

Course Descriptions

Geometric Dimensioning and Tolerancing, and produce drawings using and specifying common threads and various fasteners, including welding methods.

DDT 124 BASIC TECHNICAL DRAWING (1T,4E) 3 credits
PREREQUISITE: DDT 104, DDT 111

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 127 INTERMEDIATE COMPUTER AIDED DRAFTING AND DESIGN (1T, 4E) 3 credits
PREREQUISITE: DDT 104

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

DDT 128 INTERMEDIATE TECHNICAL DRAWING (1T,4E) 3 credits
PREREQUISITE: DDT 127

This course is designed to develop a strong foundation in common drafting and design practices and procedures. Topics include dimensioning concepts and pictorial drawings.

DDT 131 BASIC MACHINE DRAFTING (1T, 4E) 3 credits
PREREQUISITE: DDT 127, DDT 111, DDT 122

This course in machine drafting and design provides instruction in the largest specialty area of drafting in the United States in terms of scope and job opportunities. Emphasis will be placed on the applications of multi-view drawings, including drawing organization and content, title blocks and parts lists, assembly drawings, detail drawings, dimensioning and application of engineering controls in producing industrial-type working drawings. Upon completion, students should be able to organize, layout, and produce industrial-type working drawings, including the application of title blocks, parts lists, assemblies, details, dimensions, and engineering controls.

DDT 132 ARCHITECTURAL DRAFTING (1T, 4E) 3 credits
PREREQUISITES: DDT 127

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 (3T) 3 credits

This course provides the theory of residential drawing and design. Topics include architectural styles, house design, site and space planning, climate, 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 requirements essential to the field of residential drawing and design.

DDT 155 DRAWING FOR RESIDENTIAL CONSTRUCTION (8E) 4 credits

PREREQUISITE: DDT 127, DDT 150

This course is a direct applications lab to the topics covered within DDT 150. Emphasis is placed upon the production of quality construction documents.

DDT 213 CIVIL DRAFTING, PLAT MAPS (1T, 4E) 3 credits
PREREQUISITE: DDT 127

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 225 STRUCTURAL STEEL DRAFTING (1T, 4E) 3 credits
PREREQUISITE: DDT 127

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 material. 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 233 SOLIDS MODELING (2T, 2E) 3 credits
PREREQUISITE: DDT 104

This course provides instruction in 3D capabilities of CAD software. Emphasis is placed on 3D wire-frame, surface and solids modeling along with the development of 2D detail drawings from 3D models. Upon completion, students should be able to generate 3D surface and solid models and 2D orthographic production drawings from created solid models.

ECONOMICS (ECO)

ECO 130 CONSUMER ELECTRONICS (3T) 3 credits

This course explores the application of general economic principles and practices concerning personal consuming, saving, and investing. It also stresses the relationship of sound personal financial management with successful career goals. Topics covered will include: consumerism, income and family financial planning, insurance, and investments.

ECO 231 PRINCIPLES OF MACROECONOMICS (3T) 3 credits

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

(3T) **3 credits**
PREREQUISITE: ECO 231

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.

EDUCATION

EDU 100 EXPLORING TEACHING AS A PROFESSION (1T, 2E)

2 credits

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

ENGINEERING (EGR)

EGR 100 ENGINEERING ORIENTATION (1T)

1 credit

This course is designed to make beginning engineering students aware of the many facets of engineering, of their relation to society, and of the objectives of the engineering curriculum. It is designed to stimulate interest in engineering and student-instructor dialogue.

EGR 101 ENGINEERING FOUNDATIONS (2T, 2E)

3 credits

CO-REQUISITE: MTH 113 or MTH 115

This course introduces students to engineering as a profession, basic engineering skills, and the design process. The course includes components to develop teaming and oral and written communication skills. The course also provides an introduction to computer tools used by engineers (e.g., spreadsheet, word processing, presentation software, Internet).

EGR 125 MODERN GRAPHICS FOR ENGINEERS (1T, 4E)

3 credits

This course provides an introduction to manual and computer-assisted techniques of graphic communication employed by professional engineers. Topics include: lettering; instrumental and computer-aided drafting; technical sketching; orthographic projection; pictorial, sectional, and auxiliary views; and dimensioning.

EGR 156 COMPUTER METHODS FOR ENGINEERS (3T)

3 credits

PREREQUISITE: MTH 125

This course consists of engineering applications using the FORTRAN IV computer programming language.

EGR 157 COMPUTER METHODS FOR ENGINEERS USING MATLAB (2T, 2E)

3 credits

PREREQUISITE: MTH 125

This course introduces students to the concepts and prac-

tices involved in using high-level computer environments to solve engineering problems. Programming environments such as MATLAB will be used.

EGR 220 ENGINEERING MECHANICS-STATICS (3T)

3 credits

COREQUISITE: MTH 227
PREREQUISITE: PHY 213

This course includes vector algebra, force and moment systems, equilibrium of force systems, trusses, friction and property of surfaces.

EGR 236 ENGINEERING MECHANICS-DYNAMICS (3T)

3 credits

PREREQUISITE: EGR 220

This course includes kinematics of particles, plane kinematics of rigid bodies, kinetics of particles and rigid bodies by Newton's Laws; principles of work-energy and impulse-momentum.

