

# COURSE DESCRIPTIONS

In this section of the catalog, all courses taught at Arkansas Tech University, Ozark Campus are listed alphabetically by subject area. For departmental write-ups and detailed curricula of programs of study, see the appropriate division of the preceding section.

## Air Conditioning/ Refrigeration

### ACR 1104 Internship

Prerequisite: Must have passed all first year course work prior to Internship. Provides students with the experience of a job in Air Conditioning and Refrigeration. Students will participate in internship during the final phase of program completion after having been placed in a job training position by the internship coordinators. There will be contracts signed between the school, student, and training site stating the rules and objectives of internship.

### ACR 1205 Tubing and Piping

Covers piping, fitting, and tubing used in air conditioning and refrigeration equipment. Soft soldering, silver brazing, and use and care of torches used in the trade will also be covered.

### ACR 1301 Industrial Safety in Air Conditioning

Safety with refrigerants, fire, and mechanical and electrical equipment.

### ACR 1303 Basic Compression Refrigeration

A study of refrigeration systems and theory of temperature pressure relationships. Learning components of the refrigeration system, performing service techniques, testing, and adjusting components of the system.

### ACR 1404 Basic Electricity

Designed to introduce the student to the basic electricity, fundamentals, atomic structure, OHMS law, electrical circuits, meters wire size, and voltage drop.

### ACR 1504 Electronic Components and Motor

Prerequisite: ACR 1404 Basic Electricity. Covers relays, motors, motor controls, copitors, solenoids, and other components in air conditioning and heating equipment.

### ACR 1602 Schematics

Prerequisite: ACR 1404 Basic Electricity. Learning to read, draw, and interpret wiring programs used in the air conditioning trade. Included will be learning electrical symbols, and operating arrangement of electrical components.

### ACR 1704 Heat Gain and Loss

A study of air properties and instruments to measure these environmental needs of structures-residential and commercial-heat gain and loss calculations, distribution, medium, and duct design.

### ACR 1803 Residential Systems

Prerequisite: ACR 1303 Basic Compression Refrigeration Studies the major components and control devices for gas and oil furnaces, hydroponic systems, and cooling systems. The student will be required to assemble components into an operative system. The use and application of heat pumps will be covered. Practical application is provided in the laboratory. Safety is emphasized.

### ACR 1902 Air Conditioning Systems

Basic knowledge of air conditioning and refrigeration required to enter this course. Basic theory of operation and maintenance of air conditioning refrigeration. A study of refrigerants charging, metering devices, diagnosis, and minor repairs.

## Applied Laboratory Technology

### ALT 1106 Internship

Prerequisite: Must have passed all first year course work prior to Internship. Provides students with the experience of a job in a laboratory. Students will participate in internship during the final phase of program completion after having been placed in a job training position by the internship coordinators.

There will be contracts signed between the school, student, and training site stating the rules and objectives of internship.

### ALT 1203 Introduction to Chemistry

Prerequisite: MTH 2103 and must take MTH 2113 concurrently. Introductory course to basic chemistry principles and their applications to living systems. Topics include: methods of measurement; composition of matter; the periodic chart and its applications; chemical bonds; elements and compounds; chemical reactions; balancing chemical equations; energy and the calorie; water and its properties; solutions and suspensions and their properties; oxidation reduction reactions; acids; bases; salts; titration; and equilibrium processes. Laboratory procedures and techniques are designed to enhance and expand this study.

### ALT 1305 Introduction to Applied Microbiology

Study of microbiology with an emphasis on prokaryotes (bacteria). Topics include the following: determining the characteristics of bacteria through the study of morphology, physiology, staining reactions, enzymatic reactions, cultivation, reproduction growth, metabolism, energy production, culture methods, isolation methods, and control of microorganisms. Laboratory exercises utilize procedures and techniques that are designed to expand and enhance the concepts studied in the classroom.

### ALT 1403 Government Regulations

An examination and evaluation of current food requirements and laws with an emphasis on practical applications. Topics include 1938 Federal Food, Drug, and Cosmetic Act as amended; the Fair Packaging and Labeling Act; Federal Regulations of Good Manufacturing Practices (GMP's); HACCP concepts and

regulations; basics of food and color additives, federal regulatory agencies; and other food laws and regulations. The laboratory procedures and techniques focus on basic procedures as applied to this technical area.

