUR 102. Fundamentals of Nursing (3-6-3-6)**

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and theories basic to the art and science of nursing. The role of the nurse as a member of the healthcare team is emphasized. Students are introduced to the concepts of client needs, safety, communication, teaching/learning, critical thinking, ethical-legal, cultural diversity, nursing history, and the program's philosophy of nursing. Additionally, this course introduces psychomotor nursing skills needed to assist individuals in meeting basic human needs. Skills necessary for maintaining microbial, physical, and psychological safety are introduced along with skills needed in therapeutic interventions. At the conclusion of this course students demonstrate competency in performing basic nursing skills for individuals with common health alterations.

### **NUR 103. Health Assessment (0-3-0-1)**

This course is designed to provide students the opportunity to learn and practice history taking and physical examination skills with individuals of all ages, with emphasis on the adult. The focus is on symptom analysis along with physical, psychosocial, and growth and development assessments. Students will be able to utilize critical thinking skills in identifying health alterations, formulating nursing diagnoses, and documenting findings appropriate to nursing.

### **NUR 104. Introduction to Pharmacology (0-3-0-1)**

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. This course introduces students to basic principles of pharmacology and the knowledge necessary to safely administer medication. Course content includes legal implications, pharmaco-kinetics, pharmacodynamics, calculations of drug dosages, medication administration, and an overview of drug classifications. Students will be able to calculate and administer medications.



### **NUR 105. Adult Nursing (5-3-6-8)**

**Prerequisites:** NUR 102, NUR 103, NUR 104, BIO 201 or NUR 101, MTH 116

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Emphasis is placed on providing care to individuals undergoing surgery, fluid and electrolyte imbalance, and common alterations in respiratory, musculoskeletal, gastrointestinal, cardio-vascular, endocrine, and integumentary systems. Nutrition, pharmacology, communication, cultural, and community concepts are integrated.

### **NUR 106. Maternal and Child Nursing (4-0-3-5)**

**Prerequisites:** NUR 102, NUR 103, NUR 104, BIO 201 or NUR 101, MTH 116

This course focuses on the role of the nurse in meeting the physiological, psychosocial, cultural and developmental needs of the maternal and child client. Course content includes antepartal, intrapartal, and postpartal care, complications of pregnancy, newborn care, human growth and development, pediatric care, and selected pediatric alterations. Nutrition, pharmacology, cultural diversity, use of technology, communication, anatomy and physiology review, medical terminology, critical thinking, and application of the nursing process are integrated throughout this course. Upon completion of this course students will be able to provide and manage care for maternal and pediatric clients in a variety of settings.

### **NUR 107. Adult/Child Nursing (5-0-9-8)**

**Prerequisites:** NUR 105, NUR 106, ENG 101, BIO 202

This course provides students with opportunities to develop competencies necessary to meet the needs of individuals throughout the life span in a safe, legal, and ethical manner using the nursing process in a variety of settings. Emphasis is placed on providing care to individuals experiencing complex alterations in: sensory/perceptual reproductive, endocrine, genitourinary, neurological, immune, cardiovascular, and lower gastrointestinal systems. Additional instruction is provided for care for clients experiencing burns, cancer, and emergent conditions. Nutrition, pharmacology, therapeutic communication, community, cultural diversity, health promotion, error prevention, critical thinking, impacts on maternal and child clients are integrated through-out the course.

### **NUR 108. Psychosocial Nursing (2-0-3-3)**

**Prerequisites:** NUR 105, NUR 106, ENG 101, BIO 202

This course is designed to provide an overview of psychosocial adaptation and coping concepts used when caring for clients with acute and chronic alterations in mental health in a variety of settings. Topics include therapeutic communication skills, normal and abnormal behaviors, treatment modalities, and developmental needs. Upon completion of this course, students will demonstrate the ability to assist clients in maintaining psychosocial integrity through the use of the nursing process.

### **NUR 109. Role Transition for Practical Nursing (2-3-0-3)**

**Prerequisites:** NUR 105, NUR 106, ENG 101, BIO 202

This course provides students with opportunities to gain knowledge and skills necessary to transition from student to practicing nurse. Content includes a discussion of current issues in health care, practical nursing leadership and management, professional practice issues, and transition into the workplace. Emphasis is placed on NCLEX-PN test-taking skills, computer-assisted simulations and practice tests, development of a prescriptive plan for remediation, and review of selective content, specific to the practice of practical nursing.

