

COURSES

*Courses with an * indicate courses that are part of the Alabama General Studies Curricula for Areas I-IV.*

ART (ART)

Studio courses must be taken in sequence except with the permission of the instructor

***ART 100. ART APPRECIATION. 3 hrs.**

PREREQUISITE: *Regular admission status.*

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 all the materials used and have a basic overview of the history of art.

ART 101. ART WORKSHOP I. 3 hrs.

This course provides an art experience for both non-art and art majors who are interested in a variety of art projects concerned with community or college related activities. Emphasis is placed on the organization of ideas in advancing their creative process. Upon completion, students should be able to present visual evidence of the activities involved and explain how the experience advanced their artistic skills.

ART 102. ART WORKSHOP II. 3 hrs.

PREREQUISITE: *Art Workshop I and/or as required by program.*

This course is a continuation of ART 101.

ASTRONOMY (AST)

***AST 220. INTRODUCTION TO ASTRONOMY. 4 hrs.**

PREREQUISITE: *It is recommended that students complete all required remedial classes (English, reading and/or math) before taking this course.*

This course covers the history of astronomy and the development of astronomical thought leading to the birth of modern astronomy and its most recent development. Emphasis is placed on the coverage of astronomical instruments and measuring technologies, the solar system, the Milky Way galaxy, important extra galactic objects and cosmology. Laboratory is required.

AIR CONDITIONING AND REFRIGERATION (ASC)

ASC 111. REFRIGERATION PRINCIPLES. 3 hrs. (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.

ASC 112. HVACR SERVICE PROCEDURES. 3 hrs. (1-5-3)

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.

ASC 113. REFRIGERATION PIPING PRACTICES. 3 hrs. (1-5-3)

This 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.

ASC 119. FUNDAMENTALS OF GAS HEATING SYSTEMS. 3 hrs. (1-5-3)

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.

ASC 120. FUNDAMENTALS OF ELECTRIC HEATING SYSTEMS. 3 hrs. (1-5-3)

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

ASC 121. PRINCIPLES OF ELECTRICITY FOR HVAC. 3 hrs. (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 HVAC/R circuits and circuit components.

ASC 122. HVACR ELECTRICAL CIRCUITS. 3 hrs. (1-5-3)

This course introduces the student to electrical circuits and diagrams. Electrical symbols and basic wiring diagrams are constructed in this course. Upon completion, students should understand standard wiring diagrams and symbols and be able to construct various types of electrical circuits.

ASC 123. HVACR ELECTRICAL COMPONENTS. 3 hrs. (1-5-3)

This course introduces students to electrical components and controls. Emphasis is placed on the operations of motors, relays, contactors, starters, and other HVAC electrical components. Upon completion, students should be able to install electrical components and determine their proper operation.

ASC 128. LOAD CALCULATIONS. 3 hrs. (3-0-3)

This course focuses on heat flow into and out of building structures. Emphasis is placed on determining heat gain/ heat loss of a given structure. Upon completion, students should be able to calculate heat load and determine HVAC equipment size requirements.

ASC 132. RESIDENTIAL AIR CONDITIONING. 3 hrs. (1-5-3)

This course introduces students to residential air conditioning systems. Emphasis is placed on the operation, service, and repair of residential air conditioning systems. Upon completion, students should be able to service and repair residential air conditioning systems.

ASC 134. ICE MACHINES. 3 hrs. (1-5-3)

This course introduces students to commercial ice machines. Emphasis is placed on components, electrical and mechanical operation sequences, control adjustments procedures, preventive maintenance, repairs, and installation procedures. Upon completion, students should be able to install, service and repair commercial ice machines.

ASC 147. REFRIGERATION TRANSITION AND RECOVERY. 1-3 hrs. (1-5-3)

PREREQUISITE: Permission of instructor.

This course is EPA-approved and covers material relating to the requirements necessary for type I, II, III and universal certification. Upon completion, students should be prepared to take the EPA 608 certification examination.

ASC 148. HEAT PUMP SYSTEMS I. 3 hrs. (1-5-3)

Instruction received in this course centers around the basic theory and application of heat pump systems and components. Upon completion students will be able to install and service heat pumps in a wide variety of applications.

ASC 192. HVACR APPRENTICESHIP/INTERNSHIP. 3 hrs. (0-6-3)

PREREQUISITE: Permission of instructor.

This course is designed to provide basic hands-on experiences in the work place. The student is provided with a training plan developed by the employer and instructor working together to guide the learning experience. Upon course completion, students should be able to work independently and apply related skills and knowledge. This course involves a minimum of 15 work hours per week.

ASC 203. COMMERCIAL REFRIGERATION. 3 hrs. (1-5-3)

This course focuses on commercial refrigeration systems. Emphasis is placed on evaporators, condensers, compressors, expansion devices, special refrigeration components and application of

refrigeration systems. Upon completion students should be able to service and repair commercial refrigeration systems.

ASC 210. TROUBLESHOOTING HVAC/R SYSTEMS. 3 hrs. (1-5-3)

This course provides instruction in the use of various meters and gauges used in the HVAC/R industry. Emphasis is placed on general service procedures, system diagnosis, and corrective measure, methods of leak detection, and system evacuation, charging and performance checks. Upon completion, students should be able to perform basic troubleshooting of HVAC/R.

PLASTICS INJECTION MOLDING TECHNOLOGY (AUT)

AUT 114. INTRODUCTION TO PROGRAMMABLE CONTROLLERS. 3 HRS. (2-3-3)

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.

AUT 130. FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS. 3 hrs. (2-3-3)

This course provides an introduction to hydraulics/pneumatics. Topics include hydraulic pumps, pneumatic compressors work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. The lab enables students to test, troubleshoot and repair hydraulic pumps, pneumatic compressors work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. Upon completion, students will be able to apply principles of hydraulic/pneumatics.

AUT 145. INTRODUCTION TO INJECTION MOLDING. 3 hrs. (3-0-3)

Students learn the fundamentals of injection molding operations, including molding terminology, machine part identification, operating safety, machine controls and machine startup and shutdown. Students are taught to identify common part defects such as short shots, flash, warp, surface defects, color changes and shrinkage. Students learn the properties of commonly used molding materials.

AUT 146. INTRODUCTION TO INJECTION MOLDING LAB. 2 hrs. (0-6-3)

Students learn to safely operate an injection molding machine. Students learn to properly startup, set machine controls and shutdown a molding machine.

AUT 173. INJECTION MOLD SETTER SKILLS. 3 hrs. (1-4-3)

This course is designed to teach students basic mold setter skills. They will learn the fundamentals of injection molding operations, including molding terminology, machine part identification, operating safety, machine controls and machine startup and shutdown. Students are taught to identify common part defects such as non-fill, burn marks, warpage, discoloration, weld lines, and flash. At the end of this course students should be able to safely work as a mold setter.

AUT 175. INJECTION MOLD SETTER SKILLS LAB. 2 hrs. (0-6-3)

This course is designed to teach students the basic mold setter skills in a laboratory environment. The students will learn the practical application of injection molding operations, including molding terminology, machine part identification, operating safety, machine controls, and machine startup and shutdown. Students are taught to identify and correct common part defects such as non-fill, burn marks, warpage, discoloration, weld lines, and flash. At the end of this course students should be able to work safely as a mold setter.

AUT 200. TOTAL PRODUCTIVE MAINTENANCE. 2 hrs. (1-2-2)

This course will provide students with the knowledge to do preventive maintenance on automation systems. Also assess tooling, inspect and perform preventive maintenance on various tools. This course provides both classroom and performance based hands on training to inform personnel on preventive maintenance.

AUT 212. ROBOT OPERATION AND PROGRAMMING SKILLS. 3 hrs. (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.

AUT 273. INJECTION MOLD PROCESSING. 3 hrs. (1-4-3)

This course is designed to teach students basic injection mold processor skills. Topics will include safety, molding materials, machine controls, fill rates, temperature control, pressure control, and timing. Students will learn how various factors affect the injection mold process and how to compensate for those factors by setting and adjusting machine controls.

AUT 275. INJECTION MOLD PROCESSING LAB. 3 hrs. (0-6-3)

This course is designed to teach students basic injection mold processor skills in a laboratory environment. The students will learn the practical application of injection mold processes including safety, molding materials, machine controls, fill rates, temperature control, pressure control and timing. Students will learn how various factors affect the injection mold process and how to compensate for those factors by setting and adjusting machine controls.

AUTOMOTIVE SERVICE TECHNOLOGY (AUM)**AUM 101. FUNDAMENTALS OF AUTOMOTIVE TECHNOLOGY. 3 hrs. (1-4-3)**

This course provides basic instruction in Fundamentals of Automotive Technology.

AUM 112. ELECTRICAL FUNDAMENTALS 3 hrs. (1-5-3)

This course introduces the principles and laws of electricity. Emphasis is placed on wiring diagrams, test equipment, and identifying series, parallel, and series-parallel circuits. Upon completion students should be able to calculate, build, and measure circuits.

AUM 121. BRAKING SYSTEMS. 3 hrs. (1-5-3)

This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application of brakes.

AUM 122. STEERING & SUSPENSION. 3 hrs. (1-5-3)

This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application of steering and suspension.

AUM 124. AUTOMOTIVE ENGINES. 3 hrs. (1-4-3)

This course provides instruction on the operation, design, and superficial repair of automotive engines. Emphasis is placed on understanding the four stroke cycle, intake and exhaust manifolds and related parts, engine mechanical timing components, engine cooling and lubrication system principles and repairs, and basic fuel and ignition operation.

AUM 130. DRIVE TRAIN AND AXELS. 3 hrs. (1-5-3)

This course provides basic instruction in automotive drive trains and axels. Emphasis is placed on the understanding and application of basic internal and external operation relating to proper operation and drivability.

AUM 133. MOTOR VEHICLE AIR CONDITIONING. 3 hrs. (1-5-3)

This course provides basic instruction in theory, operation, and repair of automotive heating and air conditioning systems. Emphasis is placed on the understanding and repair of vehicle air conditioning and heating systems, including but not limited to air management, electrical and vacuum controls, refrigerant recovery, and component replacement.

AUM 162. ELECTRICAL AND ELECTRONIC SYSTEMS. 3 hrs. (1-5-3)

This is an intermediate course in automotive electrical and electronic systems. Emphasis is placed on trouble-shooting and repair of battery, starting, charging, and lighting systems, subsystems, and components. This is a CORE course.

AUM 181. SPECIAL TOPICS. 1 hr. (1-4-1)

PREREQUISITE: Permission of instructor.

These courses are designed to allow the student to specialize in a particular area of study with minimum instruction in automotive mechanics application and with evaluation at the instructor's discretion. Emphasis is placed on a topic/project that the student is interested in and may include any related area in automotive mechanics. Upon completion, the student should be able to work with minimum instruction and execute the necessary techniques to finish a live work project of their choice.

AUM 220. ADVANCED AUTOMOTIVE ENGINES. 3 hrs. (1-5-3)

PREREQUISITE: AUM 124 or permission of instructor.

This course provides in depth instruction concerning internal engine diagnosis, overhaul and repair,

including but not necessarily limited to the replacement of timing chains, belts, and gears, as well as the replacement or reconditioning of valve train components as well as replacement of pistons, connecting rods, piston rings, bearings, lubrication system components, gaskets, and oil seats.

AUM 224. MANUAL TRANSMISSION AND TRANSAXLE. 3 hrs. (1-5-3)

This course covers basic instruction in manual transmissions and transaxles. Emphasis is placed on the understanding and application of basic internal and external operation relating to proper operation and drivability.

AUM 230. AUTOMATIC TRANSMISSION AND TRANSAXLE. 3 hrs. (1-5-3)

This course provides basic instruction in automatic transmissions and transaxles. Emphasis is placed on the comprehension of principles and power flow of automatic transmissions and repairing or replacing internal and external components.

AUM 239. ENGINE PERFORMANCE. 3 hrs. (1-5-3)

This course provides basic instruction in engine performance with emphasis on fuel and ignition systems relating to engine operation.

AUM 244. ENGINE PERFORMANCE AND DIAGNOSTICS. 3 hrs. (1-5-3)

PREREQUISITE: AUM 239 or permission of instructor.

This course provides advanced instruction in engine performance. Emphasis is placed on engine management and computer controls of ignition, fuel, and emissions systems relating to engine performance and drivability.

AUM 246. AUTOMOTIVE EMISSIONS. 3 hrs. (1-5-3)

PREREQUISITE: AUM 239 or permission of instructor.

This is an introductory course in automotive emission systems. Emphasis is placed on troubleshooting and repair of systems, subsystems, and components.

AUM 291. CO-OP. 3 hrs. (0-6-3)

PREREQUISITE: Permission of instructor.

These courses constitute a series wherein the student works on a part-time basis in a job directly related to automotive mechanics. In these courses, the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.

BIOLOGY (BIO)

***BIO 101. INTRODUCTION TO BIOLOGY I. 4 hrs.**

PREREQUISITE: It is required that students complete all required remedial classes (English, reading and math) before taking this course.

Introduction to Biology I is the first of a two-course sequence designed for non-science majors. It covers historical studies illustrating the scientific method, cellular structures, bioenergetics, cell reproduction, Mendelian and molecular genetics, and a survey of human organ systems. Laboratory is required.

***BIO 102. INTRODUCTION TO BIOLOGY II. 4 hrs.**

PREREQUISITE: BIO 101

Introduction to Biology II is the second of a two-course sequence designed for non-science majors. It covers evolutionary principles and relationships, environmental and ecological topics, classification, and a survey of biodiversity. Laboratory is required.

***BIO 103. PRINCIPLES OF BIOLOGY I. 4 hrs.**

PREREQUISITE: It is required that students complete all required remedial classes (English, reading and math) before taking this course.

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. Laboratory is required.

***BIO 104. PRINCIPLES OF BIOLOGY II. 4 hrs.**

PREREQUISITE: BIO 103.

This is an introduction to basic ecological and evolutionary relationships of plants and animals and a survey of plant and animal diversity including classification, morphology, physiology, and reproduction. Laboratory is required.

BIO 201. HUMAN ANATOMY AND PHYSIOLOGY I. 4 hrs.

PREREQUISITE: BIO 103 with a minimum grade of "C".

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, the integumentary, skeletal, muscular, and nervous systems, and the senses. Dissection, histological studies, and physiology are featured in the laboratory experience. Laboratory is required.

BIO 202. HUMAN ANATOMY AND PHYSIOLOGY II. 4 hrs.

PREREQUISITE: BIO 201 with a minimum grade of "C".

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. Laboratory is required.

BIO 220. GENERAL MICROBIOLOGY. 4 hrs.

PREREQUISITE: BIO 103 with a minimum grade of "C".

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 microtechniques distribution, culture, identification, and control. Laboratory is required.

BUSINESS (BUS)

BUS 100. INTRODUCTION TO BUSINESS. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. 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.

BUS 146. PERSONAL FINANCE. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. 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.

BUS 210. INTRODUCTION TO ACCOUNTING . 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. This course is an introduction to accounting and financial reporting concepts and the use of accounting information for financial and managerial decisions. Information is presented from a financial statement user approach.

BUS 215. BUSINESS COMMUNICATION. 3 hrs.

PREREQUISITE: ENG 101 or OAD 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.

BUS 241. PRINCIPLES OF ACCOUNTING I. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test and a satisfactory score on the math placement test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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 analysis.

BUS. 242 PRINCIPLES OF ACCOUNTING II. 3 hrs.

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.

BUS 248. MANAGERIAL ACCOUNTING. 3 hrs.

PREREQUISITE: BUS 242.

This course is designed to familiarize the student with management concepts and techniques of industrial accounting procedures. Emphasis is placed on cost behavior, contribution approach to decision-making, budgeting, overhead analysis, cost-volume-profit analysis, and cost accounting system.

BUS 263. LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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.

BUS 271. BUSINESS STATISTICS I. 3 hrs.

PREREQUISITE: Two years of high school Algebra, Intermediate Algebra, or appropriate score on Math Placement Test.

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.

BUS 272. BUSINESS STATISTICS II. 3 hrs.

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.

BUS 275. PRINCIPLES OF MANAGEMENT. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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.

BUS 276. HUMAN RESOURCE MANAGEMENT. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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.

BUS 279. SMALL BUSINESS MANAGEMENT. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. 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.

BUS 285. PRINCIPLES OF MARKETING. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. This course provides a general overview of the field of marketing. Topics include marketing strategies, channels of distribution, marketing research, and consumer behavior.

CHEMISTRY (CHM)

***CHM 104. INTRODUCTION TO INORGANIC CHEMISTRY. 4 hrs.**

PREREQUISITE: MTH 100 with a minimum grade of "C". It is required that students complete all required English and reading remedial classes before taking this course.

This is a survey course of general chemistry 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.

***CHM 105. INTRODUCTION TO ORGANIC CHEMISTRY. 4 hrs.**

PREREQUISITE: CHM 104 (Introduction to Inorganic Chemistry) or CHM 111 (College Chemistry I)

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, function of biomolecules, and the handling and disposal of organic compounds. Laboratory is required.

***CHM 111. COLLEGE CHEMISTRY I. 4 hrs.**

PREREQUISITE: MTH 112 with a minimum grade of "C". It is required that students complete all required English and reading remedial classes before taking this course.

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 structure, gas laws, kinetic-molecular theory, condensed matter, solutions, colloids, and some descriptive chemistry topics. Laboratory is required.

***CHM 112. COLLEGE CHEMISTRY II. 4 hrs.**

PREREQUISITE: CHM 111 (College Chemistry I) with a minimum grade of "C".

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 to 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.

***CHM 221. ORGANIC CHEMISTRY I. 4 hrs.**

PREREQUISITE: CHM 112 (College Chemistry II).

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.

***CHM 222. ORGANIC CHEMISTRY II. 4 hrs.**

PREREQUISITE: CHM 221 (Organic Chemistry I).

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.

CHILD DEVELOPMENT (CHD)

CHD 100. INTRODUCTION OF EARLY CARE & EDUCATION OF CHILDREN. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course introduces 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 observation of the young child in early childhood settings.

CHD 201. CHILD GROWTH AND DEVELOPMENT PRINCIPLES. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course is a systematic study of child growth and development from conception through early childhood. Emphasis is placed on principles underlying physical, mental, emotional and social development, and on methods of child study and practical implications. Upon completion, students should be able to use knowledge of how young children differ in development and approaches to learning to provide opportunities that support physical, social, emotional, language, cognitive, and aesthetic development.

CHD 202. CHILDREN'S CREATIVE EXPERIENCES. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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. Upon completion, students should be able to select and implement creative and age-appropriate experiences for young children.

CHD 203. CHILDREN'S LITERATURE AND LANGUAGE DEVELOPMENT. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course surveys appropriate literature and language arts activities designed to enhance young children's speaking, listening, pre-reading, and writing skills. Emphasis is placed on development

appropriateness as related to language. Upon completion, students should be able to create, evaluate and demonstrate activities which support a language-rich environment for young children.

CHD 204. METHODS AND MATERIALS FOR TEACHING CHILDREN. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. 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, student should 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.

CHD 205. PROGRAM PLANNING FOR EDUCATING YOUNG CHILDREN. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. 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 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. 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 childhood illnesses and communicable diseases.

CHD 208. ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. 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 209. INFANT AND TODDLER EDUCATION PROGRAMS. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. This course focuses on child development from infancy to thirty-five months of age with emphasis on planning programs using developmentally appropriate materials. Emphasis is placed on positive ways to support an infant or toddler's social, emotional, physical and intellectual development. Upon completion, students should be able to plan an infant-toddler program and environment that is appropriate and supportive of the families and the children.

CHD 210. EDUCATING EXCEPTIONAL CHILDREN. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling. 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 young exceptional children.

CHD 212. SPECIAL TOPICS IN CHILD DEVELOPMENT. 2 hrs.

PREREQUISITE: Permission of instructor.

This course provides students with knowledge of a variety of issues and trends related to the childcare 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 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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

CHD 215. SUPERVISED PRACTICAL EXPERIENCE IN CHILD DEVELOPMENT. 3 hrs.

This course provides a minimum of 90 hours of hands-on, supervised experience in an approved program for young children. Students will develop a portfolio documenting experiences gained during this course.

CHD 224. SCHOOL-AGE CHILDCARE. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course is designed for caregivers/teachers providing programs for children age 5-12 in their before and after school care needs. The course provides information on developmental profiles, discusses family concerns, and includes a variety of activities that caregivers can adopt to provide an educational and stimulating program.

COMPUTER SCIENCE (CIS)

CIS 096. INTRODUCTION TO COMPUTERS. 3 hrs.

This course is designed to introduce students to basic computer terminology, hardware, input/output devices, memory, and processing. Students will learn basic keyboarding skills in addition to learning how to manage files. Windows as a graphical user interface and operations and applications that use the windows environment are emphasized. *This course produces institutional, non-transferable credit only and will not satisfy the requirements for degrees or certificates.*

CIS 130. INTRODUCTION TO INFORMATION SYSTEMS. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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.