#### **ALT 1502 Food Science**

Designed to provide students with a comprehensive overview of the food industry in the United States. Topics include: magnitude of the food industry, constituents of foods; nutritive aspects of food constituents; unit operations; quality factors of foods and their measurement; deteriorative factors and their control; heat preservation; cold preservation; dehydration; irradiation; packaging; food safety and HACCP. Laboratory exercises are designed to expand and enhance the concepts studied in the classroom as they relate to industrial applications.

#### **ALT 2102 Food Sanitation**

Covered in this course include: microorganisms and sanitation; food safety; food contamination sources; personal hygiene and food handling; cleaning compounds; sanitizers; sanitation equipment and systems; waste product handling and pest control. A study of procedures used for sanitation surveys of air, ventilation systems, equipment and various surfaces is extended to include laboratory experiments using some of the specific sanitation sampling products and procedures used in industry. The laboratory exercises are designed to enhance and expand concepts learned in the classroom.

#### **ALT 2202 Industrial Safety in Applied Laboratory Technology**

Topics covered include: an in-depth study of safe chemical handling and storage procedures as related to the microbiology laboratory, chemistry laboratory, OSHA's ergonomics regulations for industry, basic first aid, and safety methods as applied to these areas.

#### **ALT 2303 Introduction to Statistical Process Control**

Prerequisite: MTH 2103 Beginning Algebra, or be currently enrolled in

MTH 2103 or instructor approval. Topics covered include: quality status in the United States and Japan and the "Japanese Miracle;" Deming's 14 Points and Crosby's 14 Steps; Goals of SPC; the detection and prevention systems of control; group problem solving techniques such as brainstorming; flow charting; Pareto analysis; cause and effect diagrams; nature and types of variability; histograms; normal distribution curve; variance; standard deviation; mechanics of control charts; run charts; X bar & R charts; p bar and np bar charts; capability analysis; and interpretation of charts.

#### **ALT 2402 Introduction to Quality Control**

Study of the history and philosophy of quality control/assurance, including the work of Deming, Crosby, Ishikawa, Juran, and others. Topics include: personal improvement and quality assurance; definition of quality control organizational status; performance management and measurement; handling problems in relationship to quality improvement; employee identification with the job; cost of quality evaluation; Crosby's 14 Step Program to Quality Improvement and others such as HACCP; quality status in the United States in the 2000's.

#### **ALT 2505 Applied Food and Environmental Microbiology**

Prerequisite: ALT 1305 Introduction to Applied Microbiology. In-depth study of microorganisms that are associated with food spoilage, food-borne diseases, water, wastewater, indicators of contamination, and useful applications of microorganisms. This study also includes environmental microbiology of aquatic environments, drinking water, and wastewater. Topics include: the study of food and water specific microorganisms; the specific laboratory techniques and procedures required for the study and identification of these microorganisms; chemical indicators; conditions that influence growth, sources of microorganisms, types of fermentation by microorganisms, control of microorganisms, procedures

for bacteriological testing of drinking water, surface water, and wastewater. Laboratory exercises utilize procedures and techniques that are designed to enhance and expand the concepts learned in the classroom. These procedures are relevant to those used in industry.

#### **ALT 2702 Food Grades and**

##### **Standards**

Designed to give students practice in the grading of a variety of food products, including but not limited to fruits and vegetables using USDA guidelines and procedures. Procedures for testing various attributes of food are included in this course. Some of these quality determinations include the use of the pH meter, refractometer, hydrometer, titration, and USDA color comparator. Students will be utilizing the skills and laboratory procedures acquired in the previous semesters.

## **Automation Maintenance Technology**

#### **AMT 1407 Basics of Industrial Automation**

An illustrated study of circuit configuration used in industry. Topics to be covered are: solid-state devices used to control DC and AC motors, some electro-mechanical devices, power sources, amplifiers, three phase power, open and close loop motor control, input and output transducers.

#### **AMT 1505 Programmable**

##### **Controllers**

Deals with the subject of programmable controllers (PCs). The PC is a microprocessor-based programmable device used in controlling mechanical machinery, energy management systems, computer integrated manufacturing, and other applications.

#### **AMT 1603 Industrial Fluid Power**

Designed to provide the basic knowledge and application of physics principles involving pumps, cylinders, valves, motors, designs, assembly, graphic symbols, and the operation of the hydraulic and pneumatic control circuits based on logic principles.