EGR 258 ELECTRIC CIRCUITS (3T)

3 credits

PREREQUISITE: MTH 227 and PHY 214

This course is an introduction to electrical circuit theory, voltage-current relationships in linear circuit elements. Kirchoff's laws, with applications to simple networks, and loop and node equations. Complex power, power factor correction, and network analysis techniques.

EGR 260 MECHANICS OF MATERIALS (3T)

3 credits

PREREQUISITE: EGR 220

This course includes the study of the variation of stress and strain at a point; Mohr's circle, strain gage rosettes; stresses and strains resulting from axial and torsional loads, shear and moment in beams; beam stresses; beam deflection; combined stresses.

EGR 276 THERMODYNAMICS (3T)

3 credits

PREREQUISITE: MTH 126, PHY 214, EGR 156

This course includes the study of the basic laws of thermodynamics; unsteady and steady states; properties of matter; processes of fluids; first and second laws; availability of energy; irreversibility.

ELECTRICAL TECHNOLOGY (ELT)

ELT 104 DISTRIBUTION SYSTEMS FORMERLY: ELT 217 (2T, 2E)

3 credits

PREREQUISITE: ELT 108 and ELT 109

This course involves the theory, applications, calculations, and connections associated with transformers and power distribution systems commonly used in the electrical field.

ELT 108 DC FUNDAMENTALS (1T, 4E)

3 credits

PREREQUISITE: MTH 092 OR MTH 098
COREQUISITE: ELT 109

This course provides a study of atomic theory, direct current (DC), properties of conductors and insulators, direct current characteristics of series, parallel, and series parallel circuits. Inductors and capacitors are introduced and their effects on DC circuits are examined. Students are prepared

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to analyze complex DC circuits, solve for unknown circuits variables and to use basic electronic test equipment.

ELT 109 AC FUNDAMENTALS (1T, 4E) 3 credits
PREREQUISITE: MTH 092 or MTH 098
COREQUISITE: ELT 108

This course provides a study of the theory of alternating current (AC). Students are prepared to analyze complex AC circuit configurations with resistor, capacitors, and inductors in series and parallel combinations. Upon completion, students should be able to design AC circuits and explain the function of alternating circuits such as RLC, impedance, phase relationships and power factor. This is a CORE course.

ELT 110 WIRING METHODS (1T, 4E) 3 credits

This course is a study of various tasks, wiring methods, materials, and associated NEC (National Electric Code) requirements that students will be required to work with in residential and commercial wiring courses.

ELT 116 RESIDENTIAL WIRING (4T, 4E) 6 credits
PREREQUISITES: ELT 108 AND ELT 109

This course is a study of residential wiring practices and methods, the NEC requirements and residential blueprint interpretations.

ELT 117 AC/DC MACHINES (1T, 4E) 3 credits
PREREQUISITES: ELT 108 AND ELT 109

This course covers the theory and operation of DC motors single and three phase AC motors and the labs will reinforce this knowledge. Emphasis is placed on the various types of single and three phase motors, wiring diagrams, starting devices, and practical application in lab. This is a CORE course.

ELT 118 COMMERCIAL/INDUSTRIAL WIRING I (1T, 4E) 3 credits
PREREQUISITE: ELT 110

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.

ELT 209 MOTOR CONTROLS 1 (1T, 4E) 3 credits
PREREQUISITE: ELT 108 AND ELT 109

This course covers the use of motor control symbols, magnetic motor starters, running overload protection, push-button stations, sizing of magnetic motor starters and overload protection, and complex ladder diagrams of motor control circuits. Topics include sizing magnetic starters and overload protection, the use of push-button stations, ladder diagrams, and magnetic motor starters in control of electric motors, wye-delta starting, part start winding, resistor starting and electric starting devices. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using push-button stations and understand complex motor control diagrams.

ELT 212 MOTOR CONTROLS II (1T, 4E) 3 credits
PREREQUISITE: ELT 209

This course covers complex ladder diagrams of motor control circuits and the uses of different motor starting techniques. Topics include wye-delta starting, part start winding, resistor starting and electronic starting devices. Upon completion, the students should be able to understand and interpret the more complex motor control diagrams and understand the different starting techniques of electrical motors.

ELT 221 ELECTRONICS FOR ELECTRICIANS I (2T, 2E) 3 credits
PREREQUISITE: ELT 108 and ELT 109 or Permission of instructor

This course introduces students to the basic principles of solid state electronic equipment as found in many electrical and motor control circuits. Emphasis is placed on fundamental concepts of diodes, transistors, FET's and MOSFETs as they are used in electrical control circuits. Upon completion, students should understand the basic operation of solid state components and be able to perform basic troubleshooting tasks.

ELT 223 CABLE SPLICES & INSTALLATION (2T, 3M) 3 credits
PREREQUISITE: Permission of instructor

This course provides instruction in splicing and installing low and medium voltage power cable, hi -voltage cable, fiber optic cable, communication and voltage wiring systems. Emphasis is placed on sizes conductors and use of proper connectors and materials used in splicing and connecting. Upon completion, students should be able to properly size, splice, connect and insulate all types of cables.

ELT 231 PROGRAMMABLE CONTROLS I (2T, 2E) 3 credits
PREREQUISITE: ELT 108 AND ELT 109

This state-of-the art course includes the fundamental principals of programmable logic controls (PLCs) including hardware and programming. Emphasis is placed on but not limited to the following: hardwiring associated with the PLC, different options available with most PLCs and basic ladder logic programming. Upon completion, students must demonstrate their ability by developing programs, loading programs into real world PLCs and troubleshooting the system if necessary.