### **NUR 200. Nursing Career Mobility Assessment (3-9-0-6)**

#### **Prerequisites: As required by program**

This course is designed to provide LPN mobility students, self-directed opportunities to prepare for placement into the third semester of the ADN program. Emphasis is on assessment and validation of selected theory, process, and skills covered in NUR 102, 103, 104, 105, and 106. Upon successful completion of assessments, students are eligible for entry into NUR 201. Students who successfully complete this course are awarded 15 non-traditional hours at the completion of the LPN mobility curriculum.

### **NUR 201. Nursing through the Lifespan I (3-0-6-5)**

#### **Prerequisites: As required by program**

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in gastrointestinal, reproductive, sensory, and endocrine systems in a variety of settings. Additional instruction is provided for oncology, mental health, teaching/learning concepts, and advanced dosage calculations. Nutrition, pharmacology, communication, cultural, and community concepts are integrated.

### **NUR 202. Nursing through the Lifespan II (3-0-9-6)**

This course builds upon previous instruction and provides additional opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in cardiovascular, hematologic, immune, and genitourinary systems in a variety of settings. Additional instruction is provided for psychiatric disorders, and high-risk obstetrics. Teaching/learning concepts, advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

### **NUR 203. Nursing through the Lifespan III (4-0-6-6)**

This course builds upon previous instruction and provides additional opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in cardiovascular, respiratory, and neurological systems in a variety of settings. Additional instruction is provided care for selected mental health disorders, selected emergencies, multiple organ dysfunction syndrome and related disorders. Teaching/learning concepts, advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

### **NUR 204. Role Transition for the Registered Nurse (2-0-6-4)**

This course provides students with opportunities to gain knowledge and skills necessary to transition from student to registered nurse. Content includes current issues in health care, nursing leadership and management, professional practice issues for registered nurses, and transition into the workplace. Additional instruction is provided for preparing for the NCLEX-RN.

## **Business and Office Technology**

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### **OAD 101. Beginning Keyboarding (3-0-3)**

This course is designed to enable the student to use the touch method of keyboarding through classroom instruction and outside lab. Emphasis is on speed and accuracy in keying alphabetic, symbol, and numeric information using the computer keyboard. Upon completion, the student should be able to demonstrate proper technique and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of basic business documents such as memos, letters, reports, and tables. Code C

### **OAD 103. Intermediate Keyboarding (3-0-3)**

#### **Prerequisite: OAD 101 or equivalent**

This course is designed to assist the student in increasing speed and accuracy using the touch method of keyboarding through classroom instruction and lab exercises. Emphasis is on the production of business documents such as memoranda, letters, reports, tables, and outlines from unarranged rough draft to acceptable format. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of business documents. This is a CORE course. Code C

### **OAD 125. Word Processing (3-0-3)**

#### **Prerequisite: CIS 146**

This course is designed to provide the student with basic word processing skills through classroom instruction and outside lab. Emphasis is on the utilization of software features to create, edit, and print common office documents. Upon completion, the student should be able to demonstrate the ability to use industry-standard software to generate appropriately formatted, accurate, and attractive business documents such as memoranda, letters, and reports. This is a CORE course. (Dual listed as CIS 111) Code C

### **OAD 130. Electronic Calculations (3-0-3)**

#### **Prerequisite: MTH 098**

This course is designed to teach the numeric touch system and problem-solving techniques. Emphasis is on basic mathematical functions. Upon completion, the student should be able to demonstrate an acceptable rate of speed and accuracy, as defined by the course syllabus, to solve problems based on typical business applications. Code C

### **OAD 138. Records and Information Management (3-0-3)**

This course is designed to give the student knowledge about managing office records and information. Emphasis is on basic filing procedures, methods, systems, supplies, equipment, and modern technology used in the creation, protection, and disposition of records stored in a variety of forms. Upon completion, the student should be able to perform basic filing procedures. This is a CORE course. Code C

### **OAD 200. Machine Transcription (3-0-3)**

#### **Prerequisite: OAD 103 with grade of "C" or better and BUS 215 or ENG 102**

This course is designed to develop marketable skills in transcribing various forms of dictated material through classroom instruction. Emphasis is on the use of microcomputers and commercial word processing package. Upon completion, the student should be able to accurately transcribe documents from dictated recordings. Code C

### **OAD 201. Legal Terminology (3-0-3)**

#### **Prerequisite: OAD 101**

This course is designed to familiarize the student with legal terminology. Emphasis is on the spelling, definition, pronunciation, and usage of legal terms. Upon completion, the student should be able to communicate effectively using legal terminology. Code C