### **AMT 1702 Industrial Trades Techniques**

Consists of a series of lectures and demonstrations on the history and development of air conditioning, statistical process control, basic mechanics, and welding as they relate to industrial electronics.

## **Automotive Service Technology**

### **AST 1104 Internship**

Prerequisite: Must have passed all first year course work prior to Internship. Provides students with the experience of a job in automotive service. Students will participate in internship during the final phase of program completion after having been placed in a job training position by the internship coordinators. There will be contracts signed between the school, student, and training site stating the rules and objectives of internship.

### **AST 1105 Gasoline Engine Theory**

Provides the student with an introduction to automotive engines, the use and care of hand tools, precision tools, special tools, and equipment. Theory of operation with attention to components is included. Cooling systems, lubrication systems, intake systems, exhaust systems, vehicle maintenance, as well as PC based automotive schematics and flow charts are taught. Safety is emphasized.

### **AST 1406 Automotive Electricity/Electronics**

Prerequisite: ELT 1203 Basic Electronics for Automotive Service Technicians. Introduces the student to the fundamentals of electronics, including Ohm's law, basic electrical circuits, wiring diagrams, and common electrical symbols. Diagnosis and troubleshooting of electrical circuits is emphasized, including familiarization with most common types of testing equipment. Also includes an in-depth study of the theory and operation of electronic control systems: sensors, microprocessors, actuators, power distribution networks, and comfort/convenience systems.

### **AST 1508 Engine Performance**

Provides students with an understanding of fuel, ignition, drivability, and emissions systems. Theory of operation as well as relevant electronic components and computing systems diagnosis is included.

### **AST 1602 Introduction to Automotive Power trains**

Designed to cover the entire power train on a late model vehicle with a standard transmission. Beginning with the flywheel, to the transmission, through the differential assembly and ending at the wheel hub. Included is the principle of gear reduction as it applies to the theory, operation, and repair of manual transmission, rear axles and transaxles. Several types of four-wheel drive systems will be taught.

### **AST 1612 Advanced Automotive Power trains**

Prerequisite: AST 1603 Introduction to Automotive Power trains. A continuation of AST 1603 Introduction to Automotive Power trains

### **AST 1703 Automotive Brake Systems**

Concentrates on the theory and operation of disc and drum brake systems. Basic hydraulic principles as well as the operation and components of the brake foundation systems are taught. The course includes an in-depth study of the various types of power brake systems, including vacuum suspended systems, Hydro Boost (tm) systems and several types of anti-lock braking systems.

### **AST 1803 Automotive Chassis and Steering**

Designed to introduce the student to the theory and operation of modern suspension and steering system. The study of the suspension system includes wheels and tires, hubs, bearings, seals, springs, and the vehicle form. Various designs and construction of each of these components will be covered. Steering and steering systems start with the basic theory of steering geometry and all of the related factors. Wheel

alignment of both front and rear wheels and the construction and operation of the various manual and power steering components is included.

### **AST 1906 Advanced Engine Performance**

Prerequisite: AST 1508 Engine Performance. Covers advanced theory and testing of engine related fuel and computerized systems. The student should have a basic understanding of basic computer, fuel, and ignition systems. Students will use more advanced equipment for testing.

### **AST 2105 Automotive Climate Control**

Begins with a study of the theory of refrigeration, the refrigeration cycle, and basic components of a typical automotive refrigeration system. The function and construction of compressors, lines, expansion valves, expansion tubes, condensers, evaporators, blower motors, and air distribution systems is covered. Time will be devoted to the study of automatic temperature control systems including the latest computer monitored systems. Heating and ventilation, an important part of the vehicle's climate control system, will also be covered. Service and maintenance procedures as well as basic shop safety are heavily emphasized

## **Basic Emergency Medical Technician**

### **EMT 1006 Basic EMT Training**

Study of the existing medical emergency services and the basic principles, procedures, and techniques of emergency care. Through the use of multimedia, demonstrations, and other techniques, students are theoretically prepared to write the State EMT-A Certification Examination and the National Registry EMT-A Examination. Throughout the course, the student must demonstrate the practical skills learned in the classroom in dealing with common medical emergencies such as wounds, fractures, injuries, and cardiac arrest.

### **EMT 1010 Basic EMT Refresher**

Designed for emergency medical technicians ambulance (EMT-A) and emergency medical technicians non-ambulance to meet semiannual continuing education requirements for Arkansas and National Registry recertification. It also meets annual requirements for certification in cardiopulmonary resuscitation at the basic rescuer level as set forth in American Heart Association standards for health care providers.