ELT 232 PROGRAMMABLE CONTROLS II (2T, 2E) 3 credits
PREREQUISITES: ELT 108, ELT 109

This state-of-the-art course includes the principals of PLC's including hardware, programming and program design. Emphasis is placed on, but not limited to the following: developing working programs, timers, counters, different special functions, and designing programs from existing hardwired systems. Upon completion, students must demonstrate their ability by developing programs, loading programs into real world PLCs and troubleshooting the system if necessary.

ELT 241 NATIONAL ELECTRIC CODE (3T) 3 credits
PREREQUISITE: ELT 108 and ELT 109 or Permission of instructor

This course introduces students to the National Electric Code. Emphasis is placed on locating and interpreting needed information within the NEC code manual. Upon completion, students should be able to locate code requirements for a specific electrical installation.

ELT 244 CONDUIT BENDING AND INSTALLATION 3 credits (2T,2E)

This course provides students the knowledge to properly bend electrical metallic tubing, rigid galvanized and intermediate metal conduit, and PVC conduit. Emphasis is placed on the theory and practical application of conduit bending methods. Upon completion, students should be able to get measurements, layout, and successfully bend conduit using hand type, mechanical, and hydraulic benders.

EMERGENCY MEDICAL PARAMEDIC (EMP)

EMP 189 APPLIED ANATOMY AND PHYSIOLOGY FOR THE PARAMEDIC (4T) 4 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.

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.

EMP 191 PARAMEDIC PREPARATORY (2T) 2 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).
NOTE: HPS-110, Introduction to Health Care may be substituted for this course.

This course introduces issues related to the practice of pre-hospital advanced life support as a career, with a focus on issues common to all health care professions. Content areas include: paramedic roles and responsibilities, well-being of the paramedic, illness and injury prevention, medical-legal-ethical issues, therapeutic communications, and medical terminology. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 192 PARAMEDIC OPERATIONS (2T, 2E) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).

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: pathophysiology, life span development, ambulance operations, medical incident command, rescue awareness and

operations, hazardous materials incidents, crime scene awareness, and Alabama EMS laws and rules. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 193 PATIENT ASSESSMENT AND MANAGEMENT (2T, 2E) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).

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. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 194 PARAMEDIC GENERAL PHARMACOLOGY (1T, 2E) 2 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).
NOTE: HPS-104, General Pharmacology for the Health Sciences may be substituted for this course.

This course introduces basic pharmacological agents and concepts, with an emphasis on drug classifications and the knowledge and skills required 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; and nasogastric tube placement. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 195 ADVANCED TRAUMA MANAGEMENT A (2T, 2E, 9P3) 6 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s), approved for clinical studies.

NOTE: The combination of EMP-196, Advanced Trauma Management-B, and EMP-197, Clinical Competencies-I will substitute for this course.

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;

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and head, facial, spinal, thoracic, abdominal, and musculoskeletal trauma. Theory and skills are applied to a variety of patient situations in the clinical setting, with a focus on patient assessment, trauma management, advanced airway management, I.V./I.O. initiation and medication administration. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 196 ADVANCED TRAUMA MANAGEMENT B (2T, 2E) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).

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. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 197 PARAMEDIC CLINICAL COMPETENCIES I (9P3) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s), approved for clinical studies, EMS 113, and CPR verification.

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, trauma management, advanced airway management, I.V./I.O. initiation and medication administration. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 198 MEDICAL PATIENT MANAGEMENT I (2T, 2E) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).

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. Upon course completion, students will have demonstrated com-

petency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 199 CARDIOVASCULAR ELECTROPHYSIOLOGY (2T, 2E) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).

This course introduces the cardiovascular system, cardiovascular electrophysiology, and electrocardiographic monitoring. Content areas include: cardiovascular anatomy and physiology, cardiovascular electrophysiology, electrocardiographic monitoring, rhythm analysis, and prehospital 12-lead electrocardiogram monitoring and interpretation. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 200 MEDICAL PATIENT MANAGEMENT IIA (2T, 2E, 9P3) 6 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s), approved for clinical studies.
NOTE: The combination of EMP-201, Medical Patient Management-IIB, and EMP-202, Clinical Competencies-II will substitute for this course.

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. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 201 MEDICAL PATIENT MANAGEMENT IIB (2T, 2E) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).

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. Students integrate and reinforce the didactic and skills laboratory components of their education by performing basic

and advanced life support assessments and skills on a variety of patient presentations and complaints in the clinical setting. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 202 PARAMEDIC CLINICAL COMPETENCIES II (9P3) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s), approved for clinical studies, EMS 113, and CPR verification.

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 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. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 203 CARDIOVASCULAR PATIENT MANAGEMENT (2T, 2E) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program, EMP-199 and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).

This course relates pathophysiology and assessment findings to the formulation of field impressions and implementation of treatment plans for specific cardiovascular conditions. Content areas include: assessment of the cardiovascular patient, pathophysiology of cardiovascular disease and techniques of management including appropriate pharmacologic agents and electrical therapy. Upon course completion, students will have demonstrated competency in those respective components of the National Standard Curriculum for the EMT-Paramedic and requirements set forth by the Alabama Department of Public Health.