### **OAD 202. Legal Transcription (3-0-3)**

#### **Prerequisite: OAD 103 with grade of “C” or better, BUS 215 or ENG 102, and OAD 201**

This course is designed to familiarize students with legal terms and provide transcription skill development in the production of legal correspondence, forms, and court documents through classroom instruction and lab exercises. Emphasis is on transcribing error-free legal documents using transcription equipment. Upon completion, students should be able to demonstrate the ability to accurately transcribe legal documents that are appropriately formatted. Code C

### **OAD 203. Legal Office Procedures (3-0-3)**

#### **Prerequisite: OAD 103 with grade of “C” or better and OAD 201**

This course is designed to provide an awareness of the responsibilities and opportunities of professional support personnel in a legal environment through classroom instruction and lab exercises. Emphasis is on legal terminology, the production of appropriate forms and reports, and the importance of office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a legal environment. Code C

### **OAD 211. Medical Terminology (3-0-3)**

#### **Prerequisite: OAD 101**

This course is designed to familiarize the student with medical terminology. Emphasis is on the spelling, definition, pronunciation, and usage of medical terms. Upon completion, the student should be able to communicate effectively using medical terminology. Code C

### **OAD 212. Medical Transcription (3-0-3)**

#### **Prerequisite: OAD 103 with grade of “C” or better, BUS 215 or ENG 101, and OAD 211**

This course is designed to orient students to standard medical reports, correspondence, and related documents transcribed in a medical environment through classroom instruction. Emphasis is on transcribing medical records from dictated recordings. Learn/maintain standards of ethical/professional conduct. Upon completion, the student should be able to accurately transcribe medical documents from dictated recordings. Code C

### **OAD 214. Medical Office Procedures (3-0-3)**

#### **Prerequisite: OAD 103 with grade of “C” or better and OAD 211**

This course is designed to provide an awareness of the responsibilities and opportunities of professional support personnel in a medical environment through classroom instruction and lab exercises. Emphasis is on medical terminology, the production of appropriate forms and reports, and the importance of office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a medical environment. Code C

### **OAD 218. Office Procedures (3-0-3)**

#### **Prerequisite: OAD 103 with grade of “C” or better**

This course is designed to develop an awareness of the responsibilities and opportunities of the office professional through classroom instruction. Emphasis is on current operating functions, practices and procedures, work habits, attitudes, oral and written communications, and professionalism. Upon completion, the student should be able to demonstrate the ability to effectively function in an office support role. Code C

### **OAD 242. Office Internship (0-6-3)**

#### **Prerequisite: Graduating student, last semester in program**

This course is designed to provide the students with an opportunity to work in an office environment. Emphasis is on the efficient and accurate performance of job tasks. Upon completion, the student should be able to demonstrate successful performance of skills required in an office support position. Code C

### **OAD 243. Spreadsheet Applications (3-0-3)**

#### **Prerequisite: CIS 146**

This course is designed to provide the student with a firm foundation in the use of computerized equipment and appropriate software in performing spreadsheet tasks through classroom instruction and lab exercises. Emphasis is on spreadsheet terminology and design, common formulas, and proper file and disk management procedures. Upon completion, the student should be able to use spreadsheet features to design, format, and graph effective spreadsheets. (Dual listed as ACC 149 and CIS 113) Code C

### **OAD 244. Database Applications (3-0-3)**

#### **Prerequisite: CIS 146**

This course is designed to provide the student with an understanding of the concepts of database management through classroom instruction and lab exercises. Emphasis is on the use of database software for business applications. Upon completion, the student should be able to create and manipulate data files and format output as documents and reports. (Dual listed as CIS 117) Code C

### **OAD 246. Office Graphics and Presentations (3-0-3)**

#### **Prerequisite: CIS 146**

This course is designed to provide the student with a foundation in the use of the computer and appropriate application software in the production of business slides and presentations through classroom instruction and lab exercises. Emphasis is on available software tools, presentation options, and design, as well as such presentation considerations as the make-up of the target audience. Upon completion, the student should be able to demonstrate the ability to design and produce a business presentation. (Dual listed as CIS 115) Code C

## **Orientation**

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### **ORI 101 Orientation to College (1-0-1)**

This course aids new students in their transition to the institution; exposes new students to the broad educational opportunities of the institution; and integrates new students into the life of the institution. Code C