### **EMT 1110 CPR for Health Care Providers**

A basic rescue course designed to instruct an individual to properly respond to a possible heart attack, choking, or other emergency victims. This course meets the American Heart Association requirements, and individuals will be assisted in certification.

## **Business Technology**

### **BUS 1003 Business English**

Designed to develop a student's vocabulary skills, dictionary usage, proofreading, listening, and English grammar as needed in current business usage so that the student will have the ability to write and communicate effectively.

### **BUS 1013 Business Communications**

Prerequisite: BUS 1003 Business English and BUS 1203 Keyboarding. Designed to review and/or learn the basics in punctuation and to further develop spelling skills. The course covers the principles of effective communications in the modern business office. Topics include: writing skills, reading skills, and psychological principles involved in effective business letter writing as well as oral communications.

### **BUS 1103 Business Mathematics**

A comprehensive study of mathematics as applied to business. Banking, payroll, business statistics and other selected topics will be covered.

### **BUS 1113 Internship**

Prerequisite: Must have passed all first year course work prior to Internship. Provides students with the experience of a job in a business. Students will participate in internship during the final phase of program completion after having been placed in a job training position by the internship coordinators. There will be contracts signed between the school, student, and training site stating the rules and objectives of internship.

### **BUS 1123 Accounting I**

The study of fundamental accounting concepts and procedures for sole proprietorship. The accounting cycle includes journalizing and posting transactions, preparing trial balances, worksheets, and financial statements. Emphasis is given to cash, banking, payroll procedures, sales, purchases, and accounts receivable/ payable. Simulated accounting activities offer decision-making opportunities encountered in the business world.

### **BUS 1143 Computer Applications for Accounting**

Prerequisite: BUS 1123 Accounting I. Designed to acquaint students with major areas of computerized accounting. Application areas covered will include general ledger, accounts payable, accounts receivable, and payroll.

### **BUS 1203 Keyboarding**

Acquaints the student with the alphabetic keyboard through usage of the computer. The course emphasizes basic skill development through drills for speed and control, methods used in centering and tabulations, letter style, business reports, and production measurement.

### **BUS 1213 Keyboarding Applications**

Prerequisite: BUS 1203 Keyboarding or previous training approved by an adviser through a transcript. A continuation of typewriting development. The production problems include business letters with special features, reports, telegrams, billing forms, tabulated reports, and letters

of applications. Other assignments include statistical typing of financial reports, government documents, and various business simulations.

### **BUS 1243 Business Ethics and Law**

Provides studies in some of the basic characteristics of the American system of free enterprise and the obligations and rights of the individual. Topics include torts, rights of private property, contracts, bailment, insurance and risk, labor, and dignity and worth of the individual.

### **BUS 1303 Introduction to Computers**

Designed to introduce students to computer hardware, software, procedures, systems, and human resources as applied to business. It focuses on computer literacy, the concepts of the data processing cycle, and an introduction to commercially available software.

### **BUS 1313 Desktop Publishing**

Prerequisite: BUS 1203 Keyboarding and BUS 1303 Introduction to Computers. Utilizes a desktop publishing software program in order to provide practical experience in the development of multiple page publications. Activities include creating newsletters, menus, posters, fact sheets, advertisements, business reports, brochures, comprehensive indexes, and planning home pages.

### **BUS 1373 Database Management**

Prerequisites: BUS 1303 Introduction to Computers and BUS 1203 Keyboarding. An introduction to database processing, physical representation, and modeling. It focuses on the introduction to the application program development in a database environment with emphasis on loading, modifying, and verifying the database using a host language.

### **BUS 1383 Spreadsheet Applications**

Prerequisite: BUS 1303 Introduction to Computers. Will develop comprehensive skills in toolbar usage, cell and worksheet formatting, cell functions, worksheet organization and printing. The user will become adept in advanced features, such as: charts,

linking worksheets and workbooks, customizing templates and toolbars and other features.

### **BUS 1503 Word Processing I**

Prerequisite: BUS 1203 Keyboarding or currently enrolled or prior knowledge. Provides instruction in basic word processing machine operations and word processing skills. The student will learn to produce acceptable documents through keyboarding, editing, storing, retrieving, and printing. The student will also learn basic maintenance of word processing software and equipment in the modern business office. This also includes advanced word processing concepts, administrative and communications skills, formatting, merging, and revisions on a microcomputer.