EMP 204 TRANSITION TO PARAMEDIC PRACTICE (2T, 2E) 3 credits
PREREQUISITE: Admission to the EMT-Paramedic Program and Permission of instructor.
COREQUISITE: Approved anatomy and physiology course(s).

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. Upon course completion, students should have met all ancillary educational requirements set forth by the Alabama Department of Public Health and local employers.

EMP 205 PARAMEDIC TERMINAL COMPETENCIES (1T, 2E) 2 credits
PREREQUISITE: Admission to the EMT-Paramedic Program, approved anatomy and physiology course(s) and Permission of instructor.

This course is designed to review the National Standard Curriculum for the EMT-Paramedic and 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, computer simulation and practice testing. Upon course completion, students should be sufficiently prepared to sit for the paramedic licensure examination.

EMP 206 PARAMEDIC FIELD PRECEPTORSHIP (1T, 15P3) 6 credits
PREREQUISITE: Admission to the EMT-Paramedic Program, approved anatomy and physiology course(s), approved for clinical studies, Permission of instructor, EMS 113, and CPR verification.

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.

EMP 207 PARAMEDIC TEAM LEADER PRECEPTORSHIP (3P3) 1 credit
PREREQUISITE: Admission to the EMT-Paramedic Program, approved anatomy and physiology course(s), approved for clinical studies, Permission of instructor, EMS 113, and CPR verification.

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.

EMERGENCY MEDICAL SERVICES (EMS)

EMS 100 CARDIOPULMONARY RESUSCITATION I (1T) 1 credit
PREREQUISITE: As required by program.

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

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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 101 CARDIOPULMONARY RESUSCITATION II (1T) 1 credit

PREREQUISITE: EMS 100 and/or as required by program.

This course provides students with a review of concepts learned in EMS-100. In addition, the course provides the student with theory and application of airway adjuncts as utilized with airway obstruction and maintenance as well as respiratory and cardiac arrest. Assessment and management of acute ischemic stroke will also be included. Upon course completion, students should be able to identify situations requiring action related to heart or breathing conditions and effectively implement appropriate management for these conditions. Students successfully completing this course will receive appropriate documentation of course completion.

EMS 103 FIRST AID (1T) 1 credit

PREREQUISITE: Current training in CPR and/or as required by program.

This course introduces students to initial first aid care. Topics include scene safety, universal precautions, activation of the EMS system, assessment, airway/breathing/circulation, shock/injuries/bleeding, medical emergencies, and altered level of consciousness. Upon course completion, students should have knowledge to manage various emergencies requiring first aid techniques.

EMS 106 MEDICAL TERMINOLOGY FOR HEALTH PROFESSIONS (2T) 2 credits

PREREQUISITE: As required by program.

This course provides students with a survey of words, terms, and descriptions commonly used in health related professions. The course includes spelling, pronunciation, and meaning of prefixes, suffixes, roots, and terms. Students may have the opportunity to utilize computer assisted instruction for learning various medical terms. Upon course completion, students should have the knowledge to associate a variety of medical terms with their meaning and utilize medical terms to effectively communicate with other health professionals.

EMS 107 EMERGENCY VEHICLE OPERATOR AMBULANCE (1T) 1 credit

PREREQUISITE: Must present a valid driver's license as required by program.

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 inspection, maintenance, and repair; navigation and route planning; basic maneuvers and normal operating situa-

tions; 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 116 EMS BASIC THEORY AND LAB (6T,6M) 9 credits

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

EMS 117 EMS BASIC CLINICAL COMPETENCIES (3C) 1 credit

This course is required to apply for certification as an EMT basic. This course provides students with clinical education experiences to enhance knowledge and skills learned in the EMS 116, EMS Basic Theory and Lab. This course helps students prepare for the National Registry Exam.

EMS 218 SUPERVISED STUDIES IN EMS – I (1T) 1 credit

PREREQUISITE: As required by program.

This course offers various topics of interest and need in emergency medical services. The course is conducted and completed under faculty supervision and includes required student cognitive competencies. Upon course completion, students should have a greater understanding of their assigned course topic.

EMS 219 SUPERVISED STUDIES IN EMS – II (1T) 1 credit

PREREQUISITE: As required by program.

This course offers various topics of interest and need in emergency medical services. The course is conducted and completed under faculty supervision and includes required student cognitive competencies. Upon course completion, students should have a greater understanding of their assigned course topic.

ENGLISH (ENG)

ENG 092 BASIC ENGLISH I (3T) 3 credits

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.

ENG 093 BASIC ENGLISH II (3T) 3 credits

PREREQUISITE: A grade of "C" or better in ENG 092 or satisfactory placement score

This course is a review of composition skills and grammar. Emphasis is placed on coherence and the use of a variety of sentence structures in the composing process and on

standard American written English usage. Students will demonstrate these skills chiefly through the writing of paragraph blocks and short essays.

and literary contexts, and understand relevant criticism and research.

ENG 101 ENGLISH COMPOSITION I (3T) 3 credits
PREREQUISITE: Grade of "C" or better in ENG 093 or satisfactory ACT, SAT, or placement score

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 261 ENGLISH LITERATURE I (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 102 or equivalent

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

ENG 102 ENGLISH COMPOSITION II (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 101 or equivalent

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

ENG 262 ENGLISH LITERATURE II (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 102 or equivalent

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

ENG 130 TECHNICAL REPORT WRITING (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 101 or equivalent

This course provides instruction in the production of technical and/or scientific reports. Emphasis is placed on research, objectivity, organization, composition, documentation, and presentation of the report. Students will demonstrate the ability to produce a written technical or scientific report by following the prescribed process and format.