## **ORI 105 Orientation and Student Success (3-0-3)**

This course is designed to orient students to the College experience by providing them with tools needed for academic and personal success. Topics include: developing an internal focus of control, time management and organizational skills, critical and creative thinking strategies, personal and professional maturity, and effective study skills for college and beyond. Code C

## **Philosophy**

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### **PHL 116. Logic (3-0-3)**

#### **Core, Area II**

This course is designed to help students assess information and arguments. The focus of the course is on logic and reasoning. The student should be able to understand how inferences are drawn, be able to recognize ambiguities and logical and illogical reasoning. Code C

### **PHL 206. Ethics and Society (3-0-3)**

#### **Core, Area II**

This course involves the study of ethical issues that confront individuals in the course of their daily lives. The focus is on the fundamental questions of right and wrong, of human rights, and of conflicting obligations. The student should be able to understand and be prepared to make decisions in life regarding ethical issues. Code A

## **Physical Education**

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### **PED 100. Fundamentals of Fitness (3-0-3)**

This lecture course includes the basic principles of physical education and physical fitness. It explores psychological and physiological effects of exercise and physical fitness, including effects on the human skeleton, muscle development, respiration, and coordination. It is viewed as an introduction to such laboratory courses as slimnastics, weight training, and conditioning. The course may also include fitness evaluation, development of individual fitness programs, and participation in fitness activities. Code C

### **PED 103. Weight Training (Beginning) (0-2-1)**

This course introduces the basics of weight training. Emphasis is place on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight-training program. Code C

### **PED 104. Weight Training (Intermediate) (0-2-1)**

This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing weight training needs and interests. Upon completion, students should be able to establish and implement an individualized advanced weight-training program. Code C

### **PED 106. Aerobics (0-2-1)**

This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program. Code C

### **PED 118. General Conditioning (Beginning) (0-2-1)**

This course provides an individualized approach to general conditioning utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness and conditioning programs. Upon completion, students should be able to set up and implement an individualized physical fitness and conditioning program. Code C

### **PED 119. General Conditioning (Intermediate) (0-2-1)**

**Prerequisite:** PED 118 or consent of instructor

This course is an intermediate-level fitness and conditioning program class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems. Upon completion, students should be able to implement and evaluate an individualized physical fitness and conditioning program. Code C

### **PED 123. Golf (Beginning) (0-2-1)**

This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate knowledge of the rules and etiquette of golf. Code C

### **PED 133. Tennis (Beginning) (0-2-1)**

This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, students should be able to play recreational tennis. Code C

### **PED 134. Tennis (Intermediate) (0-2-1)**

**Prerequisite:** PED 133 or consent of instructor

This course emphasizes the refinement of playing skills. Topics include continuing the development of fundamentals, learning advanced serves, and strokes and pace and strategies in singles and doubles play. Upon completion, students should be able to play competitive tennis. Code C

### **PED 168. Tap Dance (0-2-1)**

This course covers advanced fundamentals of tap dancing. Topics include rhythm, appearance, and routine sequence. Upon completion, students should be able to perform more difficult steps and types of dances. Code C

### **PED 176. Volleyball (Beginning) (0-2-1)**

This course covers the fundamentals of volleyball. Emphasis is placed on the basics of serving, passing, setting, spiking, blocking, and the rules and etiquette of volleyball. Upon completion, students should be able to participate in recreational volleyball. Code C

### **PED 200. Foundations of Physical Education (3-0-3)**

In this course, the history, philosophy, and objectives of health, physical education, and recreation are studied with emphasis on the physiological, sociological, and psychological values of physical education. It is required of all physical education majors. Code C

### **PED 252. Varsity Baseball (0-2-1)**

This course covers advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play baseball at a competitive level. Code C

### **PED 254. Varsity Softball (0-2-1)**

This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to play competitive softball. Code C

## **Physical Science**

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### **PHS 111. Physical Science I (3-2-4)**

**Core, Area III**

**Prerequisite: Regular admission status; MTH 098 strongly recommended**

This course provides the non-technical student with an introduction to the basic principles of geology, oceanography, meteorology, and astronomy. Laboratory is required. Code A

### **PHS 112. Physical Science II (3-2-4)**

**Core, Area III**

**Prerequisite: Regular admission status; MTH 098 strongly recommended**

This course provides the nontechnical student with an introduction to the basic principles of chemistry and physics. Laboratory is required. Code A

## **Physics**

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### **PHY 201. General Physics I - Trig Based (3-2-4)**