CIS 146. MICROCOMPUTER APPLICATIONS. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course is an introduction to the most common software applications of microcomputers and includes "hands-on" use of microcomputers and some of the major commercial software. These software packages should include typical features of office suites, such as word processing, spreadsheets,

database systems and other features found in current software packages. Upon completion, students will understand common applications and be able to utilize selected features of these packages.

CIS 150. INTRODUCTION TO COMPUTER LOGIC AND PROGRAMMING . 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test and a satisfactory score on the math placement test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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 pseudocode will be covered and students will be expected to apply the techniques to designated situations and problems.

CIS 196. COMMERCIAL SOFTWARE APPLICATIONS. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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

CIS 199. NETWORK COMMUNICATIONS. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course is designed to introduce students to the basic concepts of computer networks. Emphasis is placed on gaining an understanding of the terminology and technology involved in implementing networked systems. The course will cover the OSI and TCP/IP network models, communications protocols, transmission media, networking hardware and software, LANs and WANs, Client/Server technology, the Internet, Intranets and network troubleshooting. Upon completion of the course, students will be able to design and implement a computer network. Students will create network shares, user accounts, and install print devices while ensuring basic network security. The class will help prepare students for the CCNA and Network+ certifications sponsored by CompTIA.

CIS 207. INTRODUCTION TO WEB DEVELOPMENT. 3 hrs.

PREREQUISITE: CIS 150 with a minimum grade of "C"/

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

CIS 208. INTERMEDIATE WEB DEVELOPMENT. 3 hrs.

PREREQUISITE: CIS 207 with a minimum grade of "C".

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.

CIS 209. ADVANCED WEB DEVELOPMENT. 3 hrs.

PREREQUISITE: CIS 208 with a minimum grade of "C".

This is an advanced web design course emphasizing the use of scripting languages to develop interactive web sites. Upon completion students will be able to create data driven Web sites. This course helps prepare students for the Certified Internet Webmaster (CIW) Foundations certification.

CIS 212. VISUAL BASIC PROGRAMMING. 3 hrs.

PREREQUISITE: CIS 251 or equivalent with minimum grade of "C".

This course is a continuation of CIS 211, with emphasis being on 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.

CIS 215. C# PROGRAMMING. 3 hrs.

PREREQUISITE: CIS 150 with minimum grade of "C".

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 Microsoft .NET Platform. Topics include program structure, language syntax, and implementation details. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests. At the end of the course, students will be able to: analyze the basic structure of a C# application and be able to document, debug, compile, and run a simple application; create, name, and assign values to variables; use common statements to implement flow control, looping, and exception handling; create methods (functions and subroutines) that can return values and take parameters; create, initialize, and use arrays; explain the basic concepts and terminology of object-oriented programming; use common objects and reference types; build new C# classes from existing classes.

CIS 222. DATABASE MANAGEMENT. 3 hrs.

PREREQUISITE: CIS 150 with minimum grade of "C".

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.

CIS 246. ETHICAL HACKING. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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.

CIS 251. C++ PROGRAMMING. 3 hrs.

PREREQUISITE: CIS 150 or equivalent with minimum grade of "C".

This course is an introduction to the C programming language. Included in this course are topics in an algorithmic approach to problem solving, structured programming techniques and constructs, using functions and macro, simple data structures, and using files for input and output. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.

CIS 252. ADVANCED C PROGRAMMING. 3 hrs.

PREREQUISITE: CIS 251 or equivalent with minimum grade of "C".

This course is a continuation of the CIS 251 course in 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.

CIS 255. JAVA PROGRAMMING. 3 hrs.

PREREQUISITE: CIS 150 or equivalent with minimum grade of "C".

This course is an introduction to the Java programming language. Topics in this course include object-oriented programming constructs, Web page applet development, class definitions, threads, events and exceptions. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.

CIS 256. ADVANCED JAVA. 3 hrs.

PREREQUISITE: CIS 255 with a minimum grade of "C".

This course is a second course of a sequence using the Java programming language. Topics include: Sun's Swing GUI components, JDBC, JavaBeans, RMI, servlets, and Java media framework. Upon completion, the student will be able to demonstrate knowledge of the topics through programming projects and appropriate exams.

CIS 268. SOFTWARE SUPPORT. 3 hrs. (2-1-3)

PREREQUISITE: CIS 130 with a minimum grade of "C".

This course provides students with hands-on practical experience in installing computer software, operating systems, and trouble-shooting. The class will help to prepare participants for the A+ Certification sponsored by CompTIA.

CIS 269. HARDWARE SUPPORT. 3 hrs. (2-1-3)

PREREQUISITE: CIS 150 with a minimum grade of "C".

This course provides students with hands-on practical experience in installing and troubleshooting computer hardware. The class will help to prepare participants for the A+ Certification sponsored by CompTIA.

CIS 290. SPECIAL TOPICS (On-line Learning Basics). 1 hr. (1-0-1)

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 comprehension of the specified topics. Students that complete **CIS 290C** will have the knowledge and skills to be successful in online classes. *This course is a co-requisite to a student's first online class or classes.*

CIS 293. SPECIAL TOPICS. 1 hr. (0-1-1)

PREREQUISITE: CIS 212, CIS 215, CIS 251 or CIS 255 with a minimum grade of "C".

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 specified skills.

COSMETOLOGY (COS)

COS 111. INTRODUCTION TO COSMETOLOGY. 3 hrs. (3-0-3)

COREQUISITE: COS 112, 137, 145.

This course is designed to provide students with an overview of the history and development of cosmetology and standards of professional behavior. Students receive basic information regarding principles and practices of infection control, diseases, and disorders. Additionally students receive introductory information regarding hair design. The information presented in this course is enhanced by hands-on application performed in a controlled lab environment. Upon completion, students should be able to apply safety rules and regulations and write procedures for skills identified in this course.

COS 112. INTRODUCTION TO COSMETOLOGY LAB. 3 hrs. (0-6-3)

COREQUISITE: COS 111, 137, 145.

In this course, students are provided the practical experience for sanitation, shampooing, hair shaping, and hairstyling. Emphasis is placed on disinfection, shampooing, hair shaping, and hairstyling for various types of hair for men and women. This course offers opportunities for students to put into practice, concepts learned in the theory component from COS 111.

COS 113. THEORY OF CHEMICAL SERVICES. 3 hrs. (3-0-3)

PREREQUISITE: COS 111, 112, 137, 145 with minimum grade of "C" or permission of instructor.

COREQUISITE: COS 114, 115, 116.

During this course students learn concepts of theory of chemical services related to the chemical hair texturing. Specific topics include basics of chemistry and electricity, properties of the hair and scalp, and chemical texture services. Safety considerations are emphasized throughout this course. This course is foundational for other courses providing more detailed instruction on these topics.

COS 114. CHEMICAL SERVICES LAB. 3 hrs. (0-6-3)

PREREQUISITE: COS 111 112, 137, 145 with minimum grade of "C" or permission of instructor.

COREQUISITE: COS 113, 115, 116.

During this course students perform various chemical texturing activities. Emphasis is placed on cosmetologist and client safety, chemical use and handling, hair and scalp analysis, and client consulting.

COS 115. HAIR COLORING THEORY. 3 hrs. (3-0-3)

PREREQUISITE: COS 111, 112, 137, 145 with minimum grade of "C" of instructor.

COREQUISITE: COS 113, 114, 116.

In this course, students learn the techniques of hair coloring and hair lightening. Emphasis is placed on color application, laws, levels and classifications of color and problem solving. Upon completion, the student will be able to identify all classifications of hair coloring and the effects on the hair.

COS 116. HAIR COLORING LAB. 3 hrs. (0-6-3)

PREREQUISITE: COS 111, 112, 137, 145 with minimum grade of "C" or permission of instructor.

COREQUISITE: COS 113, 114, 115.

In this course, students apply hair coloring and hair lightening techniques. Topics include consultation, hair analysis, skin test and procedures and applications of all classifications of hair coloring and lightening. Upon completion, the student will be able to perform procedures for hair coloring and hair lightening.

COS 117. BASIC SPA TECHNIQUES. 3 hrs. (3-0-3)

PREREQUISITE: COS 113, 114, 115, 116 with minimum grade of "C" or permission of instructor.

COREQUISITE: COS 118, 163, 164.

This course is the study of cosmetic products, massage, skin care, and hair removal, as well as identifying the structure and function of various systems of the body. Topics include massage skin analysis, skin structure, disease and disorder, light therapy, facials, facial cosmetics, anatomy, hair removal, and nail care. Upon completion, the student will be able to state procedures for analysis, light therapy, facials, hair removal, and identify the structures, functions, disorders of the skin, and nail care.

COS 118. BASIC SPA TECHNIQUES LAB. 3 hrs. (0-6-3)

PREREQUISITES: COS 113, 114, 115, 116 with minimum grade of "C" or permission of instructor.

COREQUISITES: COS 117, 163, 164.

This course provides practical applications related to the care of the skin and related structure. Emphasis is placed on facial treatments, product application, skin analysis, massage techniques, facial make-up, hair removal, and nail care. Upon completion, the student should be able to prepare clients, assemble sanitized materials, follow procedures for product application, recognize skin disorders, demonstrate facial massage movement, cosmetic application, and hair removal using safety and sanitary precautions, and nail care.

COS 123. COSMETOLOGY SALON PRACTICES. 3 hrs. (0-9-3)

PREREQUISITE: COS 117, 118, 163, 164 with minimum grade of "C" or permission of instructor.

COREQUISITE: COS167, 125.

This course is designed to allow students to practice all phases of cosmetology in a salon setting. Emphasis is placed on professionalism, receptionist duties, hair styling, hair shaping, chemical, and nail and skin services for clients. Upon completion, the student should be able to demonstrate professionalism and the procedures of cosmetology in a salon setting.

COS 125. CAREER AND PERSONAL DEVELOPMENT. 3 hrs. (3-0-3)

PREREQUISITE: COS 117, 118, 163, 164 with minimum grade of "C" or permission of instructor.

COREQUISITE: COS 123, 167.

This course provides the study and practice of personal development and career building. Emphasis is placed on building and retaining clientele, communication skills, customer service, continuing education, and goal setting. Upon completion, the student should be able to communicate effectively and practice methods for building and retaining clientele.

COS 137. HAIR SHAPING AND DESIGN THEORY. 3 hrs. (3-0-3)

COREQUISITE: COS 111, 112, 145.

This course introduces students to concepts related to the art and techniques of hair shaping. Topics include hair sectioning, correct use of hair shaping implements, and elevations used to create design lines.

COS 145. HAIR SHAPING LAB. 3 hrs. (0-8-3)

COREQUISITE: COS 111, 112, 137.

This course covers the study of the art and techniques of hair shaping. Topics include hair sectioning, correct use of hair shaping implements, and elevations used to create design lines. Upon completion,

the student should be able to demonstrate the techniques and procedures for creating hair designs using safety and sanitary precautions.

COS 163. FACIAL TREATMENTS. 3 hrs. (1-4-3)

PREREQUISITE: COS 113, 114, 115, 116 with minimum grade of "C" or permission of instructor.
COREQUISITE: COS 117, 118, 164.

This course includes all phases of facial treatments in the study of skin care. Topics include treatments for oily, dry, and special skin applications. Upon completion, students will be able to apply facial treatments according to skin type.

COS 164. FACIAL MACHINE. 3 hrs. (0-6-3)

PREREQUISITE: COS 113, 114, 115, 116 with minimum grade of "C" or permission of instructor.
COREQUISITE: COS 117, 118, 163.

This is a course designed to provide a practical experience using the vapor and facial machine with hydraulic chair. Topics include the uses of electricity and safety practices, machine and apparatus, use of the magnifying lamp, and light therapy. Upon completion, the student will be able to demonstrate an understanding of electrical safety and skills in the use of facial machines.

COS 167. STATE BOARD REVIEW. 3 hrs. (1-6-3)

PREREQUISITE: COS 117, 118, 163, 164 with minimum grade of "C" or permission of instructor.
COREQUISITE: COS 123, 125.

Students are provided a complete review of all procedures and practical skills pertaining to their training in the program. Upon completion, the student should be able to demonstrate the practical skills necessary to complete successfully the required State Board of Cosmetology examination and entry-level employment.

COS 191. CO-OP. 3 hrs. (0-9-3)

PREREQUISITE: Permission of instructor.

This course provides work experience with a college-approved employer in an 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.

COSMETOLOGY INSTRUCTOR TRAINING (CIT)

Cosmetology instructor training is a teacher training program for licensed cosmetologists. Requirements for admission include an application to Southern Union State Community College, a managing cosmetology license, a high school diploma or GED certificate, and an interview with a cosmetology instructor.

CIT 211. TEACHING AND CURRICULUM DEVELOPMENT. 3 hrs. (3-0-3)

This course focuses on principles of teaching, teaching maturity, professional conduct, and the development of cosmetology curriculum. Emphasis is placed on teacher roles, teaching styles, teacher challenges, aspects of curriculum development, and designing individual courses. Upon completion, the student should be able to describe the role of teacher, identify means of motivating students, develop a course outline, and develop lesson plans.

CIT 212. TEACHER MENTORSHIP. 3 hrs. (0-9-3)

This course is designed to provide the practice through working with a cosmetology instructor in a mentoring relationship. Emphasis is placed on communication, student assessment, and assisting students in the lab. Upon completion, the student should be able to communicate with students, develop a course of study, and apply appropriate teaching methods.

CIT 214. LESSON PLAN METHODS AND DEVELOPMENT. 3 hrs. (1-6-3)

During this course students have the opportunity to further apply knowledge and lesson delivery by using lesson plans they have developed from previous courses or this course. Emphasis is placed on the use of lesson plans in various classroom and laboratory settings. Upon completion, students will be able to teach a variety of cosmetology classes using various techniques. This course serves as a suitable substitute for CIT 221. If used as a suitable substitute, this course becomes a core class.

CIT 224. SPECIAL TOPICS IN COSMETOLOGY INSTRUCTION. 3 hrs. (3-0-3)

This course is designed to allow students to further develop their knowledge and skills as cosmetology instructors. Topics will be assigned based on individual student professional needs.

CIT 221. LESSON PLAN IMPLEMENTATION. 3 hrs. (0-7-3)

This course is designed to provide practice in preparing and using lesson plans. Emphasis is placed on organizing, writing, and presenting lesson plans using the four-step teaching method. Upon completion, students should be able to prepare and present a lesson using the four-step teaching method.

CIT 222. AUDIO VISUAL MATERIALS AND METHODS. 3 hrs. (3-0-3)

This course focuses on visual and audio aids and materials. Emphasis is placed on the use and characteristics of instructional aids. Upon completion, students should be able to prepare teaching aids and determine their most effective use.

CIT 223. AUDIO VISUAL MATERIALS AND METHODS APPLICATIONS. 3 hrs. (0-6-3)

This course is designed to provide practice in preparing and using visual and audio aids and materials. Emphasis is placed on the preparation and use of different categories of instructional aids. Upon completion, the student should be able to prepare and effectively present different types of aids for use with a four step lesson plan.

CIT 225. SPECIAL TOPICS IN COSMETOLOGY. 3 hrs. (0-6-3)

This course is designed to allow students to further develop their knowledge and skills as cosmetology instructors. Topics will be assigned based on individual student professional needs.

CRIMINAL JUSTICE (CRJ)

CRJ 100. INTRODUCTION TO CRIMINAL JUSTICE. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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.

CRJ 110. INTRODUCTION TO LAW ENFORCEMENT. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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

CRJ 117. COMMUNITY RELATIONS. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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.

CRJ 140. CRIMINAL LAW AND PROCEDURE. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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.

CRJ 146. CRIMINAL EVIDENCE. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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

CRJ 147. CONSTITUTIONAL LAW. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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

CRJ 150. INTRODUCTION TO CORRECTIONS. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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

CRJ 160. INTRODUCTION TO SECURITY. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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

CRJ 177. CRIMINAL AND DEVIANT BEHAVIOR. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

This course analyzes criminal and deviant behavior systems. An emphasis is placed on sociological and psychological theories of crime causation.

CRJ 208. INTRODUCTION TO CRIMINOLOGY. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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.

CRJ 209. JUVENILE DELINQUENCY. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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.

CRJ 216. POLICE ORGANIZATION & ADMINISTRATION. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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

CRJ 217. POLICE ORGANIZATION AND ADMINISTRATION 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

This course reveals the various types of police reports, including incident, investigative, progress, and others. The course analyzes the different forms of written communications used in law enforcement.

CRJ 220. CRIMINAL INVESTIGATION. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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.

CRJ 227. HOMICIDE INVESTIGATION. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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

CRJ 237. FORENSIC PHOTOGRAPHY. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

This course analyzes the principles, techniques, and uses of forensic photography in criminal investigation. Emphasis is placed on basic camera operation and mechanics, crime scene photography, and rules of photographic evidence.

CRJ 290. SELECTED TOPICS - SEMINAR IN CRIMINAL JUSTICE. 3 hrs.

Course is not part of the Alabama General Studies Curricula and may not transfer to a four (4) year institution.

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.

DANCE (DNC)**DNC 110. INTRODUCTION TO DANCE STYLES. 2 hrs.**

Introduction to dance styles.

DNC 111. ELEMENTARY MODERN DANCE I. 2 hrs.

A studio course in modern dance technique at the elementary level.

DNC 112. ELEMENTARY MODERN DANCE II. 2 hrs.

PREREQUISITE: DNC 111 or permission of instructor.

This course is a continuation of DNC 111.

DNC 121. ELEMENTARY BALLET I. 2 hrs.

A studio course in classical ballet at the elementary level.

DNC 122. ELEMENTARY BALLET II. 2 hrs.

PREREQUISITE: DNC 121 or permission of instructor.

The development of classical theory and practical ballet, at the elementary level.

DNC 140. FITNESS DANCE I. 1-2 hrs.

This course uses dance activity to increase a student's level of physical fitness. Flexibility exercises and body toning/sculpting exercises, which have been specifically designed to develop the dancer's body, will be used in class.

DNC 141. FITNESS DANCE II. 1-2 hrs.

PREREQUISITE: DNC 140 or permission of the instructor.

This course is a continuation of DNC 140.

DNC 142. FITNESS DANCE III. 1-2 hrs.

PREREQUISITE: DNC 141 or permission of the instructor.

This course is a continuation of DNC 141.

DNC 143. BALLET TECHNIQUE I. 3 hrs.

Intensive training in classical ballet for students intending to major or minor in dance. Intermediate level technique is studied, emphasizing posture and placement. Students are evaluated on their ability to perform the work to the required standard.

DNC 144. BALLET TECHNIQUE II. 3 hrs.

PREREQUISITE: DNC 143 or permission of instructor.

This course is a continuation of DNC 143.

DNC 151. ELEMENTARY JAZZ I. 2 hrs.

A studio course that introduces the varied movement styles and rhythm of the jazz idiom.

DNC 152. ELEMENTARY JAZZ II. 2 hrs.

PREREQUISITE: DNC 151 or permission of the instructor.

This class is a blend of modern jazz and ballet technique focusing on breath, alignment and stylized freedom of movement.

DNC 160. DANCE WORKSHOP I. 1-2 hrs.

PREREQUISITE: Determined by instructor.

This course provides practical experience in the production and performance of a dance presentation,

including sound, lighting, choreography, rehearsal, costuming, make-up and other aspects of dance presentation.

DNC 161. DANCE WORKSHOP II. 1-2 hrs.

PREREQUISITE: DNC 160 or permission of the instructor.

This course is a continuation of DNC 160.

DNC 162. DANCE WORKSHOP III. 1-2 hrs.

PREREQUISITE: DNC 161 or permission of the instructor.

This course is a continuation of DNC 161.

DNC 231. THEATER DANCE I. 3 hrs.

PREREQUISITE: Determined by instructor.

This is the first in a three-course series that introduces the student to a variety of dance styles used in musical theater.

DNC 232. THEATER DANCE II. 3 hrs.

PREREQUISITE: DNC 231 or permission of the instructor.

This course is a continuation of DNC 231.

DNC 233. THEATER DANCE III. 3 hrs.

PREREQUISITE: DNC 232 or permission of the instructor.

This course is a continuation of DNC 232.

DNC 234. CHOREOGRAPHY I. 1-2 hrs.

Students are involved in individual and group choreographic projects in which musical and spatial elements are explored.

DNC 235. CHOREOGRAPHY II. 1-2 hrs.

PREREQUISITE: DNC 234 or permission of instructor.

This course is a continuation of DNC 234.

DNC 243. BALLET TECHNIQUE III. 3 hrs.

PREREQUISITE: DNC 144 or permission of instructor.

Ballet technique at advanced level emphasizing performance quality, musicality, and classical style.

DNC 244. BALLET TECHNIQUE IV. 3 hrs.

PREREQUISITE: DNC 243 or permission of instructor.

A continuation of DNC 243.

DNC 260. DANCE WORKSHOP IV. 1-2 hrs.

PREREQUISITE: DNC 162 or permission of the instructor.

DNC 261. DANCE WORKSHOP V. 1-2 hrs.

PREREQUISITE: DNC 260 or permission of the instructor.

DNC 262. DANCE WORKSHOP VI. 1-2 hrs.