ENG 271 WORLD LITERATURE I (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 102 or equivalent

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

ENG 251 AMERICAN LITERATURE I (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 102 or equivalent

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

ENG 272 WORLD LITERATURE II (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 102 or equivalent

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

ENG 252 AMERICAN LITERATURE II (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 102 or equivalent

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

ENG 297 AFRICAN-AMERICAN LITERATURE (3T) 3 credits
PREREQUISITE: A grade of "C" or better in ENG 102 or equivalent

This course is a study of literature produced by representative African Americans from the eighteenth century to the present. The course emphasizes the diversity of themes

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and techniques found in these works and examines the historical, cultural, literary and philosophical forces that shaped these works and that are reflected in them. Students will demonstrate the ability to interpret the literature and to relate the works to their historical and literary contexts.

ENG 298 SPECIAL TOPICS IN LANGUAGE AND LITERATURE (1-2T) **1-2 credits**

This course, which may be repeated for credit as long as the topics differ, permits a student to study with an instructor a topic in English language or in literature. Emphasis is placed on a narrowly focused topic in which the instructor has special expertise, knowledge, or interest. Students will demonstrate through a research paper and/or a literary critique an understanding of the topic.

ENG 299 DIRECTED STUDIES IN LANGUAGE AND LITERATURE (1-3T) **1-3 credits**

This course, which may be repeated for credit as long as the topics differ, provides the student the opportunity to study an English language or literary topic chosen by the student in consultation with the instructor. Emphasis is placed on the student's investigating the topic and reporting the results of the investigation. The student will demonstrate knowledge of the topic through either a written or an oral presentation.

ENGLISH AS A SECOND LANGUAGE ALABAMA LANGUAGE INSTITUTE (ALI)

ALI 030 COMPOSITION I (3T) **3 credits**

This course is the beginner course in writing for non-native English speakers. This course provides instruction in basic sentence patterns and progresses through fully developed essays. Upon completion, students will demonstrate improvement in use of standard written English.

ALI 040 READING AND VOCABULARY I (3T) **3 credits**

This course is the beginning reading and comprehension course for non-native English speakers. This course provides instruction in a variety of technical, literary and recreational readings. Upon completion, students will demonstrate improvement in English and reading and comprehension.

ALI 050 CONVERSATIONAL ENGLISH I (3T) **3 credits**

This course is the beginner course in oral communication for non-native English speakers. This course provides instruction in practice dialogues and grammatical exercises as well as free conversation. Upon completion, students will demonstrate improvement in oral communication skills.

FIRE SERVICES MANAGEMENT (FSC)

FSC 101 INTRODUCTION TO THE FIRE SERVICE (3T) **3 credits**

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 200 FIRE COMBAT TACTICS AND STRATEGY (3T) **3 credits**

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

FSC 210 BUILDING CONSTRUCTION FOR THE FIRE SERVICE (3T) **3 credits**

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 (3T) **3 credits**

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 292 ELEMENTS OF SUPERVISION/FIRE SERVICE SUPERVISION (3T) **3 credits**

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

FRENCH (FRN)

FRN 101 INTRODUCTORY FRENCH I (4T) **4 credits**

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

FRN 102 INTRODUCTORY FRENCH II (4T) **4 credits** **PREREQUISITE: FRN 101 or equivalent.**

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

FRN 201 INTERMEDIATE FRENCH I (3T) **3 credits** **PREREQUISITE: FRN 102 or equivalent**

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

FRN 202 INTERMEDIATE FRENCH II (3T) **3 credits** **PREREQUISITE: FRN 201 or equivalent**

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

GEOGRAPHY (GEO)

GEO 100 WORLD REGIONAL GEOGRAPHY (3T) **3 credits**

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

GEO 200 GEOGRAPHY OF NORTH AMERICA (3T) 3 credits
PREREQUISITE: GEO 100
 This course is a survey of the geography of the United States and Canada with special emphasis on land usage, mineral resources, industrial development, and social and economic adaptation of man and the natural environment.

GEO 201 PRINCIPLES OF HUMAN GEOGRAPHY (3T) 3 credits
PREREQUISITE: GEO 100
 This course surveys the science of location, with emphasis on human activities as it relates to agricultural and industrial activities, and cities as market and production centers. Emphasis will be placed on human networks.

GEO 220 PRINCIPLES OF PHYSICAL GEOGRAPHY (3T) 3 credits
 This course is an introduction to natural features of the earth. It concentrates on weather, climate, soil, and vegetation associations, on landforms and on the forces that have been active in shaping the earth's surface.

GERMAN (GRN)

GRN 101 INTRODUCTORY GERMAN I (4T) 4 credits
 This course provides an introduction to German. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of German-speaking areas.

GRN 102 INTRODUCTORY GERMAN II (4T) 4 credits
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.

GRN 201 INTERMEDIATE GERMAN I (3T) 3 credits
PREREQUISITE: GRN 102 or equivalent
 This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts.

GRN 202 INTERMEDIATE GERMAN II (3T) 3 credits
PREREQUISITE: GRN 201 or equivalent
 This continuation course includes a review and further development of communication skills. Topics include readings in literary, historical and/or cultural texts.