**Core, Area III**

**Prerequisite: MTH 113 or equivalent**

This course is designed to cover general physics at a level that assumes previous exposure to college algebra and basic trigonometry. Specific topics include mechanics, properties of matter and energy, thermodynamics, and periodic motion. A laboratory is required. Code A

### **PHY 202. General Physics II - Trig Based (3-2-4)**

**Core, Area III**

**Prerequisite: PHY 201**

This course is designed to cover general physics using college algebra and basic trigonometry. Specific topics include wave motion, sound, light optics, electrostatics, circuits, magnetism, and modern physics. Laboratory is required. CORE Code A

### **PHY 205. Recitation in Physics I (1-0-1)**

**Area V**

**Co-requisite: PHY 201**

One hour weekly devoted to problem-solving. Code C

### **PHY 206. Recitation in Physics II (1-0-1)**

**Area V**

**Co-requisite: PHY 202**

One hour weekly devoted to problem solving. Code C



### **PHY 213. General Physics with Cal I (3-2-4)**

**Core, Area III**

**Prerequisite:** MTH 125 and/or as required by program

This course provides a calculus-based treatment of the principle subdivisions of classical physics: mechanics and energy, including thermodynamics. Laboratory is required. Code A

### **PHY 214. General Physics with Cal II (3-2-4)**

**Core, Area III**

**Prerequisite:** PHY 213

This course provides a calculus-based study in classical physics. Topics included are: simple harmonic motion, waves, sound, light, optics, electricity, and magnetism. Laboratory is required. Code A

### **PHY 216. Recitation in Physics with Cal I (1-0-1)**

**Area V**

**Corequisite:** PHY 213

One hour weekly devoted to problem solving. Code C

### **PHY 217. Recitation in Physics with Cal II (1-0-1)**

**Area V**

**Corequisite:** PHY 214

One hour weekly devoted to problem solving. Code C

## **Political Science**

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### **POL 211. American National Government (3-0-3)**

**Core, Area IV**

This course surveys the background, constitutional principles, organization and operation of the American political system. Topics include the U.S. Constitution, federalism, civil liberties, civil rights, political parties, interest groups, political campaigns, voting behavior, elections, the presidency, bureaucracy, Congress, and the justice system. Upon completion, students should be able to identify and explain relationships among the basic elements of American government and function as more informed participants of the American political system. Code A

### **POL 220. State and Local Government (3-0-3)**

This course is a study of the forms of organization, functions, institutions, and operation of American state and local governments. Emphasis is placed on the variety of forms and functions of state and local governments, with particular attention to those in Alabama and to the interactions between state and local government and the national government. Upon completion, students should be able to identify elements of and explain relationships among the state, local, and national governments of the U.S., and function as more informed participants of state and local political systems. Code B

## **Psychology**

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### **PSY 200. General Psychology (3-0-3)**

**Core, Area IV**

This course is a survey of behavior with emphasis upon psychological processes. This course includes the biological basis for behavior, thinking, emotion, motivation, and the nature and development of personality. Code A

## **PSY 210. Human Growth and Development (3-0-3)**

**Core, Area IV**

**Prerequisite: PSY 200**

This course is a study of the psychological, social, and physical factors that affect human behavior from conception to death. Code A

## **PSY 230. Abnormal Psychology (3-0-3)**

**Prerequisite: PSY 200**

This course is a survey of abnormal behavior and its social and biological origins. The anxiety-related disorders, psychoses, personality disorders, and mental deficiencies will be covered. Code C

## **Reading**

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### **RDG 085. Developmental Reading III (3-0-3IC)**

**Prerequisite: RDG 083 or appropriate placement score**

This course is designed to assist students whose placement test scores indicate serious difficulty with decoding skills, comprehension, vocabulary, and study skills.

### **RDG 114. Critical Reading for College (3-0-3)**

**Prerequisite: RDG 085 or appropriate placement score**

This course is designed to enhance critical reading skills. Topics include vocabulary enrichment, reading flexibility, meta-cognitive strategies, and advanced comprehension skills, including analysis and evaluation. Upon completion, students should be able to demonstrate comprehension and analysis and respond effectively to material across disciplines. Code C

## **Religion**

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### **REL 100. History of World Religions (3-0-3)**

**Area V**

This course is designed to acquaint the student with the beliefs and practices of the major contemporary religions of the world. This includes the religions of Africa, the Orient, and the western world. The student should have an understanding of the history and origins of the various religions in the world. (Dual listed as HIS 216) Code B