PREREQUISITE: DNC 261 or permission of the instructor.

DNC 267. JAZZ DANCE I. 3 hrs

PREREQUISITE: Determined by instructor.

This is the first of a six-course sequence which provides the student a study of basic principles and techniques of jazz dance, including an introduction to the varied movement styles and rhythms of this dance form.

DNC 268. JAZZ DANCE II. 3 hrs.

PREREQUISITE: DNC 267 or permission of the instructor.

This course is a continuation of DNC 267.

DNC 269. JAZZ DANCE III. 3 hrs.

PREREQUISITE: DNC 268 or permission of the instructor.

This course is a continuation of DNC 268.

DNC 270. JAZZ DANCE IV. 3 hrs.

PREREQUISITE: DNC 269 or permission of the instructor.

This course is a continuation of DNC 269.

DNC 271. JAZZ DANCE V. 3 hrs.

PREREQUISITE: DNC 270 or permission of the instructor.

This course is a continuation of DNC 270.

DNC 272. JAZZ DANCE VI. 3 hrs.

PREREQUISITE: DNC 271 or permission of the instructor.

This course is a continuation of DNC 271.

ECONOMICS (ECO)

***ECO 231. PRINCIPLES OF MACROECONOMICS. 3 hrs.**

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test and a satisfactory score on the math placement test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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

***ECO 232. PRINCIPLES OF MICROECONOMICS. 3 hrs.**

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test and a satisfactory score on the math placement test.. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course is an introduction of the microeconomic theory, analysis, and applications. Topics include scarcity; the theories of consumer behavior, production and cost, markets, output and resource pricing, and international aspects of microeconomics.

EMERGENCY MEDICAL PARAMEDIC (EMP)

EMP 189. APPLIED ANATOMY AND PHYSIOLOGY FOR THE PARAMEDIC. 4 hrs.

PREREQUISITE: Admission to the EMT-Paramedic Program

This course introduces human anatomy and physiology and includes concepts related to basic chemistry; fluid, electrolyte, and acid-base balance; functions of cells, tissues, organs, and systems; pathophysiology; and associated medical terminology. Emphasis is placed on applying content to signs, symptoms, and treatments; and situations commonly seen by paramedics. Upon course completion, students should be able to demonstrate a basic understanding of the structure and function of the human body. Class includes a 2 hour lab.

EMERGENCY MEDICAL TECHNOLOGY (EMS)

EMS 100. CARDIOPULMONARY RESUSCITATION I. 1 hr.

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 105. FIRST RESPONDER. 3 hrs.

PREREQUISITE: Determined by instructor.

This course provides theory in emergency procedures as contained in the current National Standard Training Curriculum (NSTC) for the First Responder. The course is an introduction to the emergency medical services system and provides fundamentals for students to improve the quality of emergency

care provided as the first person to an emergency scene until emergency medical services arrive. Completion of specific student competencies, as outlined in the current NSTC for the First Responder, are required for successful course completion.

EMS 107. EMERGENCY VEHICLE OPERATOR AMBULANCE. 1 hr.

PREREQUISITE: Must present a valid driver's license and program approval.

The Emergency Vehicle Operator Course - Ambulance provides the student with training as contained in the current National Standard Training Curriculum (NSTC) for the Emergency Vehicle Operator Course (EVOC) Ambulance. The course provides the knowledge and skill practice necessary for individuals to learn how to safely operate all types of ambulances. Topics include introduction to the NSTC for ambulance operators; legal aspects of ambulance operation; communication and reporting; roles and responsibilities; ambulance types and operation; ambulance inspections, maintenance, and repair; navigation and route planning; basic maneuvers and normal operating situations; operations in emergency mode and unusual situations, special considerations in safety; and the run. Completion of specific student competencies, utilizing NSTC guidelines, are required for successful completion of this course. NOTE: To qualify for licensure status as an ambulance driver in the State of Alabama, students must successfully complete this course and meet additional requirements as required by the Alabama Department of Public Health.

EMS 118. EMERGENCY MEDICAL TECHNICIAN. 9 hrs.

PREREQUISITE: Admission to program.

COREQUISITE: EMS 119

This course is required to apply for certification as an Emergency Medical Technician. 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, management of trauma patients, management of medical patients, treating infants and children, and various EMS operations. This course is based on the NHTSA National Emergency Medical Services Education Standards.

EMS 119. EMERGENCY MEDICAL TECHNICIAN CLINICAL. 1 hr.

PREREQUISITE: Admission to program.

COREQUISITE: EMS 118

This course is required to apply for certification as an EMT. This course provides students with clinical education experiences to enhance knowledge and skills learned in the EMS 118, Emergency Medical Technician Theory and Lab. This course helps students prepare for the National Registry Exam.

EMS 121. VEHICLE RESCUE. 3 hrs.

PREREQUISITE: Program approval

This course is a continuation of EMS 120 and provides students with concepts and skills related to patient management and hazards encountered during vehicle rescue operations. Topics include mechanisms of trauma, patient injuries, assessment, management, extrication tools; and potential hazards to include faulty air bags, loaded hydraulic bumper systems, and patient restraints. Upon course completion, students should be able to identify different areas of vehicle damage and associate this damage with specific patient injuries; and keep the scene safe by recognizing potential hazards encountered during the rescue of patients from vehicles.

EMS 150. EMT-BASIC REFRESHER. 2 hrs.

PREREQUISITE: Completion of a NSTC course for EMT-Basic or program approval.

This course provides students with theory in review of the current National Standard Training Curriculum (NSTC) for the EMT-Basic. It also serves as a transition or bridge course when a new national curriculum is adopted. This course contains specific content areas as defined by the NSTC. Students are required to complete specific competencies, as outlined by the NSTC, for successful course completion.

EMS 153. EMS DISPATCHER. 3 hrs.

PREREQUISITE: Program approval.

This course provides students with theory as contained in the National Training Curriculum (NSTC) for EMS Dispatcher. This course is designed to prepare EMS dispatcher personnel to operate a tele-

communication base station for the purpose of receiving requests for emergency medical services and allocating community resources in response to such requests. Upon course completion, students should have an understanding of emergency medical services dispatch procedures and be able to effectively receive a call and dispatch appropriate personnel, utilizing a scenario in a simulated situation.

EMS 155. ADVANCED EMERGENCY MEDICAL TECHNICIAN. 8 hrs.

PREREQUISITE: Admission to program.

COREQUISITE: EMS 156, EMP 189, or BIO 201

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. 2 hrs.

PREREQUISITE: Admission to program.

COREQUISITE: EMS 155, EMP 189, or BIO 201

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.

EMS 189. APPLIED ANATOMY AND PHYSIOLOGY FOR THE PARAMEDIC. 4 hrs.

PREREQUISITE: Completion of all required remedial classes (English, reading, or math).

NOTE: EMS 189 or BIO 201 is a prerequisite for the first Paramedic course.

This course introduces human anatomy and physiology and includes concepts related to basic chemistry; fluid, electrolyte, and acid-base balance; functions of cells, tissues, organs, and systems; pathophysiology; and associated medical terminology. Emphasis is placed on applying content to signs, symptoms, and treatments; and situations commonly seen by paramedics. Upon course completion, students should be able to demonstrate a basic understanding of the structure and function of the human body.

EMS 240. PARAMEDIC OPERATIONS. 2 hrs.

PREREQUISITE: Admission to program. EMS 189 or BIO 201

COREQUISITE: EMS 241, 242, 243, & 244.

This course focuses on the operational knowledge and skills needed for safe and effective patient care within the paramedic's scope of practice. Content areas include: research, paramedic roles and responsibilities, well-being of the paramedic, illness and injury prevention, medical-legal-ethical issues, therapeutic communications, medical terminology, life span development, ambulance operations, medical incident command, rescue awareness and operations, hazardous materials incidents, crime scene awareness, and Alabama EMS laws and rules.

EMS 241. PARAMEDIC CARDIOLOGY. 3 hrs.

PREREQUISITE: Admission to program. EMS 189 or BIO 201

COREQUISITE: EMS 240, 242, 243, & 244.

This course introduces the cardiovascular system, cardiovascular electrophysiology, and electrocardiographic monitoring. This course further relates pathophysiology and assessment findings to the formulation of field impressions and implementation of treatment plans for specific cardiovascular conditions. Content areas include: cardiovascular anatomy and physiology, cardiovascular electrophysiology, electrocardiographic monitoring, rhythm analysis, and prehospital 12-lead electrocardiogram monitoring and interpretation, assessment of the cardiovascular patient, pathophysiology of

cardiovascular disease and techniques of management including appropriate pharmacologic agents and electrical therapy.

EMS 242. PARAMEDIC PATIENT ASSESSMENT. 3 hrs.

PREREQUISITE: Admission to program. EMS 189 or BIO 201 with C or higher.

COREQUISITE: EMS 240, 241, 243, & 244.

This course provides the knowledge and skills needed to perform a comprehensive patient assessment, make initial management decisions, and to communicate assessment findings and patient care verbally and in writing. Content areas include: airway management, history taking, techniques of the physical examination, patient assessment, clinical decision making, communications, documentation and assessment based management.

EMS 243. PARAMEDIC PHARMACOLOGY. 1 hr.

PREREQUISITE: Admission to program. EMS 189 or BIO 201

COREQUISITE: EMS 240, 241, 242, & 244.

This course introduces basic pharmacological agents and concepts with an emphasis on drug classifications and the knowledge and skills required of a paramedic for safe, effective medication administration. Content areas include: general principles of pharmacology and pharmacologic pathophysiology; venous and intraosseous access techniques, the metric and apothecary system; computation of dosage and solution problems, administration of pharmacologic agents; pharmacokinetics and pharmacodynamics, and nasogastric tube placement.

EMS 244. PARAMEDIC CLINICAL I. 1 hr.

PREREQUISITE: Admission to program. EMS 189 or BIO 201.

COREQUISITE: EMS 240, 241, 242, & 243.

This course is directed toward the application of knowledge and skills developed in didactic and skills laboratory experiences to the clinical setting. Theory and skills are applied to a variety of patient situations in the clinical setting, with a focus on patient assessment and management, advanced airway management, electro-therapy, I.V./I.O. initiation and medication administration.

EMS 245. PARAMEDIC MEDICAL EMERGENCIES. 3 hrs.

PREREQUISITE: EMS 240, 241, 242, 243 AND 244.

COREQUISITE: EMS 246, 247 AND 248.

This course relates pathophysiology and assessment findings to the formulation of field impressions and implementation treatment plans for specific medical conditions. Content areas include: pulmonology, neurology, gastroenterology, renal/urology, toxicology, hematology, environmental conditions, infectious and communicable diseases, abuse and assault, patients with special challenges, and acute interventions for the chronic care patient.

EMS 246. PARAMEDIC TRAUMA MANAGEMENT. 3 hrs.

PREREQUISITE: EMS 240, 241, 242, 243 AND 244.

COREQUISITE: EMS 245, 247 AND 248.

This course relates pathophysiology and assessment findings to the formulation of field impressions and implementation of treatment plans for trauma patients. Content areas include the pathophysiology, assessment, and management of trauma as related to: trauma systems; mechanisms of injury; hemorrhage and shock; soft tissue injuries; burns; and head, facial, spinal, thoracic, abdominal, and musculoskeletal trauma.

EMS 247. PARAMEDIC SPECIAL POPULATIONS. 2 hrs.

PREREQUISITE: EMS 240, 241, 242, 243 AND 244.

COREQUISITE: EMS 245, 246 AND 248.

This course relates pathophysiology and assessment findings to the formulation of field impressions and implementation of treatment plans for specific medical conditions. Content areas include: endocrinology, allergies and anaphylaxis, behavioral/psychiatric conditions, gynecology, obstetrics, neonatology, pediatrics, and geriatrics. In the clinical setting, theory and skills are applied to a variety of medical situations across the life span of the patient, with a focus on communication with and management of cardiac, acute care, psychiatric/behavioral, obstetrical, newborn, pediatric, geriatric, and acute interventions for chronic care patients, and patients with special challenges.

EMS 248. PARAMEDIC CLINICAL II. 3 hrs.

PREREQUISITE: EMS 240, 241, 242, 243 AND 244.

COREQUISITE: EMS 245, 246 AND 247.

This course is directed toward the application of knowledge and skills developed in didactic and skills laboratory experiences to the clinical setting. Theory and skills are applied to a variety of medical and trauma situations across the life span of the patient, with a focus on communication with and management of trauma, cardiac, acute care, psychiatric/behavioral, obstetrical, newborn, pediatric, geriatric, and acute interventions for chronic care patients, and patients with special challenges.

EMS 253. PARAMEDIC TRANSITION TO THE WORKFORCE. 2 hrs.

PREREQUISITE: EMS 245, 246, 247 AND 248. BIO 201, BIO 202 or EMP 189.

COREQUISITE: EMS 254, 255 AND 256.

This course is designed to meet additional state and local educational requirements for paramedic practice. Content may include: prehospital protocols, transfer medications, topics in critical care and transport, systems presentation, and/or national standard certification courses as dictated by local needs or state requirement.

EMS 254. ADVANCED COMPETENCIES FOR PARAMEDIC. 2 hrs.

PREREQUISITE: EMS 245, 246, 247 AND 248. BIO 201, BIO 202 or EMP 189.

COREQUISITE: EMS 253, 255 AND 256.

This course is designed to assist students in preparation for the paramedic licensure examination. Emphasis is placed on validation of knowledge and skills through didactic review, skills lab performance, and/or computer simulation and practice testing. Upon course completion, students should be sufficiently prepared to sit for the paramedic licensure examination.

EMS 255. PARAMEDIC FIELD PRECEPTORSHIP. 5 hrs.

PREREQUISITE: EMS 245, 246, 247 AND 248. BIO 201, BIO 202 or EMP 189.

COREQUISITE: EMS 253, 254 AND 256.

This course provides field experiences in the prehospital setting with advanced life support EMS units. Under the direct supervision of a field preceptor, students synthesize cognitive knowledge and skills developed in the skills laboratory and hospital clinical to provide safe and effective patient care in the prehospital environment. Upon course completion, students should have refined and validated their patient care practices to provide safe and effective patient care over a broad spectrum of patient situations and complaints.

EMS 256. PARAMEDIC TEAM LEADERSHIP. 1 hr.

PREREQUISITE: EMS 245, 246, 247 AND 248. BIO 201, BIO 202 or EMP 189.

COREQUISITE: EMS 253, 254 AND 255.

This course is designed to evaluate students' ability to integrate didactic, psychomotor skills, clinical, and field internship instruction to serve as a competent entry-level paramedic. This final evaluative (rather than instructional) course focuses on students' professional attributes and integrative competence in clinical decision-making and team leadership in the prehospital setting. Upon course completion, students should have demonstrated adequate knowledge and skills, professional attitudes and attributes, clinical decision-making and team leadership abilities to effectively function as a competent entry-level paramedic.

EMS 265. PARAMEDIC REFRESHER. 3 hrs.

PREREQUISITE: Completion of a NSTC course for the Paramedic or program approval.

This course provides students with a review of material contained in the current National Standard Training Curriculum (NSTC) for the Paramedic. It also serves as a transition or bridge course when a new national curriculum is adopted. This course contains specific content areas as defined by the NSTC. Students are required to complete specific competencies for successful course completion.

EMS 266. ADVANCED CV LIFE SUPPORT 1 hr.

PREREQUISITE: Program approval.

The Advanced Cardiovascular Life Support Provider Course provides students with concepts related to advanced cardiovascular life support. Content areas include acute myocardial infarction, stroke, cardiovascular pharmacology, electrophysiology, various rhythm disturbances, and techniques of management of cardiovascular emergencies. The course is taught in accordance with national standards

and requires specific student competencies. Students successfully completing this course will receive appropriate documentation of course completion.

EMS 267. INTERNATIONAL TRAUMA LIFE SUPPORT. 1 hr.

PREREQUISITE: Program approval.

This course provides students with theory and demonstration in advanced trauma care and management. Content areas include mechanism of trauma, trauma assessment, airway -breathing-circulation management, trauma to various portions of the body, multiple system trauma, and load-and-go situations. The course is taught in accordance with national standards and requires specific student competencies. Students successfully completing this course will receive appropriate documentation of course completion.

EMS 269. PEDIATRIC MEDICAL LIFE SUPPORT PROVIDER. 1 hr.

PREREQUISITE: LPN, RN, Paramedic, or program approval.

This course provides students with theory and simulated case studies in pediatric care. Content areas include recognition of pediatric pre-arrest conditions; shock; basic life support; oxygenation and airway control; newborn resuscitation; essentials in pediatric resuscitation; dysrhythmia recognition and management; vascular access; and use of medications. This course is taught in accordance with national standards and requires specific student competencies. Students successfully completing this course will receive appropriate documentation of course completion.

EMS 273. EKG INTERPRETATION. 2 hrs.

PREREQUISITE: Program approval.

This course is designed for students in health related professions desiring the knowledge to interpret singular lead electrocardiograms. The course provides concepts in the interpretation of electrocardiograms to include an overview of the electrical conduction of the heart as well as the identification of all categories of dysrhythmias. Upon course completion, students should be able to identify various types of cardiac rhythms.

EMS 275. PRE-HOSPITAL ALS PROTOCOLS. 2 hrs.

PREREQUISITE: Program approval.

Pre-hospital Advanced Life Support Protocols is designed for EMT-Intermediates and Paramedics to familiarize them with the current Advanced Life Support (ALS) protocols as approved by the Alabama Department of Public Health. This course includes review of ALS protocols as well as utilization of simulated case studies and situations to assist students in their performance in patient assessment and adherence to the protocols. Completion of student competencies are required for successful course completion.

EMS 280. BASIC LIFE SUPPORT INSTRUCTOR. 1 hr.

PREREQUISITE: Successful completion, with the past 12 months, of all areas of basic life support training (CPR).

This course provides students with concepts related to areas of basic life support instruction. Topics include history, concepts, and systems of emergency cardiac care; cardiopulmonary physiology, dysfunction, and actions for survival; introduction to the performance of CPR; foreign body airway obstruction management; pediatric basic life support; special techniques/resuscitation situations, pitfalls, and complications; teaching and learning in basic life support; teaching strategies; and basic provider course organizations. Student will also successfully participate in practice teaching of a cardiopulmonary resuscitation (CPR) class prior to course completion. Students successfully completing this course will receive appropriate documentation of course completion.

EMS 281. ADVANCED CV LIFE SUPPORT INSTRUCTOR. 1 hr.

PREREQUISITE: EMS 266 and program approval.

This course provides the student with theory and practice in the techniques of teaching advanced cardiovascular life support (ACLS). The course is taught in accordance with national standards. Students will also successfully participate in practice teaching of an ACLS provider course prior to course completion. Students successfully completing this course will receive appropriate documentation of course completion.

EMS 282. BASIC TRAUMA LIFE SUPPORT INSTRUCTOR. 1 hr.*PREREQUISITE: EMS 267 and program approval.*

This course provides students with theory and practice in the techniques of teaching Basic Trauma Life Support (BTLS). The course is taught to provide instructor training in trauma care and management in accordance with national standards. Students will also successfully participate in practice teaching of a BTLS provider course prior to course completion. Students successfully completing this course will receive documentation of course completion.

EMS 284. PEDIATRIC MEDICAL LIFE SUPPORT INSTRUCTOR. 1 hr.*PREREQUISITE: EMS 269 and program approval.*

This course provides students theory and practice in teaching pediatric medical life support. Topics include recognition of pediatric pre-arrest conditions; shock; basic life support; oxygenation and airway control; newborn resuscitation; essentials in pediatric resuscitation; dysrhythmia recognition and management; vascular access; pediatric trauma; and use of medications. This course is taught in accordance with national standards. Students will also successfully participate in practice teaching of a pediatric medical life support provider course prior to course completion. Students successfully completing this course will receive appropriate documentation of course completion.

ENGINEERING GRAPHICS AND DESIGN (DDT)**DDT 104. BASIC COMPUTER AIDED DRAFTING. 3 hrs. (1-4-3)**

This course provides an introduction to basic Computer Aided Drafting and Design (CADD) functions and techniques, using “hands-on” applications. Topics include terminology, hardware, basic CADD and operating system functions, file manipulation, and basic CADD software applications in producing softcopy and hardcopy.

DDT 111. FUNDAMENTALS OF DRAFTING AND DESIGN TECHNOLOGY. 3 hrs. (1-4-3)

This course serves as an introduction to the field of drafting and design and provides a foundation for the entire curriculum. Topics include safety, lettering, tools and equipment, geometric constructions, and orthographic sketching and drawing.

DDT 124. BASIC TECHNICAL DRAWING. 3 hrs. (1-4-3)

This course covers sections, auxiliary views, and basic space geometry. Emphasis will be placed on the theory as well as the mechanics of applying sections, basic dimensioning, auxiliary views, and basic space geometry.

DDT 125. SURFACE DEVELOPMENT. 3 hrs. (1-4-3)*PREREQUISITE: DDT 104, 111, DDT 124, DDT 128 or permission of instructor*

This course covers surface intersections and developments. Emphasis is placed on the basic types of intersections using simple geometric forms. Upon completion, students should be able to draw common types of surface intersections and handle them simply as applications of the concepts learned in this class.