### **BUS 1513 Word Processing II**

Prerequisite: BUS 1503 Word Processing I and BUS 1203 Keyboarding. Provides students an opportunity for more in-depth practical applications of word processing skills. Emphasis is on mailability and advanced editing techniques.

### **BUS 1523 Basic Machine Transcription**

Prerequisite: BUS 1203 Keyboarding. Provides training in the transcribing of mailable documents from recordings using a microcomputer and transcription machine. Cassettes will be available in medical.

### **BUS 1563 Administrative Support Procedures**

Prerequisite: BUS 1203 Keyboarding. Emphasizes the practice and procedures acceptable in a business office. Topics include: self-improvement, interpersonal relations, telephone usage, mail handling, records management, job application procedures, travel arrangements, reprographics, and financial statements.

### **BUS 1603 Multimedia**

Prerequisites: BUS 1203 Keyboarding and BUS 1303 Introduction to Computers. Focuses on a variety of standard office equipment as well as technology-based equipment used in

advanced office settings. Projects will emphasize the use of the following: digital camera, video equipment, desktop publishing, graphics production, electronic slide show presentations, E-mail, and internet. Other equipment that will be used is the electronic calculator, copier, fax machine, scanner, and CD-ROM.

### **BUS 1622 Introduction to Management**

Provides insight into the characteristics, organization, and operation of a business. Studies include international business, factors of business operations, and business decision making. Management skills, the legal environment, and types of business ownership are also included in this course.

### **BUS 1703 MicroSoft Office**

Prerequisites: BUS 1203 Keyboarding and BUS 1303 Introduction to Computers. Designed to simulate the typical applications available in the modern office. The course offers experience in Word, Access, Excel, and PowerPoint software integrated into one program.

### **BUS 1713 PowerPoint 2000**

Prerequisites: BUS 1203 Keyboarding and BUS 1303 Introduction to Computers. Provides comprehensive skill development in presentation software. The user will enhance slide shows with transition and animation, clip art, charts, tables, and color and graphic elements.

### **BUS 1723 Medical Terminology**

Study of words that relate to body systems, anatomical structures, medical processes and procedures, drugs and a variety of diseases that afflict humans. Prefixes, suffixes, abbreviation, plural endings, word roots, and combined forms are covered.

### **BUS 1803 Advanced Word Processing/Legal Transcription**

Prerequisites: BUS 1523 Basic Machine Transcription and ability to type 50 wpm. Includes advanced word and information processing concepts and advanced application, including

the desktop publishing features. Students will develop skill in the use of the transcription machine and the transcription of legal documents.

### **BUS 1812 Introduction to Law**

Provides a general overview of the legal system and various important areas of the law, such as contracts, criminal law, torts, and real estate. Students will become familiar with the structure and functions of the court systems, the steps in legal proceedings, law books and the law library, and the American system of law.

### **BUS 1823 Legal Office Practice**

Prerequisites: BUS 1812 Introduction to Law and BUS 1832 Legal Terminology or be currently enrolled and ability to type 40 wpm. Provides an analysis of the legal office environment. The course offers a broad spectrum of legal concepts and procedures.

### **BUS 1832 Legal Terminology**

Designed to familiarize students with the meaning and spelling of Latin and English legal terms.

### **BUS 1843 Introduction to Human Anatomy**

Designed for the student desiring knowledge relative to the human structure and basic functioning of the human body. This course meets the basic requirement of in-breadth, but not in-depth, study of the human body.

### **BUS 1853 Advanced Machine Transcription**

Prerequisite: BUS 1523 Basic Machine Transcription and ability to keyboard 50 wpm. Designed to develop skills in the use of the transcription machine and the transcription of original medical dictation, to include history and physical reports, consultation reports, discharge summary reports, etc.. Skills development will be stressed in: formatting of medical documents, spelling/pronunciation of medical terminology, grammar skills, accurate and rapid keyboarding.

### **BUS 1863 Medical Coding I**

Prerequisite: BUS 1723 Medical Terminology and BUS 1843 Introduction to Human Anatomy. Introduces the student to the concepts of coding medical conditions and procedures. The student will become familiar with an entry-level proficiency in the techniques of coding using the ICD-9-CM (International Classification of Diseases, 9th revision, Clinical Modification) system.