### **REL 151. Survey of the Old Testament (3-0-3)**

**Area II**

This course is an introduction to the content of the Old Testament with emphasis on the historical context and contemporary theological and cultural significance of the Old Testament. The student should have an understanding of the significance of the Old Testament writings upon completion of this course. Code A

### **REL 152. Survey of the New Testament (3-0-3)**

**Area II**

This course is a survey of the books of the New Testament with special attention focused on the historical and geographical setting. The student should have an understanding of the books of the New Testament and the cultural and historical events associated with these writings. Code A

## **Renewable Energy**

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### **REN 105. Renewable Technology Awareness (1-0-1)**

This course provides a comprehensive overview of renewable technology. Subjects covered in this course will include energy analysis and awareness, HVAC ratings and options, electrical production and consumption, plumbing for conservation, hot water, landscaping, fire protection, wastewater reuse, and LEED certification. Students will also learn about local, state and national codes and regulations. A presentation of current government rebates and tax credits will be included.

### **REN 115. Photovoltaic Principles & Design (1-4-3)**

This course covers basic principles and design of photovoltaic (PV) systems. Upon completion of the course, students should have demonstrated a basic understanding of PV markets and applications, safety basics, electricity basics, solar energy fundamentals, PV module fundamentals, system components, PV system sizing and electrical and mechanical design, and performance analysis, maintenance and troubleshooting. The course prepares the student to take the National American Board of Certified Energy Practitioners (NABCEP) PV Entry Level Exam. Though highly recommended, taking the exam is not a mandatory requirement of the course.

### **REN 205. Solar Thermal Principles (1-4-3)**

This course provides a comprehensive overview of solar thermal design, installation and troubleshooting. Topics include solar space heating, solar hot water, solar pool heating and solar cooling for both new and existing construction. Students will learn to assess the viability of solar thermal energy for given factors. Students will also learn about local, state and national codes and regulations. This course will cover all topics required by the National Board of Certified Energy Practitioners (NABCEP).

### **REN 215. Photovoltaic System Installation and Servicing Procedures (1-4-3)**

This course covers installation and serving procedures related to photovoltaic (PV) systems. Upon completion of the course, students should have demonstrated a basic understanding of related safety, site surveys, mechanical and electrical design, installation process, performance analysis, troubleshooting, and maintenance. The course prepares the student to take the National American Board of Certified Energy Practitioners (NABCEP) Solar PV Installer Certification Exam. Though highly recommended, taking the exam is not a mandatory requirement of the course.

## **Sociology**

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### **SOC 200. Introduction to Sociology (3-0-3)**

#### **Core, Area IV**

This course is an introduction to the vocabulary, concepts, and theory of sociological perspectives of human behavior. Code A

### **SOC 209. Juvenile Delinquency (3-0-3)**

#### **Prerequisite: SOC 200**

This course examines the causes of delinquency. It also reviews programs of prevention, and control of juvenile delinquency as well as the role of the courts. (Dual listed as CRJ 209) Code C

## **SOC 217. Criminal and Deviant Behavior (3-0-3)**

**Prerequisite:** SOC 200 or SOC/CRJ 208

This course is an analysis of criminal and deviant behavior with emphasis on sociological and psychological theories of crime causation. (Dual listed as CRJ 177) Code C

## **Spanish**

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### **SPA 101. Introductory Spanish I (4-0-4)**

**Core, Area II**

This course provides an introduction to Spanish. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of Spanish-speaking areas. Code A

### **SPA 102. Introductory Spanish II (4-0-4)**

**Core, Area II**

**Prerequisite:** SPA 101 or equivalent

This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of Spanish-speaking areas. Code A

### **SPA 201. Intermediate Spanish I (3-0-3)**

**Core, Area II**

**Prerequisite:** SPA 102 or equivalent

This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. Code A

## **Speech**

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### **SPH 106. Fundamentals of Oral Communication (3-0-3)**

**Core, Area II**

This is a performance course that includes the principles of human communication: intrapersonal, interpersonal small groups, and public. It surveys current communication theory and provides practical application. Code A

### **SPH 107. Fundamentals of Public Speaking (3-0-3)**

**Core, Area II**

This course explores principles of audience and environment analysis as well as the actual planning, rehearsing, and presenting of formal speeches to specific audiences. Historical foundations, communication theories, and student performances are emphasized. Code A

## **Theatre Arts**

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### **THR 113. Theater Workshop I (2-0-2)**