DDT 127. INTERMEDIATE COMPUTER AIDED DRAFTING AND DESIGN. 3 hrs. (1-4-3)*PREREQUISITE: DDT 104, DDT 111, DDT 124, DDT 128 or permission of instructor.*

This course covers intermediate-level concepts and application of CADD. Emphasis will be placed on intermediate-level features, commands, and applications of CADD software.

DDT 128. INTERMEDIATE TECHNICAL DRAWING. 3 hrs. (1-4-3)*PREREQUISITE: DDT 104, DDT 111, DDT 124 or permission of instructor.*

This course is designed to develop a strong foundation in common drafting and design practices and procedures. Topics include multi-view drawings with advanced dimensioning, basic tolerancing and pictorial drawings.

DDT 132. ARCHITECTURAL DRAFTING. 3 hrs. (1-4-3)*PREREQUISITE: DDT 104, DDT 111, DDT 124, DDT 128 or permission of instructor.*

This course in architectural design and drafting introduces basic terminology, concepts and principles of architectural design and drawing. Topics include design considerations, lettering, terminology; site plans, and construction drawings. Upon completion, students should be able to draw, dimension, and specify basic residential architectural construction drawings.

DDT 150. THEORY OF RESIDENTIAL DRAWING AND DESIGN. 3 hrs. (3-0-3)

PREREQUISITE: DDT 104, 111, 124, 128 or permission of instructor.

This course provides the theory of residential drawing and design. Topics include architectural styles, house design, site and space planning, drawing requirements, construction materials and process, terminology, and specific types of drawings required to complete a full set of construction documents. Introductory, intermediate, and advanced topics are covered. Emphasis is placed on an understanding of the various issues and requirements essential to the field of residential drawing and design.

DDT 212. INTERMEDIATE ARCHITECTURAL DRAFTING. 3 hrs. (1-4-3)

PREREQUISITE: DDT 132 or permission of instructor.

This second course in architectural design and drafting continues with more advanced and detailed architectural plans. Topics include interior elevations, plot plans, and interior details. Upon completion, students should be able to draw and specify advanced level plans, including various architectural details.

DDT 213. CIVIL DRAFTING, PLAT MAPS. 3 hrs. (1-4-3)

PREREQUISITE: DDT 104, DDT 111, DDT 124, DDT 128 or permission of instructor.

This course introduces the drafting practices, symbols, conventions, and standards utilized in civil engineering contract documents. Topics include site planning, land surveying, topographic surveys, along with civil terminology. Upon completion, students should be able to draw accurate plat maps giving legal descriptions of land parcels, draw simple site plans, and identify and use proper symbols and conventions on civil engineering drawings.

DDT 220. ADVANCED TECHNICAL DRAWING. 3 hrs. (1-4-3)

PREREQUISITE: DDT 104, DDT 111, DDT 124, DDT 128 or permission of instructor.

This course covers the methods of providing size description and manufacturing information for production drawings. Emphasis will be placed on accepted dimensioning and tolerancing practices including Geometric Dimensioning and Tolerancing for both the Customary English System and ISO System. Upon completion, students should be able to apply dimensions, tolerances, and notes to drawing to acceptable standards, including Geometric Dimensioning and Tolerancing, and produce drawings using and specifying common threads and various fasteners, including welding methods.

DDT 222. ADVANCED ARCHITECTURAL DRAFTING. 3 hrs. (1-4-3)

This third course in architectural design and drafting continues with advanced architectural plans, including a slant toward light commercial construction. Topics include climate control plans, application of building codes, building materials and finish specifications, cost estimating, and bid specifications. Upon completion, students should be able to apply current techniques in producing advanced-level architectural plans, including residential and light commercial application.

DDT 225. STRUCTURAL STEEL DRAFTING. 3 hrs. (1-4-3)

PREREQUISITE: DDT 104, DDT 111, DDT 124, DDT 128 or permission of instructor.

This course covers the theory and practical applications necessary to understand the basic design and terminology of structural steel components used in light commercial buildings. Emphasis is placed on structural steel drafting techniques, bolted and welded connections, framing plans, sections, fabrication and connection details, and bills of materials. Upon completion, students should be able to produce engineering and shop drawings incorporating standard shapes, sizes, and details using the A.I.S.C. Manual and incorporating safety practices.

DDT 228. GEOGRAPHIC INFORMATION SYSTEMS. 3 hrs. (1-4-3)

This course is designed as an introduction to the world of G.I.S. and what it's about and builds on the skills attained in Civil Drafting I and II. Emphasis will be placed on utilizing G.I.S. software in conjunction with a CAD program to produce "intelligent" maps tied to a database in solving complex projects and problems. Upon completion, students should be able to manipulate attributed objects drawn on CAD/GIS software and accurately produce basic G.I.S. drawings.

DDT 231. ADVANCED CAD. 3 hrs. (1-4-3)

PREREQUISITE: DDT 104, DDT 111, DDT 124, DDT 128 or permission of instructor.

This course allows the student to plan, execute, and present results of individual projects in Advanced CAD topics. Emphasis is placed on enhancing skill attainment in Advanced CAD skill sets. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.

DDT 233. INTERMEDIATE 3D MODELING. 3 hrs. (1-4-3)

PREREQUISITE: DDT 104, DDT 111, DDT 124, DDT 128 or permission of instructor.

This course emphasizes the more advanced techniques in 3D solid modeling. It covers advanced features of part creation, part editing, and analysis. Some techniques that will be discussed are: lofting, sweeping, sheet metal part creation, interference checking and stress analysis. Upon completion of the course, students should be able to create advanced 3D models and perform stress analysis/interference checking.

DDT 244. ADVANCED 3D MOLDING. 3 hrs. (1-4-3)

This course is designed to challenge the imagination of the student in a three dimensional problem solving environment using solids molding software. The student will develop to scale computer generated parts in the 3D computer environment. They will apply molding concepts as Constraints, Photorealistic rendering, motion activated views, introduction to 3D part libraries, add-in software components, plastic model technology and simulations. They will be introduced to the concepts of 3D design and animation, then apply those concepts to a design project. Upon completion, a student should be able to create parts in 3D models, produce working drawings and understand basic simulations. Students will also print files to “.stl” format and create parts on a Direct Digital Manufacturing system or prototype.

DDT 260. PORTFOLIO. 3 hrs. (1-4-3)

This course includes the preparation of technical and/or architectural drawings for a portfolio presentation and a resume for portfolio presentation. Hard copy drawings as well as electronic will be discussed, finalized, and developed for presentation. Upon completion, students should be able to prepare and produce a portfolio for presentation. This course includes the preparation of artwork and resume for portfolio presentation. Topics include production of a resume and portfolio for presentation during the last semester of course work. Upon completion, students should be able to prepare and produce a resume and portfolio for presentation in both hard copy as well as electronic copy.

DDT 271. DRAFTING INTERNSHIP. 3 hrs. (0-6-3)

This course allows credit for substantial on-the-job experience within the field of Drafting and Design Technology.

ENGLISH (ENG)

ENG 092. BASIC ENGLISH I (Academic). 3 hrs.

PREREQUISITE: A score of 45 or below on the COMPASS (writing) placement test.

This course introduces the writing process and stresses effective sentences. Emphasis is placed on applying the conventions of written Standard English, reflecting standard grammar and mechanics in structuring a variety of sentences. Upon completion, student should be able to write correct sentences and a unified, coherent paragraph. Students must achieve a minimum grade of “C” to pass the course in order to progress to ENG 093. Students testing into ENG 092 must pass both ENG 092 and ENG 093 with a C or better before taking ENG 101.

ENG 093. BASIC ENGLISH (Academic). 3 hrs.

PREREQUISITE: A grade of C on ENG 092 or 46-64 on COMPASS (writing) exam.

This course is a review of basic writing skills and basic grammar. Emphasis is placed on the composing process of sentences and paragraphs in standard American written English. Students will demonstrate these skills chiefly through the writing of well-developed, multi-sentence paragraphs. Students must achieve a minimum grade of “C” to pass the course

***ENG 101. ENGLISH COMPOSITION I. 3 hrs.**

PREREQUISITE: A score of 65 or above on the COMPASS (writing) placement test or 20 on the ACT (English) test. If a student does not have a satisfactory score on the English placement test or the equivalent, then the student must achieve a minimum grade of “C” in ENG 093 prior to enrolling in ENG 101.

English Composition I provides instruction and practice in the writing of at least six (6) 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.

***ENG 102. ENGLISH COMPOSITION II. 3 hrs.**

PREREQUISITE: Minimum grade of "C" in ENG 101.

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 in library usage.

ENG 131. APPLIED WRITING (TECHNICAL). 3 hrs.

Minimum grade of "C" required for completion of ENG 131.

PREREQUISITE: A score of 46 or above on the COMPASS (English) placement test or 20 on the ACT (English) test. If a student does not have a satisfactory score on the English placement test or the equivalent, then the student must achieve a minimum grade of "C" in ENG 092 prior to enrolling in ENG 131.

This course is a study of various types of written documents required in scientific, technical, and other specialized fields. Emphasis is placed on the 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.

+*ENG 271. WORLD LITERATURE I. 3 hrs.

PREREQUISITE: Minimum grade of "C" in ENG 102

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 the works to their historical and literary contexts, and understand relevant criticism and research.

+*ENG 272. WORLD LITERATURE II. 3 hrs.

PREREQUISITE: Minimum grade of "C" in ENG 102.

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 the works to their historical and literary contexts, and understand relevant criticism and research.

+ *These courses do not have to be taken in sequence.*

FIRE SCIENCE (FSC)

FSC 100. BASIC FIREMANSHIP. 2 hrs.

This course is an introduction to the basics of Fire Science, including fire chemistry salvage, hydraulics, laying hose, laddering, and overhaul work.

FSC 101. INTRODUCTION TO THE FIRE SERVICE. 3 hrs.

This course is a survey of the philosophy and history of fire protection, loss of property and life by fire, review of municipal fire defenses, and the organization and function of federal, state, county, city, and private fire protection.

FSC 103. HAZARDOUS MATERIALS I. 3 hrs.

This is a survey of fundamental facts and operations applicable to hazardous materials incidents. The emphasis is on storage, handling, standards, special equipment, toxicology, and monitoring.

FSC 104. HAZARDOUS MATERIALS II. 3 hrs.

This course is a continuation of the study of hazardous materials and application to specialized hazardous materials response teams. Emphasis is placed on specialized skills and equipment required to mitigate a hazardous materials incident.

FSC 111. FIRE HYDRAULICS. 3 hrs.

This course is a review of basic mathematics, hydraulic laws and formulae as applied to the fire service, water supply problems and underwriters' requirement for pumps.

FSC 200. FIRE COMBAT TACTICS AND STRATEGY. 3 hrs.

This course is a review of fire chemistry, equipment and manpower, basic fire fighting tactics and strategy, methods of attack and pre-planning fire problems.

FSC 210. BUILDING CONSTRUCTION FOR THE FIRE SERVICE. 3 hrs.

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.

FSC 240. FIRE CAUSE DETERMINATION. 3 hrs.

This course covers the burning characteristics of combustibles, interpretation of clues, burn patterns leading to points of origin, identification of incendiary indications, sources of ignition and ignited materials, and preservation of fire science evidence.

FSC 250. FIRE PREVENTION INSPECTION. 3 hrs.

This is a study of the organization and function of the fire prevention team. Course content includes inspections, survey and mapping procedures, recognition of fire hazards, and public relations as affected by fire prevention.

FSC 270. FIRE PROTECTION SYSTEMS. 3 hrs.

This is a study of portable fire extinguishing equipment, sprinkler systems, protection systems for special hazards, and fire alarms and detection systems.

FSC 292. ELEMENTS OF SUPERVISION/FIRE SERVICE SUPERVISION. 3 hrs.

This course covers the responsibility of supervisors; organization, human relations, grievance training, rating, promotion, quality-quantity control and management-employee relations.

FSC 293. FIRE SERVICE ADMINISTRATION. 3 hrs.

This is a study of the principles, practices and objectives of fire administration; of fire defenses and insurance rates; of personal management, and of records, reports, and evaluation.

GEOGRAPHY (GEO)

***GEO 100. WORLD REGIONAL GEOGRAPHY. 3 hrs.**

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 its external and internal organization problems and potentials.

GERMAN (GRN)

GRN 101. Introductory German I. 4hrs.

PREREQUISITE: RDG 085 or appropriate reading placement score.

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

GRN 102. Introductory German II. 4hrs.

PREREQUISITE: GRN 101 or equivalent.

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

HEALTH EDUCATION (HED)

HED 221. PERSONAL HEALTH. 3 hrs.

This course introduces principles and practices of personal and family health; it includes human reproduction, growth and development, psychological dimensions of health, human sexuality, nutrition and fitness, aging, death and dying.

HED 222. COMMUNITY HEALTH. 3 hrs.

This course introduces principles and practices of community health; it includes drug use and abuse, communicable diseases, cardiovascular diseases, cancer, consumer health, health organization, and environmental concerns.

HED 226. WELLNESS. 3 hrs.

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

HED 231. FIRST AID. 3 hrs.

This course provides instruction to the immediate, temporary care which should be given to the victims of accidents and sudden illness. It also includes standard and advanced requirements of the American Red Cross and/or the American Heart Association. CPR training also is included.

HED 232. CARE AND PREVENTION OF ATHLETIC INJURIES. 3 hrs.

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

HEALTH SCIENCES (HPS)

HPS 101. CARDIOPULMONARY RESUSCITATION I. 1 hr.

This course includes theory and application in basic life support. Emphasis is placed on the areas of single rescuer cardiopulmonary resuscitation (CPR) of the adult, two-rescuer CPR, managing obstructed airways, and infant and child CPR. Upon completion of the course, the student should be able to recognize situations that require CPR and effectively implement CPR.

HPS 105. MEDICAL TERMINOLOGY. 3 hrs.

This course is an application for the language of medicine. Emphasis is placed on terminology associated with health care, spelling, pronunciation, and meaning associated with prefixes, suffixes, and roots as they relate to anatomical body systems. Upon completion of this course, the student should be able to correctly abbreviate medical terms and appropriately use medical terminology in verbal and written communication.

HPS 110. INTRODUCTION TO HEALTH CARE. 2 hrs.

This interdisciplinary course focuses on topics in health care which are common to health care disciplines. Emphasis is placed on communication, client/employee safety, psychosocial aspects of health care, health care delivery systems, professionalism, ethical/legal issues in health care, historical perspectives of various health care professions, and medical terminology.

HPS 113. SPANISH FOR THE HEALTHCARE PROFESSIONAL. 3 hrs.

This course provides an introduction to Spanish with a focus on the basic communication skills and vocabulary needed by health professionals when a non-English speaking Hispanic enters a health care setting. Topics include soliciting identification information, history taking, performance of physical exam and giving instructions on general care and follow-up.

HPS 114. BASIC PHARMACOLOGY. 2 hrs.

This course is an introduction to basic pharmacology. Content includes classifications, indications, contraindications, desired effects, and side effects of medications used during diagnostic procedures and the prevention and treatment of common illnesses. Upon completion of the course, the student should be able to relate basic pharmacological concepts to the maintenance of health.

HOME ECONOMICS (HEC)

HEC 140. PRINCIPLES OF NUTRITION. 3 hrs.

NOTE: As required by program.

This course introduces students to the principles of nutrition and the role and functions of nutrients in man's food. Basic information concerning food selection and nutrition as a factor in health, ecology, and economy is included. Implications of nutrition for children may be stressed.

HISTORY (HIS)

+*HIS 101. HISTORY OF WESTERN CIVILIZATION I. 3 hrs.

This course is a survey of social, intellectual, economic, and political developments which have molded the modern western world. The course covers the ancient and medieval periods and concludes in the era of the Renaissance and Reformation.

+*HIS 102. HISTORY OF WESTERN CIVILIZATION II. 3 hrs.

This course is a continuation of HIS 101; it surveys development of the modern western world from the era of the Renaissance and Reformation to the present.

+*HIS 201. UNITED STATES HISTORY I. 3 hrs.

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

+*HIS 202. UNITED STATES HISTORY II. 3 hrs.

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

+These courses do not have to be taken in sequence.

HUMANITIES (HUM)

HUM 100. HUMANITIES FORUM. 1 hr.

NOTE: Course is conducted on an independent basis.

In this course, credit is given for participation in lectures, concerts, and other events which have relevance to the study of the humanities.

*HUM 101. INTRODUCTION TO HUMANITIES. 3 hrs.

NOTE: Course is conducted on an independent basis.

This course offers the student an introduction to the humanities through independent visits to art, music, literature, history, and drama presentations and subsequent assignments.

INTERDISCIPLINARY STUDIES (IDS)

*IDS 102. ETHICS. 3 hrs.

This interdisciplinary course will introduce the basic concepts, types, and schools of moral theory, and illustrate how these may be applied to contemporary moral problems and ethical questions in academic, professional, and social endeavors.

IDS 200A-200D. COLLEGE SCHOLARS BOWL WORKSHOP. 1 hr.

PREREQUISITE: Permission of instructor.

This course offers the student preparation, practice, and participation in the College Scholars Bowl program and competition. IDS 200 may be repeated for credit.

INDUSTRIAL ELECTRICITY/ELECTRONICS TECHNOLOGY (ILT)

ILT 104. INDUSTRIAL INSTRUMENTATION. 3 hrs. (3-0-3)

This course provides a study of instrumentation circuits/systems. Topics include the use of transducers, detectors, actuators, and/or other devices and equipment in industrial applications. Upon completion, the student should be able to apply principles of instrumentation circuits and systems.

ILT 105. INDUSTRIAL INSTRUMENTATION LAB. 2 hrs. (0-5-2)

This lab includes the use of transducers, detectors, actuators, and/or other devices and equipment in industrial applications. Upon completion, the student should be able to apply principles of instrumentation circuits and systems.

ILT 106. CONCEPTS OF DIRECT CURRENT. 5 hrs. (3-4-5)

This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety, terms and symbols, electrical theory, Ohm's law, power law, electrical measurement, DC electrical components, series, parallel, and series-parallel circuit construction. Students gain hands on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction.

ILT 107. CONCEPTS OF ALTERNATING CURRENT. 5 hrs.(3-4-5)

This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot AC circuits.

ILT 114. INSTRUMENTATION OPERATION AND CALIBRATION. 3 hrs. (2-3-3)

The hardware used to measure and control process variables is presented. The student learns the principles of operation, servicing, maintenance, calibration, and troubleshooting procedures used on mechanical, pneumatic, electronic and digital based industrial transmitters, recorders, controllers, valves, and other control devices. The course is broken down into theory and laboratory work on actual process measuring and control equipment.

ILT 115. INDUSTRIAL CONTROLS. 3 hrs. (3-0-3)

This course emphasizes the fundamentals and applications of solid state motor starters. Topics include DC drivers, AC variable frequency drives, thyristors, sequence circuits and closed loop control including PID process control. Upon completion, students should be able to apply principles of solid state motor starters.

ILT 118. CONSTRUCTION WIRING N E C. 3 hrs. (1-5-3)

This course provides a study of the codes that is required to safely perform electrical wiring installations. Emphasis will be placed upon the codes that apply to residential, commercial, and industrial locations. Upon completion, students should be able to apply the codes in the electrical wiring of residential, commercial and industrial applications.

ILT 139. INTRODUCTION TO ROBOTIC PROGRAMMING. 3 hrs. (1-5-3)

This course provides an introduction robotic programming. Emphasis is placed on but not limited to the following: Safety, motion programming, creating and editing programs, I/O instructions, macros, program and file storage. Upon completion the student will be able to safely perform basic functions in the work cell as well as program a robot to perform simple functions.

ILT 148. AUTOMATIC CONTROLS SYSTEMS. 3 hrs. (3-0-3).

PREREQUISITE: Instructor approval.

This course emphasizes automated control systems and sub-systems. Topics include robotics, programmable hydraulic, pneumatic, microprocessor, variable-speed drives, transducers, and related control circuitry with emphasis on troubleshooting the total system. Upon completion, students should be able to apply principles of automated control systems.

ILT 162. SOLID STATE FUNDAMENTALS. 3 hrs. (1-4-3)

This course provides instruction in basic solid state theory beginning with atomic structure and including such as diodes, bipolar transistors, field effect transistors, amplifiers, thyristors, operational amplifiers, oscillator and power supply circuits. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose troubleshoot and repair typical solid-state device circuits. This course also provides the opportunity for students to apply the solid-state principles and theories learned in class in the laboratory setting. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose, troubleshoot and repair typical solid-state device circuits.

ILT 163. DIGITAL FUNDAMENTALS. 3 hrs. (1-4-3)

This course provides instruction on basic logic gates, flip-flops, registers, counters, microprocessor/computer fundamentals, analog to digital conversion, and digital analog conversion. Emphasis is placed on number systems, Boolean algebra, combination logic circuits, sequential logic circuits, and typical microprocessor data manipulation and storage. This course has an embedded lab with exercises designed to develop skills required by industry. Upon completion, students should be able to analyze digital circuits, draw timing diagrams, determine output of combinational and sequential logic circuits and diagnose and troubleshoot electronic components as well as demonstrate knowledge of microprocessor and computer circuits.