HEALTH EDUCATION (HED)

HED 221 PERSONAL HEALTH (3T) 3 credits
 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 (3T) 3 credits
 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 (1-3T) 1-3 credits
 This course provides health-related education to those individuals seeking advancement in the area of personal wellness. This course has 5 major components: (1) fitness and health assessment, (2) physical work capacity, (3) education, (4) reassessment and (5) retesting.

HED 230 SAFETY AND FIRST AID (3T) 3 credits
 HED 230 is divided into two parts. The first part concerns itself with the development of a safety education program within an organization (i.e. school, office, shop, etc.). The second part deals with physical injuries, emergency care, and treatment of those injuries. CPR certification and Standard Red Cross and/or American Heart Association cards are given upon successful completion of American Red Cross requirements.

HED 231 FIRST AID (3T) 3 credits
 This course provides instruction to the immediate, temporary care which should be given to the victims of accidents and sudden illnesses. It also includes standard and advanced requirements of the American Red Cross and/or the American Heart Association. CPR training also is included.

HED 277 CPR RECERTIFICATION (1T) 1 credit
 In this course, instruction and review of up-dated information concerning cardio-pulmonary resuscitation (CPR) is presented. The student must satisfactorily execute skills needed to meet requirements for recertification in Basic Cardiac Life Support (BCLS) as required by the American Heart Association.

HISTORY (HIS)

HIS 101 WESTERN CIVILIZATION I (3T) 3 credits
 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 WESTERN CIVILIZATION II (3T) 3 credits
 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 111 TECHNOLOGY AND CIVILIZATION I (3T) 3 credits
 This course introduces the interaction between technology and culture in World History from prehistoric times to 1750. While the course provides a basic survey of World History, primary emphasis is placed on technological change and its consequences.

HIS 112 TECHNOLOGY AND CIVILIZATION II (3T) 3 credits
 This course is a continuation of HIS 111. It surveys technology and culture in World History from 1750 to the pre-

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sent. The course provides a basic survey of modern world history. The course places primary emphasis on technological change and its consequences.

HIS 121 WORLD HISTORY I (3T) 3 credits

This course surveys social, intellectual, economic, and political developments which have molded the modern world. Focus is on both non-western and western civilizations from the prehistoric to the early modern era.

HIS 122 WORLD HISTORY II (3T) 3 credits

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

HIS 201 UNITED STATES HISTORY I (3T) 3 credits

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

HIS 202 UNITED STATES HISTORY II (3T) 3 credits

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

HIS 216 HISTORY OF WORLD RELIGIONS (3T) 3 credits

This course presents a comparison of the major religions of the world from an historical perspective. Emphasis is placed on the origin, development, and social influence of Christianity, Judaism, Islam, Hinduism, Buddhism, and others.

HIS 220 CONTEMPORARY STUDIES (3T) 3 credits

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

HIS 256 AFRICAN-AMERICAN HISTORY (3T) 3 credits

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

HIS 260 ALABAMA HISTORY (3T) 3 credits

This course surveys development of the state of Alabama from its prehistoric times to the present. The course presents material on the discovery, exploration, colonization, territorial period, antebellum Alabama, Reconstruction, and modern history.

HIS 299 DIRECTED STUDIES IN HISTORY (1-3T) 1-3 credits

This course affords students opportunities to study selected topics of a historical nature under the direction of an instructor either as part of class or on an individual basis. Internships with historical and preservation organizations, thesis development, and the analysis of secondary monographs are examples of activities for this course. HIS 299 may be repeated for credit.

HIS 299A HISTORY OF THE ANTEBELLUM SOUTH

(1-3T) 1-3 credits

This is a special History section in that it revolves around a 2-day field trip in the Antebellum South. The trip will consist of visiting several antebellum plantations/homes in the South. Two major topics will be addressed in this course and on the trip; (1) Life in/on southern antebellum plantations, and (2) the Jacksonian Era. In the readings for this course, the student will be introduced to a variety of peoples, places, and events that played an integral part in shaping the antebellum south. On the trip, the student will see numerous sites ranging from Rippavilla Plantation to The Hermitage. This trip back through time will, among other things, enable the student to perceive the past as it was experienced by those at the time and acquire both a comprehension of diverse cultures and of shared humanity.

HIS 299B SOUTHERN CIVIL WAR HISTORY

(1-3T) 1-3 credits

This is a special History section in that it revolves around a 2-day field trip to southern Civil War locations. The trip will consist of visiting several locations that were important in the South's attempt at independence from the Union. Two major topics will be addressed in this course and on the trip; (1) Life in the south before, during, and after the Civil War, and (2) some of the battles that took place in the South. In the readings for this course, the student will be introduced to a variety of peoples, places, and events that played an integral part in shaping the South's struggle for independence. On the trip, the student will see numerous sites ranging from Carnton House to the Shiloh Battlefield. This trip back through time will, among other things, enable the student to perceive the past as those at the time experienced it and acquire both a comprehension of diverse cultures and of shared humanity.

HIS 299C NATCHEZ TRACE HISTORY

(1-3T) 1-3 credits

This is a special History section in that it revolves around a 3-day field trip down the Natchez Trace Parkway. The trip will consist of visiting several locations that were important in development and growth of the Natchez Trace. Two major topics will be addressed in this course and on the trip; (1) Life and travel along the Old Natchez Trace, and (2) Mounds and Mound Builders along the Old Natchez Trace. In the readings for this course, the student will be introduced to a variety of peoples, and in some cases, specific individuals, who traveled, settled, lived, and died along this historic path. On the trip, the student will see numerous historic markers and sites ranging from pre-Columbian Indian mounds to early 19th century stands. This trip back through time will, among other things, enable the student to perceive the past as those at the time experienced it and acquire both a comprehension of diverse cultures and of shared humanity.