**Prerequisite:** Consent of instructor

This is the first in a four-course sequence that provides practical experience in the production and performance of a dramatic presentation with assignments in scenery, lighting, props, choreography, sound, costumes, make-up, publicity, acting, directing, and other aspects of theater production. Code B

### **THR 114. Theater Workshop II (2-0-2)**

**Prerequisite:** THR 113

This course is a continuation of THR 113. Code B

### **THR 115. Theater Workshop III (2-0-2)**

**Prerequisite:** THR 114

This course is a continuation of THR 113-114. Code B

### **THR 120. Theater Appreciation (3-0-3)**

This course is designed to increase appreciation of contemporary theater. Emphasis is given to the theater as an art form through the study of history and theory of drama and the contributions to modern media. Emphasis of playwright, actor, director, designer and technician to modern media. Attendance at theater production may be required. Code A

### **THR 126. Introduction to Theater (3-0-3)**

**Core, Area II**

This course is designed to teach the history of the theater and the principles of drama. It also covers the development of theater production and the study of selected plays as theatrical presentations. Code A

### **THR 131. Acting Techniques I (3-0-3)**

This is the first of a two-course sequence in which the student will focus on the development of the body and voice as the performing instruments in acting. Emphasis is placed on pantomime, improvisation, acting exercises, and building characterizations in short acting scenes. Code B

### **THR 132. Acting Techniques II (3-0-3)**

**Prerequisite:** THR 131

This course is a continuation of THR 131. Code C

### **THR 136. Acting for Television and Film (2-0-2)**

**Prerequisite:** THR 131 or consent of instructor

This course is a study of acting techniques for visual media, television, and film. Code C

### **THR 213. Theater Workshop IV (2-0-2)**

**Prerequisite:** THR 115

This course is a continuation of THR 113-114-115. Code C

### **THR 241. Voice and Speech for the Performer (3-0-3)**

This is a beginning course in the effective and healthy use of the vocal instrument for performance. It is designed to approach both the physical and mental processes of vocal production and includes the following: learning a physical/vocal warmup, dialect reduction, articulation, class performance, and written exams. Code B

### **THR 251. Theater for Children I (3-0-3)**

**Prerequisite:** THR 131

This is the first of a two-course sequence that offers the student practical experience in acting, directing, and developing material for children's theater. Code C

### **THR 252. Theater for Children II (3-0-3)**

**Prerequisite:** THR 251

This course is a continuation of THR 251. Code C

### **THR 266. Fundamentals of Directing (3-0-3)**

**Prerequisite:** THR 131 and THR 132 or consent of instructor

This course is designed to cover the fundamentals of directing. Instruction will include lectures, demonstration, written and oral analysis of scripts and performances. Code C

### **THR 281. Stage Movement I (1-0-1)**

**Prerequisite:** THR 131, 132 or consent of instructor

This course is the first in a two-course sequence which offers the student a basic introduction to movement for the stage for those interested in acting. This course includes consideration of role development through movement. Code C

### **THR 296. Directed Studies in Theater (2-0-2)**

This course deals with problems in theater and arts management. Problems may be arranged in conjunction with other disciplines in the Fine Arts. Code C

## **Visual Communications**

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### **VCM 122. Graphic Reproduction Processes (3-0-3)**

**Prerequisite:** MTH 090 or appropriate COMPASS score

This course introduces students to the current hardware, software, materials, and processes used to prepare and reproduce material for print media. Upon completion, students should be able to recognize, evaluate, and produce materials and specifications for diverse print reproduction processes. Code C

### **VCM 145. Introduction to Digital Photography (3-0-3)**

**Prerequisite:** MTH 090 or appropriate COMPASS score

This course is an introduction to digital photography. Emphasis is placed on aesthetic as well as technical aspects of photography. Upon completion, the student should understand quality in photography and be able to apply the techniques necessary to produce professional photographs. Code C

### **VCM 146. Digital Photography (3-0-3)**

**Prerequisite:** Grade of "C" or better in VCM 145

This course explores various uses of digital photography. Subjects may include studio, portrait, landscape, and other areas of photography. Upon completion, the student should be able to apply the techniques necessary to produce professional photographs. Code C

### **CM 150. Typography (2-2-3)**

This course is an introduction to using type in graphic design. Emphasis is on typographic techniques used in layout and graphic design. Upon completion, the student should be able to use type as a design element. Code C

### **VCM 171 Graphics Software Applications (3-0-3)**

This course is an introduction to graphics software applications. Students are given a basic over- view of the software as applied to specific production problems. Upon completion, the student should be able to produce basic graphics using applicable software. Code C