ILT 164. CIRCUIT FABRICATION I. 1 hr. (0-3-1)

This course provides instruction in fabrication of functional circuits and is an introduction to device construction and fabrication. Utilizing discrete components, students will fabricate functional circuits. Topics include soldering, cable construction, coaxial cable connection and termination, component mounting cases, and chassis, printed circuit board design, layout, fabrication, and repair, as well as soldering techniques, care of tools, wire splicing, wire wrapping, connector maintenance, and related shop safety. Upon completion of this course, students should be able to perform basic circuit and project construction.

ILT 165. INDUSTRIAL ELECTRONIC CONTROLS I. 3 hrs. (2-2-3)

This course provides a study of industrial electronics controls. Topics include photoelectric, temperature, gas and humidity, pressure and strain measurements for industrial instrumentation controls and applications. The lab enables students to test, troubleshoot and repair electronic control circuits. Upon completion, students should be able to apply principles of industrial electronics control circuits.

ILT 166. MOTORS AND TRANSFORMERS I. 3 hrs. (2-2-3)

This course covers motor operation, motor types, motor components, motor feeder and branch circuits. Topics include motor protection and motor control circuits. Upon lab completion students, should be able to test motors, transformer types, and test for input and output voltage.

ILT 167. AC/DC MACHINERY AND CONTROLS I. 3 hrs. (2-3-3)

This course provides the student with knowledge in AC/DC machinery and controls. Topics include characteristics and operating principles of the different types of AC/DC generators and motors, manual and automatic starters and controllers. The lab enables students to be tested, troubleshoot and repair AC/DC machinery and controls. Upon completion, the student will be able to apply practical skills in AC/DC machinery.

ILT 169. HYDRAULICS/ PNEUMATICS. 3 hrs. (2-3-3)

This course provides an introduction to hydraulics/pneumatics. Topics include hydraulic pumps, pneumatic compressors work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. The lab enables students to test, troubleshoot and repair hydraulic pumps, pneumatic compressors work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. Upon completion, students will be able to apply principles of hydraulics/ pneumatics.

ILT 192. CO-OP IN ILT. 3 hrs. (0-6-3)

PREREQUISITE: Permission of instructor.

These courses provide students with relevant work experience in business/industry. Emphasis is placed on production in a work setting. Upon completion, students should be able to identify job responsibilities and to demonstrate skills necessary for entry level employment.

ILT 194. INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS 3 hrs. (2-3-3)

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.

ILT 196. ADVANCED PROGRAMMABLE LOGIC CONTROLLERS. 3 hrs. (2-3-2)

PREREQUISITE: As required by program.

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

ILT 198. ELECTRONIC CIRCUITS I. 3 hrs. (1-4-3)

This course covers the commonly utilized circuits found in all areas of electronics. These include the various rectifier, filter, voltage regulating circuits, and linear solid-state amplifier circuits. The entire course emphasizes the typical circuits, their principles of operation, and troubleshooting defective circuits. This course has an embedded lab with laboratory exercises designed to develop the skills listed in the industry competencies.

ILT 209. MOTOR CONTROLS I. 3 hrs. (1-5-3)

This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, push-button stations, multiple control stations, two wire control, three wire control, jogging control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.

ILT 211. TROUBLESHOOTING TECHNIQUES. 3 hrs. (1-5-3)

This course focuses on the systematic approach to solving problems. Emphasis is placed on instrument failures and their interaction with process down-time. Upon completion, students should be able to solve problems on a process simulator or in an actual setting.

ILT 216. INDUSTRIAL ROBOTICS. 3 hrs. (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.

ILT 217. INDUSTRIAL ROBOTICS LAB. 2 hrs. (0-5-2)

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.

ILT 218. INDUSTRIAL ROBOTICS CONCEPTS. 3 hrs. (2-3-3)

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 ready and interpret circuitry for proper troubleshooting and ability to perform preventative maintenance.

ILT 240. SENSORS TECHNOLOGY AND APPLICATIONS. 3 hrs. (2-3-3)

This course provides a study of industrial electronic sensors. Topics include, but are not limited to, photo-electric, temperature, gas and humidity, pressure and strain sensors. The lab enables students to test and troubleshoot electronic sensors and sensor circuits. Upon completion, students should be able to select, install, test and troubleshoot industrial electronic sensors.

ILT 263. CERTIFICATION PREP LAB. 1 hr. (0-3-1)

This course prepares students to sit for industry certification examinations and is to be taken in the final semester of the program. The course may be repeated to prepare students for different certification examinations as determined by the college.

MACHINE SHOP TECHNOLOGY (MSP)

MSP 101. BASIC MACHINING TECHNOLOGY. 5 hrs. (1-8-5)

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.

MSP 102. INTERMEDIATE MACHINING TECHNOLOGY. 5 hrs. (1-8-5)

PREREQUISITE: MSP 101.

This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinder. Emphasis is placed on setup and operation of machining tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling.

MSP 104. BASIC MACHINING CALCULATIONS. 2 hrs. (1-2-2)

PREREQUISITE: Permission of instructor.

This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.

MSP 105. LATHES. 3 hrs. (1-4-3)

PREREQUISITE: Permission of instructor.

This course covers the operation and safety practices for engine lathes. Topics include turning, grinding, boring, chamfering, necking, grooving, and threading. Upon completion, students should be able to safely operate engine lathe using appropriate attachments.

MSP 107. MILLING MACHINES. 3 hrs. (1-5-3)

PREREQUISITE: MSP 101 or permission of instructor.

This course covers manual milling operations. Emphasis is placed on related safety, types of milling machines and their uses, cutting speed, feed calculations, and set-up and operation procedures. Upon completion, students should be able to apply manual vertical milling techniques to produce machine tool projects.

MSP 110. HANDBOOK FUNCTIONS. 3 hrs. (3-0-3)

This course covers the use of the machining handbook. Topics include formulas, tables and usage. Upon course completion, students will be able to use the machinery handbook in making calculations and setups of machine tools.

MSP 111. INTRODUCTION TO COMPUTER NUMERICAL CONTROL. 2 hrs. (1-2-2)

PREREQUISITE: MSP 101, MSP 104.

This course introduces the concepts and capabilities of computer numerical control (CNC) machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to develop a basic CNC program to safely operate a lathe and milling machine.

MSP 112. BASIC COMPUTER NUMERICAL CONTROL TURNING. 3 hrs. (1-4-3)

PREREQUISITE: Permission of Instructor.

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers.

MSP 113. BASIC COMPUTER NUMERICAL CONTROL MILLING. 3 hrs. (1-4-3)

PREREQUISITE: Permission of instructor.

This course covers concepts associated with basic programming of a computer numerical control (CNC) milling center. Topics include basic programming characteristics, motion types, tooling, work holding devices, setup documentation, tool compensations, and formatting. Upon completion, students should be able to write a basic CNC milling program that will be used to produce a part.

MSP 121. BASIC BLUEPRINT READING FOR MACHINISTS. 2 hrs. (1-2-2)

This course covers the basic principles of blueprint reading and sketching. Topics include multi-view drawings; interpretation of conventional lines; dimensions, notes, and thread notations. Upon completion, students should be able to interpret basic drawings, visualize parts, and make pictorial sketches.

MSP 127. CAM 2. 6 hrs. (2-8-6)

This course serves as an overview and introduction to computer assisted manufacturing (CAM) and prepares students for more advanced CAM courses. Topics covered are basic concepts and terminology, CAM software environments, navigation commands and file management, 2-D geometry, construction modification, and toolpath generation for CAM machining process.

MSP 157. TOOLMAKERS TECHNOLOGY. 3 hrs. (1-4-3)

PREREQUISITE: Permission of Instructor.

This course covers the use of precision measuring instruments and interpreting engineering drawings. Emphasis is placed on the inspection of machine parts using a wide variety of measuring instruments and interpreting engineering drawings using modern conventions, symbols, datum, datum targets, projected tolerance zones, and industry specifications and standards. Upon completion students should be able to demonstrate correct use of measuring instruments and display print reading skills in line with NIMS certification standards.

MSP 171. INTERMEDIATE BLUEPRINT READING. 2 hrs. (1-2-2)

PREREQUISITE: Permission of instructor or MSP 121.

This course will build on Basic Blueprint Reading for Machinists. Topics include auxiliary and sectional views, tolerancing methods, symbols, and arrangement of views.

MSP 212. COMPUTER NUMERICAL CONTROL LAB. 3 hrs. (0-8-3)

PREREQUISITE: MSP 101, MSP 104. COREQUISITE : MSP 111.

This course introduces the programming, set-up and operation of CNC turning centers and CNC machining center. Topics include programming formats, control functions, program editing, parts production, and inspection. Upon completion students should be able to manufacture simple parts using CNC turning centers and CNC machining center.

MSP 293. CO-OP IN MACHINE SHOP TECHNOLOGY. 3 hrs. (0-6-3)

PREREQUISITE: Permission of instructor.

Student works on a part-time basis in a job directly related to Machine Shop Technology. The employer and supervising instructor evaluate students' progress. Upon completion, students will be able to apply skills and knowledge in an employment setting.

MANUFACTURING TECHNOLOGY (INT)

INT 112. INDUSTRIAL MAINTENANCE SAFETY PROCEDURES. 3 hrs. (3-0-3)

This course is an in-depth study of the health and safety practices required for maintenance of industrial production equipment. Topics include traffic, ladder, electrical, and fire safety, safe work in confined spaces, electrical and mechanical lock-out procedures, emergency procedures, OSHA regulations, MSDS Right-to-Know law, hazardous materials safety, and safety equipment use and care. Upon course completion, student will be able to implement health and safety practices in an industrial production setting.

INT 113. INDUSTRIAL MOTOR CONTROLS I. 3 hrs. (1-4-3)

This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.

INT 117. PRINCIPLES OF INDUSTRIAL MECHANICS. 3 hrs. (2-3-3)

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.

INT 118. FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS. 3 hrs. (2-3-3)

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 preventative maintenance and the application of these concepts to perform work. Upon completion, students should be able to service and perform preventative maintenance functions on hydraulic and pneumatic systems.

INT 120. CONCEPTS OF DIRECT CURRENT. 5 hrs. (3-4-5)

This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety, terms and symbols, electrical theory, Ohm's law, power law, electrical measurement, DC electrical components, series, parallel, and series-parallel circuit construction. Students gain hands on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and trouble shoot DC circuits and to prove the theories taught during classroom instruction.

INT 122. CONCEPTS OF ALTERNATING CURRENT. 5 hrs.(3-4-5)

This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, circuits, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot the AC circuits.

INT 128. PRINCIPLES OF INDUSTRIAL ENVIRONMENTAL CONTROLS. 3 hrs. (2-3-3)

This course focuses on basic knowledge and skills to service perform routine troubleshooting, maintenance, and adjustments of HVACR systems in an industrial environment. After completion, students will be able to perform routine, low-level maintenance on institutional environmental systems. Additionally, students receive instruction to complete the EPA 608 certification examination.

INT 129. INDUSTRIAL SAFETY AND MAINTENANCE TECHNIQUES. 3 hrs. (1-6-3)

This course provides instruction in basic maintenance techniques and safety. Topics include drawing, sketching, basic hand tools, portable power tools, stationary power tools, measurement, screw threads, mechanical fasteners, machinery and equipment installation, rigging, and their proper safe operations.

INT 132. PREVENTIVE AND PREDICTIVE MAINTENANCE. 3 hrs. (2-3-3)

This course focuses on the concepts and applications of preventative and predictive maintenance. Topics include the introduction to optic alignment equipment, vibration testing and analysis, data collection, job safety, tool safety, systems analysis, preventative maintenance procedures, and tasks, and predictive maintenance concepts. Upon completion, students will demonstrate the ability to apply the planning process for proper preventive and predictive maintenance.

INT 153. PRECISION MACHINING FUNDAMENTALS I. 3 hrs. (2-3-3)

This course focuses on metal cutting machines used to make parts and tools. Topics include lathes, mills, drills, and presses. Upon completion, students will have the ability to use precision measurement instruments and to read mechanical drawings.

INT 158. INDUSTRIAL WIRING I. 3 hrs. (1-5-3)

This course focuses on principles and applications of commercial and industrial wiring. Topics include electrical safety practices, an overview of National Electric Code requirements as applied to commercial and industrial wiring, conduit bending, circuit design, pulling cables, transformers, switch gear, and generation principles.

INT 161. BLUEPRINT READING FOR INDUSTRIAL TECHNICIANS. 3 hrs. (3-0-3)

This course is designed to provide the student with a comprehensive understanding of blueprint reading. Topics include identifying types of lines and symbols used in mechanical drawings; recognition and interpretation of various types of views, tolerance, and dimensions.

INT 184. INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS. 3 hrs.(2-3-3)

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 192. INDUSTRIAL MAINTENANCE TECHNOLOGY CO-OP. 3 hrs. (0-6-3)

PREREQUISITE: Permission of instructor.

In this series of courses, students work on a part-time basis in job directly related to Industrial Maintenance Technology. The employer evaluates the student's performance and the student submits a descriptive report of his or her work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.

INT 206. INDUSTRIAL MOTORS I. 3 hrs. (1-6-3)

This course focuses on basic information regarding industrial electrical motors. Upon completion students will be able to troubleshoot, remove, replace, and perform routine maintenance on various types of motors.

INT 211. INDUSTRIAL MOTORS II. 3 hrs. (1-6-3)

This course focuses on advanced information regarding industrial electrical motors. Upon completion students will be able to troubleshoot, remove, replace, and perform advanced maintenance on various types of motors.

INT 215. TROUBLESHOOTING TECHNIQUES. 3 hrs. (1-5-3)

This course is designated to allow students an opportunity to study directly-related topics of particular interest which require the application of technical knowledge and technical skills. Emphasis is placed on the application of skills and knowledge with practical experiences. Upon completion, students should be able to solve job related problems using technical skills and knowledge.

MASS COMMUNICATIONS (MCM)

MCM 113-114-115. STUDENT PUBLICATIONS. 1 hr.**MCM 213-214-215.**

These courses offer practical experience in journalism skills through working on the staff of student publications.

MATHEMATICS (MTH)

MTH 090. BASIC MATHEMATICS. 3(I) hrs.

PREREQUISITE: None

This is a developmental course reviewing arithmetical principles and computations designed to help the student's mathematical proficiency for selected curriculum entrance. This is a lab and web-based course. *This course produces institutional, non-transferable credit only and will not satisfy the requirements for degrees and certificates.*

MTH 098. ELEMENTARY ALGEBRA. 3(I) hrs.

PREREQUISITE: A grade of "C" or higher in MTH 090 or appropriate mathematics placement score.

This course is a review of the fundamental arithmetic and algebra operations. The topics include the numbers of ordinary arithmetic and their properties; integers and rational numbers; the solving of equations; polynomials and factoring; and an introduction to systems of equations and graphs. This is a hybrid course. *This course produces institutional, non-transferable credit only and will not satisfy the requirements for degrees and certificates.*

MTH 100. INTERMEDIATE COLLEGE ALGEBRA. 3 hrs.

PREREQUISITE: A grade of "C" or higher in 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.

***MTH 110. FINITE MATHEMATICS. 3hrs.**

PREREQUISITE: All core mathematics courses in Alabama must have as a minimum prerequisite high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative is that the student successfully pass MTH 100 with a grade of "C" or higher (S if taken as pass/fail).

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.

***MTH 112. PRECALCULUS ALGEBRA. 3 hrs.**

PREREQUISITE: All core mathematics courses in Alabama must have as a minimum prerequisite high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative is that the student successfully pass MTH 100 with a grade of "C" or higher (S if taken as pass/fail).

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.

***MTH 113. PRECALCULUS TRIGONOMETRY. 3 hrs.**

PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative is that the student successfully passes MTH 112 with a grade of "C" or higher.

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, DeMoivre's Theorem, and polar coordinates. Additional topics may include conic sections, sequences, and using matrices to solve linear systems.

MTH 115. PRECALCULUS ALGEBRA & TRIGONOMETRY. 4 hrs.

PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative is that the student successfully passes MTH 100 with a grade of "C" or higher (S if taken as a pass/fail) and receives permission from the department chair.

This course is a one semester combination of Precalculus Algebra and Precalculus Trigonometry intended for superior students. This course covers the following topics: the algebra of functions (including polynomial, rational, exponential, and logarithmic functions), systems of equations and inequalities, quadratic inequalities, and the binomial theorem, as well as the study of trigonometric (circular functions) and inverse trigonometric functions, and includes extensive work with trigonometric identities and trigonometric equations, vectors, complex numbers, DeMoivre's Theorem, functions, and polar coordinates.

MTH 116. MATHEMATICAL APPLICATIONS. 3 hrs.

PREREQUISITE: A grade of "C" or higher in MTH 090 or appropriate mathematics placement score.

This course provides practical application of mathematics and includes selected topics from consumer math and algebra. Some topics included are integers, percent, interest, ratio, and proportion, metric system, probability, linear equations and problem solving. This course does not apply toward the general core requirement for mathematics.

***MTH 120. CALCULUS AND ITS APPLICATIONS. 3 hrs.**

PREREQUISITE: All core mathematics courses in Alabama must have as a minimum prerequisite high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative is that the student successfully pass MTH 112 with a grade of "C" or higher.

This course is intended to give a broad overview of calculus and is primarily taken 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'Hopital's Rule, and multiple integration (including applications).

***MTH 125. CALCULUS I. 4 hrs.**

PREREQUISITE: All core mathematics courses in Alabama must have as a minimum prerequisite high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative is that the student successfully pass MTH 113 or MTH 115 with a grade of "C" or higher.

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.

***MTH 126. CALCULUS II. 4 hrs.**

PREREQUISITE: All core mathematics courses in Alabama must have as a minimum prerequisite high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative is that the student successfully pass MTH 125 with a grade of "C" or higher.

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, arc length, work and average value), techniques of integration, infinite series, polar coordinates, and parametric equations.

***MTH 227. CALCULUS III. 4 hrs.**

PREREQUISITE: A grade of "C" or higher in MTH 126.

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

MTH 231. MATH FOR THE ELEMENTARY TEACHER I. 3 hrs.

PREREQUISITE: A grade of "C" or higher in MTH 098 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.

MTH 232. MATH FOR THE ELEMENTARY TEACHER II. 3 hrs.

PREREQUISITE: A grade of "C" or higher in MTH 098 or appropriate mathematics placement score.

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 numerations 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.

***MTH 237. LINEAR ALGEBRA. 3 hrs.**

PREREQUISITE: A grade of "C" or higher in MTH 126.

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

***MTH 238. APPLIED DIFFERENTIAL EQUATIONS I. 3 hrs.**

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; the Laplace transform as a tool for the solution of initial value problems whose inhomogeneous terms are discontinuous.

MTH 246. MATHEMATICS OF FINANCE. 3 hrs.

COREQUISITE: A grade of "C" or higher in MTH 098 or appropriate mathematics placement score.

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

MTH 265. ELEMENTARY STATISTICS. 3 hrs.

PREREQUISITE: A grade of "C" or higher in 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.

MUSIC (MUL)

Music ensembles are open to all students by consent of instructor. For students majoring or minoring in music, one ensemble is required each semester for four consecutive semesters, excluding summers. Students should consult an academic advisor regarding how ensemble credit will transfer to various senior colleges and universities. Credits vary from 1-3 hours depending upon the number of rehearsal hours per week and the performance responsibilities of the ensemble.

Class Performance Instruction

MUL 101-102; 201-202. CLASS PIANO I, II, III, IV. 1 hr each

MUL 111-112, 211-212. CLASS VOICE I, II, III, IV. 1 hr each

PREREQUISITE: As required by program.

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 a knowledge of music fundamentals.

Music Workshops

MUL 170-171; 270-271. MUSIC WORKSHOP I, II, III, IV. 1-3 hrs. each

PREREQUISITE: As required by program.

This course is a seminal clinic in advanced rehearsal/performance techniques. Emphasis is placed on intensive rehearsal techniques required for advanced or specialized performance groups. Upon completion, students should be able to effectively participate in performances presented by this type of ensemble.

MUL 172-173; 272-273. MUSICAL THEATRE WORKSHOP I, II, III, IV. 1-2 hrs. each

PREREQUISITE: As required by program.

This course includes the study of musical theatre history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performances of scenes or complete works of musical theatre. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role.

Music Ensembles

MUL 180-181; 280-281. CHORUS I, II, III, IV. (The Southern Union Chorus).

1-2 hrs. each

PREREQUISITE: Consent of instructor.

Chorus I-II should be taken by freshmen students.

MUL 182-183; 282-283. Vocal Ensemble I, II, III, IV. (The Southern Union Gospel Choir). 1-2 hrs. each

PREREQUISITE: Consent of instructor.

MUL 184-185; 284-285. SHOW CHOIR I, II, III, IV. (The Southern Union Singers Show Choir). 1-2 hrs. each

PREREQUISITE: Consent of instructor.