HIS 299D HISTORY THROUGH FILM

(1-3T) 1-3 credits

What, if anything, can you learn about history by watching movies? This course looks at critical historical moments and issues of conflict and change, through the vehicle of film. The course is designed to teach students how to use films as historical evidence and how to analyze films as historical documents. This course analyzes relationships

between film and history, that is, the ways in which films recreate, distort, interpret, and communicate historic events and personalities. We will look at issues of authenticity and voice, some of the pitfalls of using film to understand history, and the role of cinema in the creation of national and popular memory. Although most of these films have been analyzed on many levels, the emphasis of this particular course will be on content and social or political vision, rather than film theory, technique, or aesthetics. By watching, discussing, and writing about these films, we will examine how motion pictures create a window into society. Students will learn how to read films as cultural texts that help us better understand our history and culture. One of the two weekly class meetings will be a film showing; in addition to required readings, there will sometimes be a second film assigned to watch outside of class.

HIS 299E TWENTIETH-CENTURY AMERICA

(1-3T) 1-3 credits

This course looks at critical historical moments and issues in America's twentieth century, such as, the origins and consequences of World War II; the Truman administration and the Fair Deal; the origins of the Cold War; international and domestic issues and conflicts from the 1940s to the 1990s. The twentieth century saw many individuals and events that changed the course of American history with dramatic speed and force. Two World Wars, the presidency of Franklin Roosevelt, the Cold War, Hollywood, Civil Rights, the Kennedy years, the Clinton presidency-the period holds an abundance of themes and topics ripe for historical and investigative support by swathes of textual and experiential evidence.

HEALTH SCIENCE (HPS)

HPS 100 SAFETY ISSUES FOR CLINICAL PRACTICE

(1T) 1 credit
PREREQUISITE: ENG 101, SPH 107, PSY 200, MTH 100 or MTH 112 or MTH 116 (FOR NUR STUDENTS ONLY) or Permission of instructor.

COREQUISITE: BIO 201, PSY 210, NUR 110, NUR 131, NUR 241 (FOR NUR STUDENTS ONLY).

This course focuses on microbial and physical safety for clinical practice. Emphasis is placed on guidelines established by the Occupational Safety and Health Administration (OSHA) and the Alabama State Department of Public Health: topics include prevention of transmission of blood-borne and air-borne pathogens as well as prevention of injuries during clinical practice. Upon completion of this course, the student should be able to participate in the clinical setting implementing measures which will prevent injuries and using appropriate universal precautions.

HPS 105 MEDICAL TERMINOLOGY (2T, 2E) 3 credits

PREREQUISITE: As required by program.
This course is an application for the language of medicine. Emphasis is placed on terminology associated with health care, spelling, pronunciation, and meanings 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 113 SPANISH FOR HEALTH CARE PROFESSIONALS (3T) 3 credits

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 (2T) 2 credits
PREREQUISITE: As required by program.

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.

INTERDISCIPLINARY STUDIES (IDS)

IDS 114 INTERDISCIPLINARY SEMINAR: CURRENT TOPICS IN HUMAN CONCERNS (1-2T) 1-2 credits
PREREQUISITE: Permission of the instructor.

This course is a seminar/discussion course designed to provide an opportunity for the student to conduct an in-depth investigation of selected topics. The particular topic selected will include issues from two or more disciplines and is determined by faculty and student interest. Classroom experiences emphasize and help develop skills in organizing and presenting information as well as explaining and defending ideas and conclusions. An oral seminar presentation is required. IDS 114 may be repeated for credit.

INDUSTRIAL ELECTRONICS TECHNOLOGY (ILT)

ILT 103 INTRODUCTION TO INSTRUMENTATION TECHNOLOGY (1T, 4E) 3 credits
PREREQUISITE: ELT 108 and ELT 109

This course introduces various hand and power tools, basic blueprint reading, basic rigging and basic math that will be used in the electronic, instrumentation and electrical trades. Emphasis is placed on basic hand tool and power tool safety and procedures for selecting, inspecting, using and maintaining these tools. Upon completion, students should be able to identify and use various hand and power tools, read a blueprint and know how to perform basic rigging.

ILT 104 INDUSTRIAL INSTRUMENTATION (3T) 3 credits
PREREQUISITE: ILT 103

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 cir-

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cuits and systems.

ILT 105 INDUSTRIAL INSTRUMENTATION LAB (4E) 2 credits
COREQUISITE: ILT 104

A companion to ILT 104, this lab includes the use of transducers, detectors, actuators, and/or other devices and equipment in industrial application. Upon completion of the course, the student should be able to apply principles of instrumentation circuits and systems.

ILT 108 INTRODUCTION TO INSTRUMENTS AND PROCESS CONTROL (2T, 2E) 3 credits
PREREQUISITE: ILT 104, ILT 105

This course is an introductory study of the control devices and methods used in industry for the control and transmission of information pertaining to process variables. This study includes an introduction to instrumentation and control mathematics. This course also provides instruction in the fundamental concepts of pressure, force, weight, motion, liquid level, fluid flow and temperature.