### **VCM 172. Digital Illustration I (3-0-3)**

**Prerequisite: Grade of “C” or better in VCM 171 or consent of instructor**

This course covers principles of creating and manipulating vector illustrations using the current vector illustration software. Upon completion, the student should be able to produce professional vector illustrations from concept to production for diverse media. Code C

### **VCM 173. Digital Illustration II (3-0-3)**

**Prerequisite: Grade of “C” or better in VCM 172**

This course is a continuation of vector illustration techniques, involving more complex illustration problems, using the current vector illustration software. Upon completion, the student should be able to produce complex professional vector illustrations from concept to production for diverse media. Code C

### **VCM 185. Digital Imaging I (3-0-3)**

This course covers principles of creating and manipulating raster images using current raster imaging software. Upon completion, the student should be able to produce professional raster images from concept to production for diverse media. Code C

### **VCM 186. Digital Imaging II (3-0-3)**

**Prerequisite: Grade of “C” or better in VCM 185**

This course is a continuation of raster imaging techniques involving more complex image problems, using current raster imaging software. Upon completion, the student should be able to produce complex professional raster images from concept to production for diverse media. Code C

### **VCM 193. Digital Publishing I (3-0-3)**

**Prerequisite: Grade of “C” or better in ART 121, VCM 150, and VCM 171**

This course covers elements and principles of page layout and use of current page-layout publishing software. Upon completion, the student should be able to produce professional page lay- outs from concept to production for various print media. Code C

### **VCM 194. Digital Publishing II (3-0-3)**

**Prerequisite: Grade of “C” or better in VCM 193**

This course is a continuation of page layout techniques, involving more complex page-layout elements and problems, using current page-layout publishing software. Upon completion, the student should be able to produce professional page layouts from concept to production for various print media. Code C

### **VCM 250. Introduction to Technical Illustration (2-2-3)**

This course focuses on technical drawings prepared for industry. Topics include perspective and axonometric drawing. Upon completion, students should be able to apply basic drawing and design principles to technical drawings. Code C

### **VCM 251 Technical Illustration (2-2-3)**

This course focuses on renderings prepared for industry. Various techniques are used to illustrate charts, graphs, perspective and axonometric drawings and enhanced assembly views. Upon completion, students should be able to apply design principles to technical drawings. Code C

### **VCM 253. Graphic Design Basics (2-2-3)**

**Prerequisite: Grade of “C” or better in ART 121, VCM 150, and VCM 171**

This course focuses on the basic principles of graphic design. Emphasis is on design, layout, and production. Upon completion, students should be able to prepare artwork for printing. Code C

### **VCM 254. Graphic Design (2-2-3)**

**Prerequisite: Grade of “C” or better in ART 121, VCM 150, and VCM 171**

This course focuses on graphic design. Emphasis is on the creative production process. Upon completion, students should be able to produce high quality graphic designs. Code C

### **VCM 255 Advanced Graphic Design (2-2-3)**

This course focuses on graphic communications. Emphasis is on application of design principles to projects involving such skills as illustration, layout, typography, computer graphics, and production technology. Upon completion, students should be able to apply graphic design principles and production skills. Code C

### **VCM 270. Supervised Study in Graphics (0-6-3)**

**Prerequisite: Grade of “C” or better in ART 121, VCM 150, and VCM 171**

This course is designed to enable the student to continue studying computer graphics in greater depth. Areas of study are chosen by the student with the approval of the instructor. This course will result in a better understanding of various aspects of computer graphics. Code C

### **VCM 273. Supervised Study in Computer Graphics (0-6-3)**

**Prerequisite: Grade of “C” or better in ART 121, VCM 150, and VCM 171**

This course is designed to enable the student to continue studying computer graphics in greater depth. Areas of study will be chosen by the student with the approval of the instructor. This course will result in a better understanding of various aspects of computer graphics. Code C

### **VCM 292. Cooperative Work Experience in VCM (0-6-3)**

**Prerequisite: Instructor’s permission**

This course provides work experience with a college-approved employer in the area related to the student’s program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. Code C

## **Workplace Skills Enhancement**

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### **WKO 101. Workplace Skill Development I (2-0-2)**

This course is designed to access and develop skills necessary for success in the workplace. Students will receive computer assisted instruction under faculty supervision on such topics as applied mathematics, applied technology, reading for information, and locating information. Upon completion of the course, students will be assessed to determine if their knowledge of the subject area has improved. Code C