These courses provide an opportunity 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.

MUSIC (MUP)

Individual Performance Instruction

MUP 101-102; 201-202. PRIVATE PIANO I, II, III, IV. 1-2 hrs. each

MUP 111-112; 211-212. PRIVATE VOICE I, II, III, IV. 1-2 hrs. each

PREREQUISITE: As required by program, with consent of Instructor.

Individual performance instruction is available in piano and voice. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUSIC (MUS)

***MUS 101. MUSIC APPRECIATION. 3 hrs.**

PREREQUISITE: None.

This course is designed for non-music 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 include both vocal and instrumental genres. Upon comple-

tion, students should be able to demonstrate a knowledge of music fundamentals, the aesthetic/stylistic characteristics of historical periods, and an aural perception of style and structure in music.

MUS 111. MUSIC THEORY I. 4 hrs.

PREREQUISITE: As required by program.

This course introduces the student to the diatonic harmonic practices in the Common Practice Period. Topics include fundamental musical materials (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.

MUS 112. MUSIC THEORY II. 4 hrs.

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.

MUS 203. MUSIC HISTORY I. 3 hrs.

This course provides a study of the development of music from ancient times through the Baroque Period. Emphasis is placed on period style characteristics, representative composers and their works, and socio-cultural influences. Upon completion, students should be able to demonstrate knowledge, understanding and an aural perception of period style characteristics, forms, composers, and representative works.

MUS 204. MUSIC HISTORY II. 3 hrs.

This course provides a study of the development of music from the Classical Period to the present. Emphasis is placed on period style characteristics, representative composers and their works, and socio-cultural influences. Upon completion, students should be able to demonstrate knowledge, understanding, and an aural perception of period style characteristics, forms, composers, and representative works.

MUS 211. MUSIC THEORY III. 1-4 hrs.

PREREQUISITE: MUS 112.

This course introduces the student to the chromatic harmonic practices in the Common Practice Period. Topics include secondary functions, modulatory techniques, and binary and ternary forms. Upon completion, students should be able to demonstrate competence using chromatic harmony through analysis, writing, sight singing, dictation and keyboard skills.

MUS 212. MUSIC THEORY IV. 1-4 hrs.

PREREQUISITE: MUS 211.

This course completes the study of chromatic harmonic practices in the Common Practice Period and introduces the student to twentieth-century practices. Topics include the Neapolitan and augmented sixth chords, sonata form, late nineteenth-century tonal harmony and twentieth-century practices and forms. Upon completion, students should be able to demonstrate competence using chromatic harmony and basic twentieth century techniques through analysis, writing, sight singing, dictation and keyboard skills.

NURSING ASSISTING/ HOME HEALTH AIDE (NAS/HHA)

NAS 100. LONG TERM CARE NURSING ASSISTANT. 4 hrs.

PREREQUISITE: Determined by instructor.

This course fulfills the seventy-five (75) hour 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.

NAS/HHA 120. FUNDAMENTALS OF NURSING ASSISTANT/HOME HEALTH AIDE. 7 hrs.

PREREQUISITE: Admission to program. It is required that student complete all developmental requirements prior to enrolling in this class.

COREQUISITE: NAS/HHA 121.

This course provides the student with the necessary theory and laboratory experiences for the development of skills required to qualify as a long-term care Nursing Assistant/Home Health Aide. Emphasis is placed on the acquisition of skills in communication, observation, safety, mobility/body mechanics, personal and restorative care, and infection control necessary to care for patients and clients of all ages. Upon completion of this course, the student will be able to apply concepts and skills in areas required by the Omnibus Budget Reconciliation Act (OBRA) and the National Association of Home Care.

NAS/HHA 121. FUNDAMENTALS OF NURSING ASSISTANT/HOME HEALTH AIDE (CLINICAL). 3 hrs.

PREREQUISITE: Admission to program. It is required that student complete all developmental requirements prior to enrolling in this class.

COREQUISITE: NAS/HHA 120.

This course is designed for students to apply knowledge and skills needed to perform basic nursing care safely and efficiently in various supervised health care settings. Emphasis is placed on safety, therapeutic communication, infection control, critical thinking, and proper documentation. Upon completion of this course, the student will demonstrate beginning competency in the delivery of care to patients and clients in various health care settings.

NAS/HHA 130. BASIC ELECTROCARDIOGRAM INTERPRETATION. 2 hrs.

This course provides students with the basic knowledge to interpret electrocardiograms. Students learn to identify the different categories of dysrhythmias on an EKG strip/monitor and acquire the technical skills to perform a 12 lead EKG in the clinical setting. An overview of the electrical conduction of the heart and cardiac circulation is included to assist students to identify common and life threatening dysrhythmias. This course includes both class and lab: 15 hours of lecture 30 hours of lab.

NAS/HHA 115. CPR & BASIC FIRST AID. 2 hrs.

This course is designed to help the student feel more confident and act appropriately in an emergency situation. Emphasis is placed on providing the student with theoretical concepts to develop skills in basic first aid and cardiopulmonary resuscitation. Upon successful course completion, which includes specific competencies in basic life support the student will receive appropriate course completion documentation.

NURSING, ASSOCIATE DEGREE (NUR)

NUR 102. FUNDAMENTALS OF NURSING. 6 hrs.

PREREQUISITE: Admission to 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 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 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. 1 hr.

PREREQUISITE: Admission to program.

This course is designed to provide 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. 1 hr.

PREREQUISITE: Admission to 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. This course introduces students to basic principles of pharmacology and the knowledge necessary to safely administer medication. Course content includes legal implications, pharmacokinetics, 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. 8 hrs.

PREREQUISITE: Successful completion of NUR 102, NUR 103, NUR 104, MTH 100 or higher level math (MTH 116 for PN program) and BIO 201.

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, cardiovascular, endocrine, and integument systems. Nutrition, pharmacology, communication, cultural, and community concepts are integrated.

NUR 106. MATERNAL AND CHILD NURSING. 5 hrs.

PREREQUISITE: Successful completion of NUR 102, NUR 103, NUR 104, MTH 116 (equivalent) & BIO 201.

This course is designed to utilize the nursing process to focus on the childbearing and childrearing stages of the family unit. This introductory course focuses on the role of the nurse in meeting the physiological, psychosocial, cultural and developmental needs of the family during antepartal, intrapartal, postpartal, infant, and childhood. Course content includes aspects of growth and development, health teaching, health promotion and prevention. Nutrition and pharmacology are integrated. Upon completion of this course, the student will be able to provide and manage care of the childbearing and childrearing family in a variety of settings.

NUR 107. ADULT/CHILD NURSING. 8 hrs.

PREREQUISITE: Admission to PN program and successful completion of NUR 105, NUR 106, BIO 201 & BIO 202 and ENG 101.

This course provides students with opportunities to develop competencies necessary to meet the needs of individuals throughout the adult life span in a safe, legal, and ethical manner using the nursing process. Emphasis is placed on providing care to individuals experiencing complex alterations in: burns, emergencies, immunological and oncological alterations, sensory, endocrine, neurological, cardiovascular, lower GI, and GU systems. Nutrition, pharmacology, therapeutic communication, cultural and community concepts are integrated throughout.

NUR 108. PSYCHOSOCIAL NURSING. 3 hrs.

PREREQUISITE: Admission to PN program and successful completion of NUR 105, NUR 106, BIO 201 & BIO 202 and ENG 101.

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. 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. 3 hrs.

PREREQUISITE: Admission to PN program and successful completion of NUR 105, NUR 106, BIO 201 & BIO 202 and ENG 101.

The course is designed to provide the student with the knowledge and skills necessary to make the transition from student to LPN practitioner. Content includes the responsibilities of the LPM, leadership skills, problem solving and decision making quality assurance, management of resources, accountability, resume preparation, job interviewing skills, and obtaining/resigning employment. Emphasis

is placed on NCLEX test-taking skills, computer-assisted simulations and practice tests, development of a prescriptive plan for remediation, and review of selective content, specific to the practical nursing. Upon completion of this course, the student will demonstrate knowledge and skills necessary for entry into practical nursing.

NUR 111. PARAMEDIC TO ADN MOBILITY. 12 hrs.

PREREQUISITE: Admission into program; BIO 201, BIO 202, BIO 220, PSY 200, SPH 107, MTH 100 or higher; and ENG 101

This course is designed to assist the experienced licensed EMT-P in transition to the role of the associate degree nurse. Emphasis is placed on basic and advanced nursing skills; the nursing process; communication; selected theories needed to develop competencies necessary to meet the needs of individuals through the lifespan in a safe, legal, and ethical manner; concepts related to psychosocial needs of individuals, and the role of the registered nurse. Upon completion of the course and the exit exam, students will be able to articulate into the ADN program. Clinicals required in medical/surgical; obstetrics, and pediatrics. (Lab and clinical required.) Fourteen (14) additional hours of nursing credit are awarded following successful completion of NUR 111 and a score of 75 or higher on the comprehensive standardized examination.

NUR 200. CONCEPTS OF CAREER MOBILITY. 5 hrs.

PREREQUISITE: Admission into program; BIO 201, BIO 202, MTH 100 or higher level math, and ENG 101

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 completed NUR 200 will be awarded 16 non-traditional hours at the completion of the LPN mobility curriculum.

NUR 201. NURSING THROUGH THE LIFESPAN I. 5 hrs.

PREREQUISITE: Admission to ADN program and successful completion of NUR 105, NUR 106, BIO 202, ENG 101.

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. 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. 6 hrs.

PREREQUISITE: Successful completion of NUR 201, BIO 220 and PSY 200.

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, genitourinary systems. 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 throughout this course.

NUR 203. NURSING THROUGH THE LIFESPAN III. 6 hrs.

PREREQUISITE: Successful completion of NUR 202, SPH 107, and PSY 210.

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, neurological systems. Additional instruction is provided 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.

NUR 204. TRANSITION INTO NURSING PRACTICE. 4 hrs.

PREREQUISITE: Successful completion of NUR 202, SPH 107 and PSY 210.

The course is designed to provide students with knowledge and skills necessary to transition from student to registered nurse. Content includes current issues in the health care system, nursing leadership and management, legal and ethical issues, transition into the workplace, and NCLEX-RN preparation. Upon completion of this course, the student will demonstrate knowledge and skills necessary for entry into registered nursing practice.

OFFICE MANAGEMENT (OAD)**OAD 100. INTRODUCTION TO KEYBOARDING AND TECHNOLOGY. 3 hrs.**

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course is designed to enable the student to develop navigating windows and touch keyboarding skills for efficient use of the microcomputer through classroom instruction and lab exercises. Upon completion, the student should be able to demonstrate proper keying techniques and basic computer skills.

OAD 101. BEGINNING KEYBOARDING. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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 typewriter or microcomputer 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 production of basic business documents such as memos, letters, reports, and tables.

OAD 103. INTERMEDIATE KEYBOARDING. 3 hrs.

PREREQUISITE: OAD 101 with minimum grade of "C" or permission of instructor.

This course is designed to assist the student in increasing speed and accuracy using the touch method of keyboarding through classroom instruction and outside lab. Emphasis is on the production of business documents such as memoranda, letters, reports, tables, and outlines. 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 production of business documents.

OAD 125. WORD PROCESSING. 3 hrs.

PREREQUISITE: OAD 103 with minimum grade of "C" or permission of instructor.

This course is designed to provide the student with basic word processing skills through classroom instruction and outside lab. Emphasis is on 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 memo, letters and reports.

OAD 131. BUSINESS ENGLISH. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 and ENG 092 prior to enrolling.

This course is designed to develop the student's ability to use proper English. Emphasis is on grammar, spelling vocabulary, punctuation, word usage, word division, and proofreading. Upon completion, the student should be able to communicate effectively.

OAD 138. RECORDS/INFORMATION MANAGEMENT. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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.

OAD 200. MACHINE TRANSCRIPTION. 3 hrs.

PREREQUISITE: OAD 103 with minimum grade of "C" or permission of instructor.

This course is designed to develop marketable skills in transcribing various forms of dictated material through classroom instruction and outside lab. Emphasis is on the use of microcomputers and a commercial work processing package. Upon completion, the student should be able to accurately transcribe documents from dictated recordings.

OAD 201. LEGAL TERMINOLOGY. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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.

OAD 211. MEDICAL TERMINOLOGY. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

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.

OAD 212. MEDICAL TRANSCRIPTION. 3 hrs.

PREREQUISITE: OAD 103 and 211 with minimum grade of "C" or permission of instructor.

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. Students will learn/maintain standards of ethical/professional conduct. Upon completion, the student should be able to accurately transcribe medical documents from dictated recordings.

OAD 213. ADVANCED MEDICAL TRANSCRIPTION. 3 hrs.

PREREQUISITE: OAD 212 with minimum grade of "C" or permission of instructor.

This course is designed to develop skill in the transcription of documents generated in the medical office through classroom instruction and outside lab. Emphasis is on diagnostic studies, and laboratory, radiology, and pathology reports. Upon completion, the student should be able to demonstrate proficiency in the preparation of a variety of reports and forms used in the medical environment.

OAD 214. MEDICAL OFFICE PROCEDURES. 3 hrs.

PREREQUISITE: OAD 101 with minimum grade of "C" or permission of instructor.

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.

OAD 215. HEALTH INFORMATION MANAGEMENT. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course is designed to promote an understanding of the structure, analysis, and management of medical records. Emphasis is on managing medical and insurance records, coding of diseases, operations and procedures, and the legal aspects of medical records. Upon completion, the student should be able to maintain medical records efficiently.

OAD 216. ADVANCED HEALTH INFORMATION MANAGEMENT. 3 hrs.

This course is designed as a continuation of OAD 215 Health Information Management. It is designed to promote an advanced understanding of the structure, analysis, and management of medical and insurance records.

OAD 218. OFFICE PROCEDURES. 3 hrs.

PREREQUISITE: OAD 101 with minimum grade of "C" or permission of instructor.

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 communication and professionalism. Upon completion, the student should be able to demonstrate the ability to effectively function in an office support role.

OAD 230. COMPUTERIZED DESKTOP PUBLISHING. 3 hrs.

PREREQUISITE: CIS130 with minimum grade of "C" or permission of the instructor.

This course is designed to introduce the student to the elements and techniques of page design, layout, and typography through classroom instruction and lab exercises. Emphasis is on the use of current commercial desktop publishing software, graphic tools, and electronic input/output devices and print high-quality publications such as newsletters, brochures, catalogs, forms, and flyers. Upon completion, the student should be able to utilize proper layout and design concepts in the production of attractive desktop published documents.

OAD 233. TRENDS IN OFFICE TECHNOLOGY. 3 hrs.

PREREQUISITE: A score of 61 or above on the COMPASS (reading) placement test or 20 on the ACT (reading) test. If a student does not have a satisfactory score on the reading placement test or the equivalent, then the student must achieve a minimum grade of "C" in RDG 084 prior to enrolling.

This course is designed to address current trends in office technology. Emphasis is on technology relevant to the office environment such as electronic mail, multimedia interaction, presentation hardware and software, and Internet use. Upon completion, the student should be able to demonstrate an awareness of current technological applications for the modern office.

ORIENTATION (ORI)

ORI 101. ORIENTATION TO COLLEGE. 1 hr.

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.

ORI 107. STUDENT SURVIVAL SKILLS. 1 hr.

This course is designed to provide students with information to improve their success as students in a college environment. Specific topics include stress management, time management, goal setting, improving listening and note taking skills, identification of optimum learning styles, reading skills, study skills, problem solving and decision making, test taking strategies and financial management.

PHYSICAL EDUCATION (PED)

NOTE: Activity classes listed for one hour will meet at least two hours per week. Classes listed for two hours will meet at least three hours per week.

PED 100. FUNDAMENTALS OF FITNESS. 3 hrs.

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.

PED 101. SLIMNASTICS (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

This course provides an individualized approach to physical fitness, wellness, and other health-related factors. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical

fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program.

PED 102. SLIMNASTICS (Intermediate). 1 hr.

PREREQUISITE: Determined by instructor.

This course is an intermediate-level slimnastics class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems, nutrition, and weight control. Upon completion, students should be able to implement and evaluate an individualized physical fitness program.

PED 103. WEIGHT TRAINING (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight training program.

PED 104. WEIGHT TRAINING (Intermediate). 1 hr.

PREREQUISITE: Determined by instructor.

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.

PED 105. PERSONAL FITNESS. 1 hr.

PREREQUISITE: Determined by instructor.

This course is designed to provide the student with information allowing him/her to participate in a personally developed fitness program. Topics include cardiovascular, strength, muscular endurance, flexibility and body composition.

PED 106. AEROBICS. 1 hr.

PREREQUISITE: Determined by instructor.

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.

PED 107. AEROBICS DANCE (Beginning). 1 hr.

This course introduces the fundamentals of step and dance aerobics. Emphasis is placed on basic stepping up, basic choreographed dance patterns, and cardiovascular fitness; and upper body, floor, and abdominal exercises. Upon completion, students should be able to participate in basic dance aerobics.

PED 108. AEROBIC DANCE (Intermediate). 1 hr.

PREREQUISITE: PED 107 or permission of instructor.

This course provides a continuation of step aerobics. Emphasis is placed on a wide variety of choreographed step and dance patterns; cardiovascular fitness; and upper body, abdominal, and floor exercises. Upon completion, students should be able to participate in and design an aerobics routine.

PED 109. JOGGING. 1 hr.

PREREQUISITE: Determined by instructor.

This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, students should be able to understand and appreciate the benefits derived from these activities.

PED 113. TUMBLING AND GYMNASTICS (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

This course introduces basic tumbling and gymnastic techniques. Topics include the safe use of gymnastic apparatus such as uneven bars, parallel bars, pommel horse, and balance beam. Upon completion, students should be able to demonstrate skills on selected pieces of apparatus.

PED 114. TUMBLING AND GYMNASTICS (Intermediate). 1 hr.

PREREQUISITE: PED 113 or permission of instructor.

This course is a continuation of PED 113 in tumbling and gymnastic techniques. Topics include the safe use of gymnastic apparatus such as uneven bars, parallel bars, pommel horse, and balance beam. Upon completion, students should be able to demonstrate skills on selected pieces of apparatus and participate in selected events.

PED 118. GENERAL CONDITIONING (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

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.

PED 119. GENERAL CONDITIONING (Intermediate). 1 hr.

PREREQUISITE: PED 118 or instructor permission.

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.

PED 121. BOWLING (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

This course introduces the fundamentals of bowling. Emphasis is placed on ball selection, grips, stance, and delivery along with rules and etiquette. Upon completion, students should be able to participate in recreational bowling.

PED 122. BOWLING (Intermediate). 1 hr.

PREREQUISITE: PED 121 or instructor permission.

This course covers more advanced bowling techniques. Emphasis is placed on refining basic skills and performing advanced shots, spins, pace, and strategy. Upon completion, students should be able to participate in competitive bowling.

PED 123. GOLF (Beginning). 1 hr.

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 a knowledge of the rules and etiquette of golf.

PED 124. GOLF (Intermediate). 1 hr.

PREREQUISITE: PED 123 or instructor permission.

This course covers the more advanced phases of golf. Emphasis is placed on refining the fundamental skills and learning more advanced phases to the game such as club selection, trouble shots, and course management. Upon completion, students should be able to demonstrate the knowledge and ability to play a recreational round of golf.

PED 126. RECREATIONAL GAMES. 1 hr.

PREREQUISITE: As required by program.

This course is designed to give an overview of a variety of recreational games and activities. Emphasis is placed on the skills and rules necessary to participate in a variety of lifetime recreational games. Upon completion, students should be able to demonstrate an awareness of the importance of participating in lifetime recreational activities.

PED 131. BADMINTON (Beginning). 1 hr.

This course covers the fundamentals of badminton. Emphasis is placed on the basics of serving, clears, drops, drives, smashes, and the rules and strategies of singles and doubles. Upon completion, students should be able to apply these skills in playing situations.

PED 132. BADMINTON (Intermediate). 1 hr.

PREREQUISITE: PED 131 or instructor permission.

This course provides the student to participate in intermediate level competition in badminton. Emphasis is placed on advanced skills and strategies in badminton.

PED 133. TENNIS (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

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.

PED 134. TENNIS (Intermediate). 1 hr.

PREREQUISITE: PED 133 or instructor permission.

This course emphasized 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.

PED 140. SWIMMING (Beginning). 1 hr.

PREREQUISITE: As required by program.

This course is designed for non-swimmers and beginners. Emphasis is placed on developing confidence in the water, learning water safety, acquiring skills in floating, and learning elementary strokes. Upon completion, students should be able to demonstrate safety skills and be able to tread water, back float, and use the crawl stroke for 20 yards.

PED 141. SWIMMING (Intermediate). 1 hr.

PREREQUISITE: PED 140 and/or as required by program.

This course is designed for those who have mastered basic swimming skills. Emphasis is placed on refining basic skills and learning new swim strokes. Upon completion, students should be able to demonstrate the four basic strokes, the scissor kick, the underwater swim, and other related skills.

PED 153. KARATE (Beginning.) 1 hr.