### **BUS 1873 Disease Processes**

Prerequisite: BUS 1723 Medical Terminology and BUS 1843 Introduction to Human Anatomy. Coverage of the nature of diseases and human conditions. Includes symptoms, signs, etiological factors, diagnostic studies, and treatments.

## **Collision Repair Technology**

### **CRT 1104 Internship**

Prerequisite: Must have passed all first year course work prior to Internship. Provides students with the experience of a job in collision repair. Students will participate in internship during the final phase of program completion after having been placed in a job training position by the internship coordinators. There will be contracts signed between the school, student, and training site stating the rules and objectives of internship.

### **CRT 1108 Basic Metal Repair**

The straightening, alignment, and fitting of major panels is taught. Procedures necessary to weld, heat, cut, and shape are taught.

### **CRT 1202 Industrial Safety in Collision Repair**

Safety in regard to working with paint and collision repair will be studied.

### **CRT 1208 Body and Frame Alignment I**

Prerequisite: CRT 1108 Basic Metal Repair. Students will receive instruction in the use of frame equipment and frame construction, sectioning, and straightening. Experience working

with unitized construction using frame alignment equipment will be provided. The fundamentals of welding, heating, cutting, and shaping are included. Emphasis in the course is on theory. Safety is emphasized.

### **CRT 1302 Body and Frame Alignment II**

Prerequisite: CRT 1208 Body and Frame Alignment I. A continuation of CRT 1208 with emphasis on practical application. Safety is emphasized.

### **CRT 1403 Painting**

Includes skills and technical knowledge in the preparation of metal for painting; chemical stripping of old finishes; use and maintenance of spray painting equipment; mixing and spraying of all types of automotive finishes; spot repair and identification of common materials used. Safety is emphasized.

### **CRT 1505 Color Matching**

Prerequisite: CRT 1403 Painting. A continuation of painting with emphasis on spraying techniques and tinting of paints to achieve color match. Safety is emphasized.

## **Computer Information Systems**

### **CIS 1103 Programming I**

Established and evolving methodologies for the development of business oriented programming. Emphasis is placed on developing and using logical thinking skills. An introduction to object oriented programming using Visual BASIC 6.0 is made.

### **CIS 1105 Internship**

Prerequisite: Must have passed all first year course work prior to Internship. Provides students with the experience of a job in information systems. Students will participate in internship during the final phase of program completion after having been placed in a job training position by the internship coordinators. There will be contracts signed between the school, student, and training site stating the rules and objectives of internship.

### **CIS 1113 System Concepts I**

Introduces the student to computer operating systems used in the current business world. This course will include information on Windows 2000, Linux, and DOS.

### **CIS 1123 Networking I**

Designed as a foundation course that provides the theory and basic understanding of the hardware and software that comes together to build local area networks. The student will learn the skills necessary to manage a LAN.

### **CIS 1203 Networking II**

Prerequisite: CIS 1123 Networking I. Builds upon the skills and concepts learned in Networking I. Emphasis will be in the hands-on aspects of personal computer networks using Novel networking products, including installation and/or expanding a network system and troubleshooting problems.

### **CIS 1213 Programming II**

Prerequisite: CIS 1103 Programming I Program Design. Designed as a continuation of Programming I. This course expands on the programming power of Microsoft Visual BASIC 6.0.

### **CIS 1222 Systems Concepts II**

Prerequisite: CIS 1113 Systems Concepts I. Expands upon the foundation that was built in Operating Systems Concepts I. Topics will include file management, printer management, multi-tasking, graphics peer-to-peer networking, and accessories. Specific tasks of networking such as E-mail and scheduler will be covered.

### **CIS 1243 Systems Analysis and Design**

Reviews and applies the traditional life-cycle systems development methodologies implemented by project teams.

### **CIS 1302 Advanced Microsoft Office**

Prerequisite: BUS 1703 Microsoft Office. Expands on the applications in Microsoft Office. Introduces the student to the programming languages included with Excel and Access.

### **CIS 1312 HTML Programming**

Prerequisites: CIS 1103 Programming I and CIS 1213 Programming II. Introduces students to basic and advanced HTML tags to create web pages. Students will also learn to use HTML to create tables and frames.

### **CIS 1403 PC Repair and Maintenance**

Designed to introduce the student to service and repair computers and related peripherals with an overall emphasis on troubleshooting and safety. Students learn systems upgrade through physical application of the process. Customer relations is taught.