ILT 163 DIGITAL FUNDAMENTALS (1T, 4E) 3 credits
PREREQUISITE: ELT 108 AND ELT 109
COREQUISITE: ELT 221

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 also 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 214 CONTROL AND TROUBLESHOOTING FLOW, LEVEL, TEMPERATURE, PRESSURE AND LEVEL PROCESSES (2T, 2E) 3 credits
PREREQUISITE: ELT 221, ELT 231

The student is introduced to analog and digital process control systems. The student is also introduced to process control techniques commonly found in industrial processes used to maintain control process variables. The student gains knowledge and experience in the design and selection of equipment used in troubleshooting control loops on actual equipment in the lab.

ILT 216 INDUSTRIAL ROBOTICS (3T) 3 credits
PREREQUISITE: ELT 108 and ELT 109
COREQUISITE: ILT 217

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 (4E) 2 credits
COREQUISITE: ILT 216

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.

INDUSTRIAL MAINTENANCE TECHNOLOGY (INT)

INT 117 PRINCIPLES OF INDUSTRIAL MECHANICS (1T, 4E) 3 credits

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 126 PREVENTIVE MAINTENANCE (1T, 4E) 3 credits

This course focuses on the concepts and applications of preventive maintenance. Topics include the introduction of alignment equipment, job safety, tool safety, preventive maintenance concepts, procedures, tasks, and predictive maintenance concepts. Upon course completion, students will demonstrate the ability to apply proper preventive maintenance and explain predictive maintenance concepts.

INT 127 PRINCIPLES OF INDUSTRIAL PUMPS AND PIPING SYSTEMS (2T, 2E) 3 credits

This course provides instruction in the fundamental concepts of industrial pumps and piping systems. Topics include pump identification, operation, and installation, maintenance and troubleshooting, and piping systems and their installation. Upon course completion, students will be able to install, maintain, and troubleshoot industrial pumps and piping systems.

INT 234 PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING AND METAL CUTTING TECHNIQUES (1T, 4E) 3 credits

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

INT 291 COOPERATIVE EDUCATION (15I) 3 credits
PREREQUISITE: Permission of Instructor

This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon

completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

INT 292 COOPERATIVE EDUCATION (15I) 3 credits
PREREQUISITE: Permission of Instructor

This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

INT 293 COOPERATIVE EDUCATION (15I) 3 credits
PREREQUISITE: Permission of Instructor

This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

MACHINE TOOL TECHNOLOGY (MTT)

MTT 107 MACHINING CALCULATIONS I (3T) 3 credits
PREREQUISITES: MTT 147 and MTT 149 or 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. This course is aligned with NIMS certification standards.

MTT 108 MACHINIST HANDBOOK FUNCTIONS I (3T) 3 credits
PREREQUISITES: MTT 107 or Permission of instructor

This course covers the machinist's handbook. Emphasis is placed on formulas, tables, usage and related information. Upon completion, students should be able to use the handbook in the calculation and set-up of machine tools. This course is aligned with NIMS certification standards.

MTT 109 ORIENTATION TO COMPUTER ASSISTED MANUFACTURING (3T) 3 credits
PREREQUISITE: MTT 140 and MTT 141 or Permission of Instructor

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 processes.

MTT 121 BASIC BLUEPRINT READING FOR MACHINISTS (3T) 3 credits
FORMERLY: MTT 126
PREREQUISITES: Permission of instructor

This course covers the basic principles of blueprint reading

and sketching. Topics include multiview drawings; interpretation of conventional lines; and dimensions, notes, and thread notations. Upon completion, students should be able to interpret basic drawings, visualize parts, and make pictorial sketches. This is a CORE course and is aligned with NIMS certification standards.

MTT 128 GEOMETRIC DIMENSIONING AND TOLERANCING I (3T) 3 credits
PREREQUISITES: MTT 121 or Permission of instructor

This course is designed to teach students how to interpret engineering drawings using modern conventions, symbols, datums, datum targets, and projected tolerance zones. Special emphasis is placed upon print reading skills, and industry specifications and standards. This course is aligned with NIMS certification standards.

MTT 130 MACHINING CALCULATIONS II (3T) 3 credits
FORMERLY MTT 142
PREREQUISITE: MTT 107

This course emphasizes advanced calculations common to machining operations. Students use these calculations for advanced applications for machine setup and planning. Specific topics include positive and negative numbers, symbolism, and algebraic expressions and operations. At the conclusion of this course students will be able to apply advanced machine calculations to equipment set-up and planning.

MTT 134 ENGINE LATHE I (2T,2E) 3 credits
PREREQUISITE: MTT 149 AND MTT 150
COREQUISITE: MTT 135

This course includes more advanced lathe practices such as set-up procedures, work planning, inner- and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques. This course is aligned with NIMS standards.

MTT 135 ENGINE LATHE LAB I (6E) 3 credits
FORMERLY MTT 129
PREREQUISITE: MTT 107
COREQUISITE: MTT 134

This course includes more advanced lathe practices such as set-up procedures, work planning, inner- and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques. This course is aligned with NIMS standards.

MTT 137 MILLING I (2T,2E) 3 credits
FORMERLY MTT 136
PREREQUISITE: MTT 149 AND MTT 107
COREQUISITE: MTT 138

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. This course is aligned with NIMS certification standards.