This course is designed to introduce the martial arts and teach the basic skill of Isshinryu karate. Topics include basic punches, kicks, conditioning exercises, proper terminology, historical foundations, kata, and etiquette relating to karate. Upon completion, students should be able to perform line drill techniques and Kata.

PED 154. KARATE (Intermediate). 1 hr.

PREREQUISITE: PED 153.

This course is a continuation of beginning Karate. Topics include basic punches, kicks, conditioning exercises, proper terminology, historical foundations, kata, and etiquette relating to karate. Isshinryu karate teaches discipline, self-defense and confidence. Upon completion, students should be able to perform line drill techniques and Kata according to their rank.

PED 155. SELF DEFENSE. 1 hr.

PREREQUISITE: Determined by instructor.

This course is designed to aid students in developing rudimentary skills in self-defense. Emphasis is placed on stances, blocks, punches, and kicks as well as non-physical means of self-defense. Upon completion, students should be able to demonstrate basic self-defense techniques of a physical and non-physical nature.

PED 171. BASKETBALL (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball.

PED 172. BASKETBALL. 1 hr.

PREREQUISITE: PED 171 or instructor permission.

This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play basketball at a competitive level.

PED 176. VOLLEYBALL (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

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.

PED 177. VOLLEYBALL (Intermediate). 1 hr.

PREREQUISITE: PED 176 or instructor permission.

This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball.

PED 178. SOCCER (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

This course introduces the basics of soccer. Emphasis is placed on rules, strategies, and fundamental skills. Upon completion, students should be able to participate in recreational soccer.

PED 179. SOCCER (Intermediate). 1 hr.

PREREQUISITE: PED 178 or instructor permission.

This course introduces the basics of soccer. Emphasis is placed on rules, strategies, and advanced techniques, skills, and strategies. Upon completion, students should be able to participate in introductory competitive soccer.

PED 180. FLAG FOOTBALL. 1 hr.

PREREQUISITE: Determined by instructor.

This course introduces the fundamentals and rules of flag football. Emphasis is placed on proper techniques and strategies for playing in game situations. Upon completion, students should be able to participate in recreational flag football.

PED 181. BASEBALL (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

This course covers the fundamentals of baseball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational baseball.

PED 182. BASEBALL (Intermediate). 1 hr.

PREREQUISITE: Determined by instructor.

This course covers more 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.

PED 186. SOFTBALL (Beginning). 1 hr.

PREREQUISITE: Determined by instructor.

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 participate in recreational softball.

PED 187. SOFTBALL (Intermediate). 1 hr.

PREREQUISITE: Determined by instructor.

This course presents advanced skills and competitive practice in softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to participate in competitive softball.

PED 188. YOGA. 1 hr.

This course introduces basic instruction in yoga for beginners. Emphasis is placed on instruction in gentle stretching, breathing practices, progressive deep relaxation, and posture. Upon completion, students should be able to participate in and appreciate the benefits of the activity.

PED 191. TEAM SPORTS. 1 hr.

PREREQUISITE: None.

This covers the basic concepts involved in team sport competition. Emphasis will be placed on refining basic skills, rules and regulations, officiating and team play. Upon completion, students should be able to participate and implement an intramural program.

PED 200. FOUNDATIONS OF PHYSICAL EDUCATION. 3 hrs.

PREREQUISITE: Determined by instructor.

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.

PED 223. METHODS OF INSTRUCTION. 3 hrs.

PREREQUISITE: BIO 202.

This course provides instruction for the student on specialized teaching techniques in becoming a wellness instructor. The student will learn the basis on instruction in the area of aerobic types of exercises and weight training. This course will enable the student to instruct as well as supervise these types of programs. The student will learn basic anatomy and exercise physiology as it applies to the movement of the body during exercise. This course will address and explain safety and teaching methods for the exercise instructor in the development of a comprehensive fitness program.

PED 224. PRINCIPLES OF NUTRITION. 3 hrs.

PREREQUISITE: As required by program.

This course introduces students to the principles of nutrition and the role and functions of nutrients in man's food. Basic information concerning food selection and nutrition as a factor in health, ecology, and economy is included. Implications of nutrition for children may be stressed. NOTE: This course is a suitable substitute for HEC 140.

PED 227. ANGLING. 1 hr.

PREREQUISITE: Determined by instructor.

This course introduces the sport of angling. Emphasis is placed on fishing with the use of artificial lures. Upon completion, students should be able to cast and retrieve using baitcaster and spinning reels and identify the various types of artificial lures.

PED 228. FIREARM SAFETY AND UTILIZATION. 1 hr.

This course provides a general knowledge and usage of handguns. Opportunities are provided for target practice, emphasizing safety and accuracy.

PED 238. SAILING. 1 hr.

This course provides instruction in the basic fundamentals of small boat sailing. Topics include sailing terminology, knot tying, rigging, and various skills necessary to maneuver the boat. Upon completion, students should be able to demonstrate safe handling of a small boat.

PED 240. SPORT AND RECREATIONAL SCUBA DIVING . 1 hr.

PREREQUISITE: As required by program.

This course provides basic instruction in fundamental skills and safety procedures for scuba diving. Emphasis is placed on the history, theory, and principles of diving; development of diving skills; safety; and care and maintenance of equipment. Upon completion, students should be able to demonstrate skills, knowledge, and techniques of scuba diving in preparation for diver certification.

PED 251. VARSITY BASKETBALL. 1 hr.*

PREREQUISITE: Instructor permission.

This course covers advanced fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in competitive basketball.

PED 252. VARSITY BASEBALL. 1 hr.*

PREREQUISITE: Instructor permission.

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.

PED 254. VARSITY SOFTBALL. 1 hr.*

PREREQUISITE: Instructor permission.

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.

PED 257. VARSITY CHEERLEADING. 1 hr.*

PREREQUISITE: Determined by instructor.

This course provides a specific knowledge and experience of cheerleading skills, with emphasis on tumbling skills, sharpness, stunts, and enthusiasm at the collegiate level.

PED 258. VARSITY VOLLEYBALL. 1 hr.*

PREREQUISITE: Instructor permission.

This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball.

PED 259. VARSITY CROSS COUNTRY. 1 hr.*

PREREQUISITE: As required by program.

This course covers more advanced cross country techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive cross country.

*Varsity Sports may be repeated for credit up to a maximum of four (4) credit hours.

PHYSICAL THERAPY ASSISTANT (PTA)

PTA 100. INTRODUCTION TO PHYSICAL THERAPY. 2 hrs.

PREREQUISITE: Determined by instructor.

This course is an introduction to the field of physical therapy as a career choice. Emphasis is on the role of the PT and PTS, educational requirements, scope of practice and subspecialty areas such as pediatrics, geriatrics, and sports. Upon completion of the course, the student should have a general understanding of the role of physical therapy in the health care environment. Note: You do not have to be in the PTA Program to take this course.

PTA 220. FUNCTIONAL ANATOMY AND KINESIOLOGY. 3 hrs.

PREREQUISITE: BIO 202

This course provides an in-depth, clinically oriented study of functional anatomy. Emphasis is placed on the musculoskeletal system, nervous system, and study of human movement. Upon completion of the course, the student should be able to identify specific anatomical structures and analyze human movement. Note: You do not have to be in the PTA Program to take this course.

PHYSICAL SCIENCE (PHS)

+*PHS 111. PHYSICAL SCIENCE I. 4 hrs.

PREREQUISITE: It is required that students complete all required remedial classes (English, reading and/or math) before taking this course.

This course provides the non-technical student with an introduction to the basic principles of astronomy, geology, oceanography, and meteorology. Laboratory is required.

+*PHS 112. PHYSICAL SCIENCE II. 4 hrs.

PREREQUISITE: It is required that students complete all required remedial classes (English, reading and/or math) before taking this course.

This course provides the non-technical student with an introduction to the basic principles of chemistry and physics. Laboratory is required

+These courses do not have to be taken in sequence.

PHYSICS (PHY)

***PHY 201. GENERAL PHYSICS I - TRIGONOMETRY BASED. 4 hrs.**

PREREQUISITE: MTH 113. It is required that students complete all required English and reading remedial classes before taking this course.

This course is designed to cover general physics at a level that assures previous exposure to college algebra, basic trigonometry. Specific topics include mechanics, properties of matter and energy, thermodynamics, and periodic motion. A laboratory is required.

***PHY 202. GENERAL PHYSICS II - TRIGONOMETRY BASED. 4 hrs.**

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.

***PHY 213. GENERAL PHYSICS I WITH CALCULUS. 4 hrs.**

PREREQUISITE: MTH 125. It is required that students complete all required English and reading remedial classes before taking this course.

This course provides a calculus-based treatment of the principle subdivisions of classical physics: mechanics and energy. Laboratory is required.

***PHY 214. GENERAL PHYSICS II WITH CALCULUS. 4 hrs.**

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.

POLITICAL SCIENCE (POL)

POL 103, 104, 105. CURRENT AFFAIRS. 2 hrs.

This course sequence is designed to acquaint students with major issues and problems of contemporary society through examination of current events. Emphasis is placed on topics which contribute to student awareness of historical development and political significance of selected contemporary issues. Upon completion, students should be able to identify and explain factors in the historical development of, explain political significance of, and express informed judgments about selected contemporary social and political issues.

***POL 211. AMERICAN NATIONAL GOVERNMENT. 3 hrs.**

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.

PSYCHOLOGY (PSY)

PSY 106. CAREER EXPLORATION. 1 hr.

This course is designed for students to explore potential career fields. The course includes an assessment, through testing of strengths and weaknesses, general information about careers and job skills, value and decision making techniques, and a career research.

***PSY 200. GENERAL PSYCHOLOGY. 3 hrs.**

This course is a survey of behavior with an emphasis upon psychological processes. This course includes the biological bases of behavior, thinking, emotion, motivation, and the nature and development of personality.

***PSY 210. HUMAN GROWTH AND DEVELOPMENT. 3 hrs.**

PREREQUISITE: PSY 200.

This course is a study of the psychological, social, and physical factors that affect human behavior from conception to death.

RADIOGRAPHY (RAD)

RAD 111. INTRODUCTION TO RADIOGRAPHY. 2 hrs.

PREREQUISITE: Admission into the program.

This course provides the student with an overview of radiography and its role in health care delivery. Topics include the history of radiography, professional organizations, legal and ethical issues, health care delivery systems, introduction to radiation protection, and medical terminology. Upon completion students will demonstrate foundational knowledge of radiologic science.

RAD 112. RADIOGRAPHY PROCEDURES I. 4 hrs.

PREREQUISITE: Admission into the program.

This course provides the student with instruction in anatomy and positioning of the chest and thorax, upper and lower extremities, and abdomen. Theory and laboratory exercises will cover radiographic positions and procedures. Upon completion of the course the student will demonstrate knowledge of anatomy and positioning skills, oral communication and critical thinking in both the didactic and laboratory settings.

RAD 113. PATIENT CARE. 2 hrs.

PREREQUISITE: As required by program.

This course provides the student with concepts of patient care and pharmacology and cultural diversity. Emphasis in theory and lab is placed on assessment and considerations of physical and psychological conditions, routine and emergency. Upon completion, students will demonstrate/ explain patient care procedures appropriate to routine and emergency situations.

RAD 114. CLINICAL EDUCATION I. 2 hrs.

PREREQUISITE: Successful completion of all required previous semester courses.

This course provides the student with the opportunity to correlate instruction with applications in the clinical setting. The student will be under the direct supervision of a qualified practitioner. Emphasis is on clinical orientation, equipment, procedures, and department policies. Upon completion of the course, the student will demonstrate practical applications of specific radiographic procedures identified in RAD 112.

RAD 122. RADIOGRAPHIC PROCEDURES II. 4 hrs.

PREREQUISITE: As required by program.

This course provides the student with instruction in anatomy and positioning of spine, cranium, body systems and special procedures. Theory and laboratory exercises will cover radiographic positions and procedures with applicable contrast media administration. Upon completion of the course, the student will demonstrate knowledge of anatomy and positioning skills, oral communication and critical thinking in both the didactic and laboratory settings.

RAD 124. CLINICAL EDUCATION II. 5 hrs.

PREREQUISITE: Successful completion of all required previous semester courses.

This course provides the student with the opportunity to correlate previous instruction with applications in the clinical setting. Students will be under the direct supervision of a qualified practitioner. Practical experience in a clinical setting enables students to apply theory presented thus far and to practice radiographic equipment manipulation, radiographic exposure, routine radiographic positioning, identification, and patient care techniques. Upon completion of the course, students will demonstrate practical applications of radiographic procedures presented in current and previous courses.

RAD 125. IMAGING EQUIPMENT. 3 hrs.

PREREQUISITE: Successful completion of all required previous semester courses.

This course provides the student with knowledge of basic physics and fundamentals of imaging equipment. Topics include information on x-ray production, beam characteristics, units of measurement, and imaging equipment components. Upon completion, students will be able to identify imaging equipment as well as provide a basic explanation of the principles associated with image production.

RAD 134. CLINICAL EDUCATION III. 5 hrs.

PREREQUISITE: Successful completion of all required previous semester courses.

This course provides the student with the opportunity to correlate instruction with applications in the clinical setting. Students will be under the direct supervision of a qualified practitioner. Practical experience in a clinical setting enables students to apply theory presented thus far and to practice radiographic equipment manipulation, radiographic exposure, routine radiographic positioning, identification, and patient care techniques. Upon completion of the course, students will demonstrate practical applications of radiographic procedures presented in current and previous courses.

RAD 135. EXPOSURE PRINCIPLES. 3 hrs.

PREREQUISITE: Successful completion of all required previous semester courses.

This course provides students with the knowledge of factors that govern and influence the production of radiographic images and assuring consistency in the production of quality images. Topics include factors that influence density, contrast and radiographic quality as well as quality assurance, image receptors, intensifying screens, processing procedures, artifacts, and state and federal regulations.

RAD 136. RADIATION PROTECTION AND BIOLOGY. 2 hrs.

PREREQUISITE: As required by program.

This course provides the student with principles of radiation protection and biology. Topics include radiation protection responsibility of the radiographer to patients, personnel and the public, principles of cellular radiation interaction and factors affecting cell response. Upon completion the student will demonstrate knowledge of radiation protection practices and fundamentals of radiation biology.

RAD 212. IMAGE EVALUATION AND PATHOLOGY. 2 hrs.

PREREQUISITE: As required by program.

This course provides a basic understanding of the concepts of disease and provides the knowledge to evaluate image quality. Topics include evaluation criteria, anatomy demonstration and image quality with emphasis placed on a body system approach to pathology. Upon completion students will identify radiographic manifestations of disease and the disease process. Students will evaluate images in the classroom, laboratory and clinical settings.

RAD 214. CLINICAL EDUCATION IV. 8 hrs.

PREREQUISITE: Successful completion of all required previous semester courses.

This course provides students with the opportunity to correlate previous instruction with applications in the clinical setting. Students will be under the direct supervision of a qualified practitioner. Practical experience in a clinical setting enables students to apply theory presented thus far and to practice radiographic equipment manipulation, radiographic exposure, routine radiographic positioning, identification, and patient care techniques. Principles of computed tomography and cross-sectional anatomy will be presented. Upon completion of this course, students will demonstrate practical applications of radiographic procedures presented in current and previous courses.

RAD 224. CLINICAL EDUCATION V. 8 hrs.

PREREQUISITE: Successful completion of all required previous semester courses.

This course provides students with the opportunity to correlate previous instruction with applications in the clinical setting. Students will be under the direct supervision of a qualified practitioner. Practical experience in a clinical setting enables students to apply theory presented thus far and to practice radiographic equipment manipulation, radiographic exposure, routine radiographic positioning, iden-

tification, and patient care techniques. Principles other imaging modalities will be presented. Upon completion of the course, students will demonstrate practical applications of radiographic procedures in current and previous courses.

RAD 227. REVIEW SEMINAR. 2 hrs.

PREREQUISITE: Successful completion of all required previous semester courses.

This course provides a consolidated and intensive review of the basic areas of expertise needed by the entry level technologist. Topics include basic review of all content areas, test taking techniques and job seeking skills. Upon completion the student will be able to pass comprehensive tests of topics covered in the Radiologic Technology Program.

RAD 250. ADVANCED PATIENT CARE. 5 hrs.

PREREQUISITE: Admission to the program.

This course will provide the radiographer with concepts of patient care including patient preparation, patient education, assessment and monitoring, IV procedures for contrast agents and medications, pharmacology, emergency care, radiation safety and biological considerations, safety precautions, and general procedural considerations for CT, MRI, Mammography, Cardiovascular Interventional Technology Sonography.

RAD 251. CROSS-SECTIONAL ANATOMY. 3 hrs.

PREREQUISITE: Admission to the program.

This course provides the radiographer with knowledge of anatomy of the human body in cross-section. Topics included advanced sectional anatomy as demonstrated by computed tomography, magnetic resonance, and medical sonography. Upon completion, the student will be able to identify cross sectional anatomy from CT, MRI, and medical sonography.

RAD 263. CT IMAGING PROCEDURES. 5 hrs.

PREREQUISITE: Admission to the program.

This course provides a knowledge of computed tomography imaging procedures. Emphasis is on head, chest, spine and pelvis. Upon completion, students will demonstrate and/or explain specific CT imaging procedures relative to the head, chest, spine, and pelvis.

RAD 264. CT PHYSICS - INSTRUMENTATION & IMAGING. 5 hrs.

PREREQUISITE: RAD 250, RAD 251, RAD 263

This course will provide the radiographer with knowledge of computed tomography physics and instrumentation to include system operation and components; image processing and display, image quality, and artifacts.

RAD 265. CT CLINICAL EDUCATION. 4 hrs.

PREREQUISITE: RAD 250, RAD 251, RAD 263

This course provides the essential clinical experiences for development of skills and competencies of CT imaging procedures, data acquisition, and image processing.

RAD 266. PATHOLOGY CORRELATION FOR CT/MR. 4 hrs.

PREREQUISITE: RAD 250, RAD 251, and/or RAD 263 or RAD 284

This course is designed to introduce theories of disease causation and pathophysiologic disorders that compromise health systems. Each disease or trauma process is examined from its description, etiology, associated symptoms, clinical manifestations, and diagnosis with appearance on CT and MR images.

RAD 283. MR IMAGING PROCEDURES. 5 hrs.

PREREQUISITE: RAD 250, RAD 251, RAD 284

This course provides knowledge of magnetic resonance imaging procedures. Emphasis is on the essential theory and experiences for development of skills and competencies of MR imaging procedures, data acquisition, and processing.

RAD 284. MR PHYSICAL PRINCIPLES. 5 hrs.

PREREQUISITE: RAD 250, RAD 251

This course provides knowledge of magnetic resonance physical principles of image formation. Emphasis is on instrumentation, fundamentals, artifacts, and quality control to include sequence parameters and options. Upon completion, students will demonstrate a knowledge of basic MRI physics.

RAD 285. MAGNETIC RESONANCE CLINICAL EDUCATION. 4 hrs.*PREREQUISITE: RAD 250, RAD 251, RAD 284*

This course provides the essential clinical experiences for magnetic resonance imaging. Emphasis is on the development of skills and competencies of MRI imaging procedures, data acquisition, and image processing. Upon completion, students will be able to demonstrate practical application of MRI imaging procedures.

READING (RDG)**RDG 084. DEVELOPMENTAL READING II. 3 (I) hrs.***PREREQUISITE: A score of 60 or below on the Reading COMPASS test.*

This course is designed to assist students whose placement test scores indicate serious difficulty with decoding skills, comprehension, vocabulary, and study skills. Students must achieve a minimum grade of "C" to pass the course. **This course produces institutional, non-transferable credit only and will not satisfy the requirements for degrees and certificates. Students testing into RDG 084 must pass both RDG 084 and RDG 085 with a C or better to progress.**

RDG 085. DEVELOPMENTAL READING III. 3 (I) hrs.*PREREQUISITE: A score of 61 to 75 on the Reading COMPASS test.*

This course is designed to assist students whose placement test scores indicate serious difficulty with decoding skills, comprehension, vocabulary, and study skills. Students must achieve a minimum grade of "C" to pass the course. This course produces institutional, non-transferable credit only and will not satisfy the requirements for degrees and certificates.

REAL ESTATE (RLS)**RLS 101. REAL ESTATE PRINCIPLES. 4 hrs.***PREREQUISITE: Program approval.*

This is an introductory real estate course providing the necessary terminology, background, and understanding of real estate principles. Topics include history or property ownership, real estate finance, real estate law, and the mechanics of listing and closing the sale. It is designed to assist those preparing for the real estate salesman's licensing examination in Alabama.

RELIGION (REL)**REL 151. SURVEY OF THE OLD TESTAMENT. 3 hrs.***PREREQUISITE: None.*

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.

REL 152. SURVEY OF THE NEW TESTAMENT. 3 hrs.*PREREQUISITE: None.*

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.

SOCIOLOGY (SOC)***SOC 200. INTRODUCTION TO SOCIOLOGY. 3 hrs.**

This course is an introduction to the vocabulary, concepts, and theory of sociological perspectives of human behavior.