## **Computer Technology**

### **CET 3102 Circuit Board Fabrication**

Prerequisite: ELT 1305 Semiconductors I. An introduction to fabrication and layout of printed circuit boards for hobby and special industrial applications of printed circuit boards.

### **CET 3203 Computer Interfacing**

Prerequisite: CET 3305 Advanced Microprocessors or be currently enrolled in Advanced Microprocessors. Designed to teach the student digital and analog interfacing and industrial control using the microprocessor and computer systems. The focus will be on computer communications with peripheral equipment and computer networking.

### **CET 3305 Advanced Microprocessors**

Prerequisite: ELT 2202 Introduction to Microprocessors. The computer architecture, along with some of the more advanced state-of-the-art microprocessors are analyzed. Programming in assembly language is performed for industrial interface applications.

### **CET 3405 Computer Troubleshooting**

Prerequisite: CET 3305 Advanced Microprocessors or be currently enrolled in Advanced Microprocessors. Designed to teach the student troubleshooting methods for the

complete computer system. The course will focus on some of the latest computer systems, used by consumers and industry. The course prepares the student to build and configure computers from core components. Also, part of the training is replacement of hard disks and other key components.

## **Communications**

### **COM 1103 Technical Communications**

Includes a review of basic writing and grammar skills in relation to the student's technical area. Employability skills and human relations will be a major part of the course. This course is required for all students.

### **COM 2103 Technical Writing and Speaking**

Designed to improve the advanced student's written and oral communication skills. Students will learn process style writing, formatting of technical reports, how to write research papers, and several styles of public speaking.

### **COM 3103 Management and Supervision**

Designed to develop the advanced student's skills in working with others as a manager or supervisor.

## **Cosmetology**

### **COS 1102 Principles of Beauty Culture I**

A study of principles of beauty culture that determines the results of practical work.

### **COS 1112 Principles of Beauty Culture II**

Prerequisite: COS 1102 Principles of Beauty Culture I. The study of principles of beauty culture that determines the results of practical work.

### **COS 1203 Tinting and Bleaching I**

Methods and techniques of hair coloring, lightening, frosting, and the care of tinted and toned hair.

### **COS 1213 Tinting and Bleaching II**

Prerequisite: COS 1203 Tinting and Bleaching I. Methods and techniques of hair coloring, lightening, frosting, and the care of tinted and toned hair.

### **COS 1303 Facials & Manicuring I**

Study of skin and nails which includes manicuring, proper makeup, massage, and pedicuring.

### **COS 1313 Facials & Manicuring II**

Prerequisite: COS 1303 Facials & Manicuring I. Study of skin and nails which includes manicuring, proper makeup, massage, and pedicuring.

### **COS 1404 Shampooing and Hairstyling I**

Includes care of hair and scalp, hair analysis, wet and dry styling, blow drying, iron curling, and thermal styling.

### **COS 1414 Shampooing and Hairstyling II**

Prerequisite: COS 1404 Shampooing and Hairstyling I. Includes care of hair and scalp, hair analysis, wet and dry styling, blow drying, iron curling, and thermal styling.

### **COS 1503 Haircutting I**

Basis of all hairstyling. Both scissor and razor techniques are taught.

### **COS 1513 Haircutting II**

Prerequisite: COS 1503 Haircutting I. Basis of all hair styling. Both scissor and razor techniques are taught.

### **COS 1601 Salesmanship and Shop Management I**

Study of principles and practice of applying knowledge acquired in the program to give the patron full service through salesmanship and management.

### **COS 1611 Salesmanship and Shop Management II**

Prerequisite: COS 1601 Salesmanship and Shop Management I. Study of principles and practice of applying knowledge acquired in the program to give the patron full service through salesmanship and management.

### **COS 1702 Chemical Relaxing and Permanent Waving I**

The technical facts and skills needed to give all types of chemical relaxers and permanent waves.

### **COS 1712 Chemical Relaxing & Permanent Waving II**

Prerequisite: COS 1702 Chemical Relaxing & Permanent Waving I. The technical facts and skills needed to give all types of chemical relaxers and permanent waves.

### **COS 2606 Theory and Practical Application I**

Prerequisite: Semester I Courses. A course covering all facets of cosmetology. Theory and practical applications are stressed.