SPANISH (SPA)

*SPA 101. INTRODUCTORY SPANISH I. 4 hrs.

PREREQUISITE: RDG 085 or appropriate reading placement score.

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.

*SPA 102. INTRODUCTORY SPANISH II. 4 hrs.

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.

HPS 113. SPANISH FOR HEALTHCARE PROFESSIONALS. 3 hrs.

PREREQUISITE: None.

This course provides an introduction to Spanish with a focus on the basic communication skills and vocabulary needed by health professionals when a non-English speaking Hispanic enters a health care setting. Topics include soliciting identification information, history taking, performance of physical exam and giving instructions on general care and follow-up.

SPEECH COMMUNICATION (SPH)

*SPH 106. FUNDAMENTALS OF ORAL COMMUNICATION. 3 hrs.

PREREQUISITE: None.

Fundamentals of Oral Communication is a performance course that includes the principles of human communication: intrapersonal, interpersonal, and public. It surveys current communication theory and provides practical application.

*SPH 107. FUNDAMENTALS OF PUBLIC SPEAKING. 3 hrs.

PREREQUISITE: None.

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.

STUDY SKILLS (BSS)

BSS 101. INTERMEDIATE STUDY SKILLS. 3 hrs.

This course is designed to introduce students to a variety of effective study techniques. The course includes an assessment of study strengths and weaknesses, and specific techniques for an overall system of successful study.

BSS 102. STUDY SKILLS. 1 hr.

This course is intended for those who placed into credit-level course work but who are not maintaining satisfactory academic progress toward meeting program goals. Topics include study skills, note taking, learning styles and strategies, test taking, goal setting, and self-assessment skills. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals.

SURGICAL TECHNOLOGY (SUR)

SUR 101. INTRODUCTION TO SURGICAL TECHNOLOGY. 3 hrs.

PREREQUISITE: Admission to the program and/or as required by the Department.

This course is an introduction to the field of surgical technology as a career. Emphasis is on the role of the surgical technologist, principles of asepsis and principles of patient care, surgical procedures, operative techniques, blood-borne pathogens, safety, and pharmacology. Emphasis is placed on the microbiology, and professional, ethical, and legal responsibilities of the surgical team. Upon completion of this course students should be able to describe methods to maintain a sterile environment, and recognize members of the operating room team according to their roles.

SUR 102. APPLIED SURGICAL TECHNIQUES. 4 hrs.

PREREQUISITE: Admission to the program and/or as required by the Department.

This course is the application of principles of asepsis and the role of the surgical technologists. Emphasis is placed on creating and maintaining a sterile environment, identification of surgical instruments, equipment and supplies, proper patient positioning for surgical procedures, and applying skills of intraoperative procedures. Upon completion of this course, the student should be able to name and select basic surgical instruments, supplies and equipment, and participate in mock surgical procedures.

SUR 103. SURGICAL PROCEDURES. 5 hrs.

PREREQUISITE: Admission to the program and/or as required by the Department.

This course is a study of surgical procedures as they relate to anatomy, pathology, specialty equipment, and team responsibility. Patient safety is emphasized and medications used in surgery are discussed. Upon completion of the course, the student should be able to participate in surgical procedures in the operating room.

SUR 105. SURGICAL PRACTICUM II. 5 hrs.

PREREQUISITE: Admission to the program and/or as required by the Department.

This course experience allows the student to practice in the health care environment using entry level skills attained in previous classroom laboratory and clinical instruction. In addition to clinical skills, emphasis is placed on specialty surgical procedures, the study of trends, professional and interpersonal skills in the health care setting, and case review. Upon completion of this course, the student should be able to apply concepts of surgical technology to student levels.

SUR 106. ROLE TRANSITION IN SURGICAL TECHNOLOGY. 1 hr.

PREREQUISITE: Admission to the program and/or as required by the Department.

This course is designed to provide specialized instruction for the student preparing to transition into the field of Surgical Technology. Emphasis is on review of content specific to the practice of surgical technology and preparation for the NBSTSA certification examination. Upon completion of this course, the student will be able to demonstrate readiness to take the certification examination.

SUR 107. SURGICAL ANATOMY AND PATHOPHYSIOLOGY. 3 hrs.

PREREQUISITE: Admission to the program and/or as required by the Department.

This course is an overview of surgical anatomy and pathophysiology. Emphasis is placed on the organizational structure of the body, organ systems, relevant surgical pathophysiology, and related medical technology. Upon completion, the student should be able to apply knowledge of anatomy in the clinical environment.

SUR 108. PHARMACOLOGY FOR THE SURGICAL TECHNOLOGIST. 2 hrs.

PREREQUISITE: Admission to the program and/or as required by the Department.

A student of basic pharmacology as it relates to the practice of the surgical technologist. Topics covered include basic conversions, calculations, classifications, desired effects and side effects, terminology, care and safe handling of medications, as well as a comprehensive review of surgical medications. Upon completion of the course, students should be able to recognize and properly manage pharmacologic agents commonly used in the surgical environment.

SUR 150. CENTRAL STERILE I. 4 hrs.**Non-Collegiate Credit**

PREREQUISITE: Determined by the instructor.

This course is an introduction to the field of Central Sterile Processing as a career. Emphasis is on the role of a Sterile Processing Technician, care of surgical instruments, sterilization procedures, principals of asepsis, safety, and an overview of microbiology. Upon completion, the student will be able to demonstrate knowledge of sterilization procedures and workplace asepsis.

SUR 204. SURGICAL PRACTICUM III. 4 hrs.

PREREQUISITE: Admission to the program and/or as required by the Department.

This course is the continuation of the study and application of perioperative principles in the perioperative setting. Emphasis is placed on application of the surgical technologist role. Upon completion of the course, the student should be able to function as a surgical technologist in the operating room.

SUR 205. SURGICAL PRACTICUM IV. 5 hrs.

PREREQUISITE: Admission to the program and/or as required by the Department.

This is a continuation of the clinical experience practice in the health care environment using skills attained in previous classroom laboratory and clinical instruction. The course includes a detailed study on clinical techniques and emphasis is placed on selected specialty surgical procedures, the study of trends, professional and interpersonal skills in the health care setting, and case review. Upon completion of this course, the student should have acquired necessary skills for transition from student to technologist.

THEATRE ARTS (THR)

THR 113-114-115. THEATRE WORKSHOP I-II-III. 1-2 hrs. each

These courses are the first three in a six course sequence which provide 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 theatre production. Each is a prerequisite for the next course in the series.

***THR 120. THEATRE APPRECIATION. 3 hrs.**

This course is designed to increase appreciation of contemporary theatre. Emphasis is given to the theatre as an art form through the study of the history and theory of drama and the contributions of playwright, actor, director, designer, and technician to modern media. Attendance at theatre productions may be required.

THR 124. THEATER TECHNOLOGY SCENERY & LIGHTING. 3 hrs.

Scenic construction techniques and execution of stage lighting via lectures, demonstrations, and practical application. Emphasis in tools, materials, and procedure.

***THR 126. INTRODUCTION TO THEATER. 3 hrs.**

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.

THR 131. ACTING TECHNIQUES I. 3 hrs.

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.

THR 132. ACTING TECHNIQUES II. 3 hrs.

PREREQUISITE: THR 131.

This course is a continuation of THR 131.

THR 136. ACTING FOR FILM AND TELEVISION. 1-2 hrs.

This course is a study of acting techniques for visual media, television, and film.

THR 141. INTRODUCTION TO DANCE IN THEATER I. 1-2 hrs.

This is the first of a two-course sequence which offers the student an introduction to basic dance movements and the use of dance in dramatic productions.

THR 142. INTRODUCTION TO DANCE IN THEATER II. 1-2 hrs.

PREREQUISITE: THR 141

This course is a continuation of THR 141.

THR 210. INTRODUCTION TO THEATRICAL DESIGN. 3 hrs.

PREREQUISITE: None.

Study and application of elements of design in theater setting. Roles of scenic, lighting, and costume designers and the collaborative relationship with their director.

THR 213-214-215. THEATRE WORKSHOP IV-V-VI. 1-2 hrs. each

These courses are a continuation of THR 113-114-115. Each course in the series is a prerequisite for the next.

THR 216. THEATRICAL MAKE-UP. 2 hrs.

This course is a study of the materials and techniques of theatrical make-up.

THR 236. STAGECRAFT. 3 hrs.

This course is a study of the principles, techniques, and materials in theatrical scenery and lighting.

THR 241. VOICE AND SPEECH FOR THE PERFORMER. 3 hrs.

PREREQUISITE: None.

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.

THR 251. THEATER FOR CHILDREN I. 3 hrs.

This is the first in a two-course sequence which offers the student practical experience in acting, directing, and developing material for children's theater.

THR 252. THEATER FOR CHILDREN II. 3 hrs.

PREREQUISITE: THR 251

This course is a continuation of THR 251.

THR 281. STAGE MOVEMENT I. 3 hr.

This is the first in a two-course sequence which offers the student a basic introduction to movement for stage for those interested in acting or dance. They also include consideration of role development through movement.

THR 282. STAGE MOVEMENT II. 3 hr.

This course is a continuation of THR 281.

THR 296. DIRECTED STUDIES IN THEATRE. 2 hrs.

This course deals with problems in theatre and art management. Problems may be arranged in conjunction with other disciplines in the Fine Arts.

THERAPEUTIC MASSAGE (MSG)

MSG 101. INTRODUCTION TO THERAPEUTIC MASSAGE. 2 hrs. (2-0-2)

CO-REQUISITE: MSG 102, 103, 104

The purpose of this course is for students to comprehend foundational information related to the profession of therapeutic massage. Specific topics include: history of therapeutic massage, professional ethics and standards of practice, regulatory agencies and their requirements, client and therapist's professional relationships, communication skills, and an overview of types of therapeutic massage.

MSG 102. THERAPEUTIC MASSAGE LAB I. 3 hrs. (0-6-3)

CO-REQUISITES: MSG 101, 103, 104

This course provides foundational information related to massage therapy. Students gain knowledge related to purposes, effects, applications, benefits, indications and contraindications for various types of massage therapy. Additionally, students learn procedures and precautions for various types of massage therapists. Specific topics include Swedish massage, hot and cold therapies, stretching, basic myofascial massage, and documentation guidelines. Special emphasis is placed on professional behaviors, proper draping, and body mechanics. At the conclusion of this course, students will be able to perform various types of full body therapeutic massage techniques and document their activities.

MSG 103. ANATOMY AND PHYSIOLOGY. 3 hrs. (2-2-3)

CO-REQUISITES: MSG 101, 102, 104

This course provides students with an overview of the basic anatomy and physiology of the human body. Emphasis is placed on the importance of maintaining homeostasis. As part of this course students will receive instruction on cardio-pulmonary resuscitation. At the conclusion of this course, students will have a basic understanding of the various systems of the body and the effects of massage on these systems. Students will demonstrate this knowledge in associated lab activities.

MSG 104. MUSCULOSKELETAL AND KINESIOLOGY I. 3 hrs. (2-3-3)*CO-REQUISITES: MSG 101, 102, 103*

This course introduces students to concepts related to the study of muscle movement. As part of the program students learn the interaction of muscles and various bony landmarks of the skeletal system. Students further learn how to position individuals in preparation for therapeutic massage of various muscle groups. Students will demonstrate this knowledge in associated lab activities.

MSG 105. THERAPEUTIC MASSAGE SUPERVISED CLINICAL I. 2 hrs. (0-6-2)*PREREQUISITES: MSG 101, 102, 103, 104**CO-REQUISITES: MSG 202, 203*

In this course, students are required to demonstrate competency in specific therapeutic techniques including treatment preparation, use of proper techniques, client progress, and documentation. Students are required to perform a minimum of 45 hours of hands-on client massages.

MSG 200. BUSINESS AND MARKETING PLANS. 1 hr. (1-0-1)*PREREQUISITES: MSG 105, 202, 203**CO-REQUISITES: MSG 201, 204, 205, 206*

During this course, students are also taught ethical business and professional development. This course is designed to help students to prepare for ethical decision making in professional practice while assisting in the development of their emerging identities as professional licensed massage therapists. Emphasis is placed on building and retaining clientele, communication skills, customer skills, customer services, continuing education and setting goals. Upon completion, the student should be able to list the types of communication skills, state personal goals, and develop a business and marketing plan.

MSG 201. THERAPEUTIC MASSAGE FOR SPECIAL POPULATIONS. 3 hrs. (1-2-2)*PREREQUISITES: MSG 105, 202, 203**CO-REQUISITES: MSG 200, 204, 205, 206*

In this course, students learn to adapt massage sessions to the needs of special populations such as pregnant women, infants, elderly, and the terminally ill. Topics include technique variations, length of session, contraindications, cautions, considerations for survivors of abuse, and possible benefits. Upon completion of this course, students will be able to discuss and demonstrate techniques for performing therapeutic massage for special populations.

MSG 202. THERAPEUTIC MASSAGE LAB II. 3 hrs. (0-6-3)*PREREQUISITES: MSG 101, 102, 103, 104**CO-REQUISITES: MSG 105, 203*

Students learn advance massage therapy techniques building upon previously gained knowledge and skills. Specific techniques include deep tissue, neuromuscular, and advance myofascial. Students learn to identify reflexology points and utilize reflexology for massage to the hands, feet, and ears. Upon completion students will be able to apply specific therapeutic massage techniques to various regions of the body.

MSG 203. PATHOLOGY. 3 hrs. (3-0-3)*PREREQUISITES: MSG 101, 102, 103, 104**CO-REQUISITES: MSG 105, 202*

This course presents baseline information on pathologies which massage therapists may encounter in clinical practice including conditions of the musculoskeletal, neurological, cardiovascular, lymphatic, integumentary, digestive, endocrine, and immune systems. Content will include etiology, symptomatology, medical approaches to treatment and the potential positive or negative impact of massage.

MSG 204. MUSCULOSKELETAL AND KINESIOLOGY II. 3 hrs. (2-3-3)*PREREQUISITES: MSG 105, 202, 204**CO-REQUISITES: MSG 200, 201, 205, 206*

In this course, students learn advanced study of the muscular-skeletal system. Topics include specific therapeutic approaches to the regions of the shoulders, arms, hips, and legs, examination of these regions, the movements they produce, and common pathological conditions of the shoulders, arms, hips, and legs. Upon completion, the students should be able to identify and discuss the regions of the shoulders, arms, hips, legs, and the movements they produce and common pathological conditions.

MSG 205. THERAPEUTIC MASSAGE SUPERVISED CLINICAL II. 2 hrs. (0-6-2)*PREREQUISITES: MSG 105, 202, 204**CO-REQUISITES: MSG 200, 201, 204, 206*

In this course, students are required to demonstrate competency in specific advanced therapeutic techniques including treatment preparation, use of proper techniques, client progress, and documentation. Students are required to perform a minimum of 45 hours of hands-on client massages.

MSG 206. NATIONAL CERTIFICATION EXAM REVIEW. 1 hr. (1-0-1)*PREREQUISITES: MSG 105, 202, 204**CO-REQUISITES: MSG 200, 201, 204, 205*

This course provides a consolidated and intensive review of the basic areas of expertise needed by the entry-level massage therapist. Upon completion, the student should be able to pass a comprehensive exam on information covered in the therapeutic massage program.

WELDING TECHNOLOGY (WDT)

WDT 108. SMAW FILLET/OFC. 3 hrs. (2-3-3)

This course provides the student with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of oxy-fuel cutting.

WDT 109. SMAW FILLET/PAC/CAC. 3 hrs. (2-2-3)

This course provides the student with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of carbon arc cutting and plasma cutting.

WDT 110. INDUSTRIAL BLUEPRINT READING. 3 hrs. (3-0-3)*PREREQUISITE: Permission of instructor.*

This course provides students with the understanding and fundamentals of industrial blueprint reading. Emphasis is placed on reading and interpreting lines, views, dimensions, weld joint configurations and weld symbols. Upon completion students should be able to interpret welding symbols and blueprints as they apply to welding and fabrication.

WDT 115. GTAW CARBON PIPE. 3 hrs. (1-4-3)*PREREQUISITE: Permission of instructor.*

This course is designed to provide the student with the practices and procedures of welding carbon pipe using the gas tungsten arc weld (GTAW) process. Emphasis is placed on pipe positions, filler metal selection, purging gasses, joint geometry joint preparation and fit-up. Upon completion, students should be able to identify pipe positions, filler metals, purging gas, proper joint geometry, joint preparation, and fit-up in accordance with applicable code.

WDT 119. GAS METAL ARC/FLUX CORED ARC WELDING. 3 hrs. (2-2-3)

This course introduces the student to the gas metal arc and flux cored arc welding process. Emphasis is placed on safe operating practices, handling and storage of compressed gasses, process principles, component identification, various welding techniques and base and filler metal identification.

WDT 120. SHIELDED METAL ARC WELDING GROOVE. 3 hrs. (2-3-3)*PREREQUISITE: WDT 108, 109, 122 & 123 or permission of instructor.*

This course provides the student with instruction on joint design, joint preparation, and fit-up of groove welds in accordance with applicable welding codes. Emphasis is placed on safe operation, joint design, joint preparation, and fit-up. Upon completion, students should be able to identify the proper joint design, joint preparation and fit-up of groove welds in accordance with applicable welding codes.

WDT 122. SMAW FILLET/OFC LAB. 3 hrs. (0-6-3)

This course is designed to introduce the student to the proper set-up and operation of the shielded metal arc welding equipment. Emphasis is placed on striking and controlling the arc, and proper fit up of fillet joints. This course is also designed to instruct students in the safe operation of oxy-fuel cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-3 groups in accordance applicable welding code and be able to safely operate oxy-fuel equipment and perform those operations as per the applicable welding code.

WDT 123. SMAW FILLET/PAC/CAC LAB. 3 hrs. (0-6-3)

This course is designed to introduce the student to the proper set-up and operation of the shielded metal arc welding equipment. Emphasis is placed on striking and controlling the arc and proper fit up of fillet joints. This course is also designed to instruct students in a safe operation of plasma arc and carbon arc cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-4 groups in accordance with applicable welding code and be able to safely operate plasma arc and carbon arc equipment and perform those operations as per applicable welding code.

WDT 124. GAS METAL ARC/FLUX CORED ARC WELDING LAB. 3 hrs. (0-9-3)

This course provides instruction and demonstration using the various transfer methods and techniques to gas metal arc and flux cored arc welds. Topics included are safety, equipment set-up, joint design and preparation, and gases.

WDT 125. SHIELDED METAL ARC WELDING GROOVE LAB. 3 hrs. (0-6-3)

PREREQUISITE: WDT 108, 109, 122 & 123 or permission of instructor.

This course provides instruction and demonstrations in the shielded metal arc welding process on carbon steel plate with various size F3 and F4 group electrodes in all positions. Emphasis is placed on welding groove joints and using various F3 and F4 group electrodes in all positions. Upon completion, the student should be able to make visually acceptable groove weld joints in accordance with applicable welding codes.

WDT 155. GTAW CARBON PIPE LAB. 3 hrs. (0-6-3)

This course is designed to provide the students with skills in welding carbon steel pipe with gas tungsten arc welding techniques in various pipe weld positions. Upon completion, students should be able to perform gas tungsten arc welding on carbon steel pipe with the prescribed filler metals in various positions in accordance with the applicable code.

WDT 193. CO-OP. 3 hrs. (0-6-3)

PREREQUISITE: Permission of instructor.

These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses, the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.

WDT 217. SMAW CARBON PIPE. 3 hrs. (1-4-3)

This course introduces the student to the practices and procedures of welding carbon steel pipe using the shielded metal arc weld (SMAW) process. Emphasis is placed on pipe positions, electrode selection, joint geometry, joint preparation and fit-up. Upon completion, students should be able to identify pipe positions, electrodes, proper joint geometry, joint preparation, and fit-up in accordance with applicable code.

WDT 228. GAS TUNGSTEN ARC WELDING. 3 hrs. (2-3-3)

PREREQUISITE: WDT 108, 109, 122 & 123 or permission of instructor.

This course provides student with knowledge needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes.

WDT 257. SMAW CARBON PIPE LAB. 3 hrs. (0-6-3)

This course is designed to provide the student with the skills in welding carbon steel pipe with shielded metal arc welding techniques in various pipe welding positions. Upon completion, students should be able to perform shielded metal arc welding on carbon steel pipe with the prescribed electrodes in various positions in accordance with the applicable codes.

WDT 268. GAS TUNGSTEN ARC LAB. 3 hrs. (0-6-3)

PREREQUISITE: WDT 108, 109, 122 & 123 or permission of instructor.

This course provides student with the skills needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes.

WORKPLACE SKILLS ENHANCEMENT (WKO)

WKO 107. WORKPLACE SKILLS PREPARATION. 1 hr. (0-2-1)

PREREQUISITES: Permission of instructor.

This course utilizes computer based instructional modules which are designed to access and develop skills necessary for workplace success. The instructional modules in the course include applied mathematics, applied technology, reading for information, and locating information. Use completion of this course, students will be assessed to determine if their knowledge of the subject areas has improved.