### **COS 2706 Theory and Practical Application II**

Prerequisite: COS 2606 Theory and Practical Application I. A course covering all facets of cosmetology. Theory and practical applications are stressed.

## **Cosmetology Teacher Training**

### **COS 3102 Cosmetology Education**

A general study of the principles and techniques of cosmetology education, including methods, materials, and evaluative procedures underlying teaching effectiveness in the various subjects.

### **COS 3203 Theory and Methods**

The student teacher, under supervision, observes, conducts theory classes, and participates in other activities.

### **COS 3303 Special Problems**

Training in subjects in which the student teacher may be deficient and/or the practice of cosmetology.

### **COS 3411 Directed Teaching**

A concentrated period of time is required in which the student, under supervision, observes, conducts practical classes in cosmetology, and participates in other activities involving the school, patrons, and the community.

### **COS 3501 Student Records**

Methods and practical application of keeping student records.

## **Electronic Technology**

### **ELT 1103 BASIC Programming**

An introduction to BASIC programming, designed to help the electronic technician in BASIC programming techniques, including subroutines and program debugging.

### **ELT 1104 Internship**

Prerequisite: Must have passed all first year course work prior to Internship. Provides students with the experience of a job in the electronics field. Students will participate in internship during the final phase of program completion after having been placed in a job training position by the internship coordinators. There will be contracts signed between the school, student, and training site stating the rules and objectives of internship.

### **ELT 1105 DC Fundamentals**

An over all study of the fundamental principles of DC and Ohm's law, series, parallel, and series parallel circuits.

### **ELT 1115 Introduction to Digital Logic**

An introduction to the fundamental principles of computer logic circuits, basic logic gates, truth tables, numbering systems, and different types of TTL integrated circuits are examined.

### **ELT 1205 AC Fundamentals**

Prerequisite: ELT 1105 DC Fundamentals. An overall study of AC and how individual components react to AC. Inductance, capacitance, reactance, and impedance along with filters and tuned circuits are studied.

### **ELT 1305 Semiconductors I**

Prerequisite: ELT 1205 AC Fundamentals. A study of semiconductors, holes, and silicon crystals. Diode theory and diode approximations, including power supply, Diode circuits, and special purpose diodes. Transistor amplifier and transistor biasing methods along with amplifier classifications will be studied.

### **ELT 2105 Semiconductors II**

Prerequisite: ELT 1305 Semiconductors I. A study of thyristors, op-amp theory, negative feedback amplifiers, regulated power supplies, and basic oscillators.

### **ELT 2202 Introduction to**

#### **Microprocessors**

Prerequisite: ELT 1115 Introduction to Computer Logic. An introduction to the basic microprocessor, machine language, CPU architecture, and operational codes. The complete microprocessor system plus the support circuits are studied.

### **ELT 2213 Computer Operating Systems**

Prerequisite: ELT 1103 BASIC Programming or be currently enrolled in BASIC Programming. A study of special command line commands for file management and troubleshooting applications. Also, a study of the features of the windows operating system

## **Mathematics**

### **MTH 1103 Technical Mathematics**

Tech math provides examples and problems encountered in student's field of study. This course covers basic skills students need to function in their chosen field.

### **MTH 2103 Beginning Algebra**

Provides training and practice in logical problem solving skills. The course covers the basics beginning with signed numbers and going through the various types of equations. Some geometry is covered.

### **MTH 2113 Intermediate Algebra**

Prerequisite: MTH 2103 Beginning Algebra. Provides the student with exercises to develop proficiency in algebra. Emphasis is given to collecting and interpreting data and statistics, data analysis, and creating models. Logarithms, metric, and standard measurement methods are stressed.

### **MTH 3103 College Algebra**

Provides students with a variety of exercises used to investigate how algebra is a modern modeling language for real-life problems. Where appropriate, graphing technology will be utilized to enhance student understanding of concepts.

## **Paramedic**

### **EMT 1101 Lab I**

Review and successfully perform EMT Basic skills. Advanced skill demonstrations and proficient performance evaluations that will prepare the student for practical use in clinical and field internship. Advanced airway, intravenous therapy, IM and Subcutaneous injections, and IV medication administration. Emphasis on patient right.

### **EMT 1103 Anatomy and Physiology**

Basic study of human anatomy and physiology with clinical application. Students will study body systems and functions of human organisms. Students will learn basic biological chemistry and have an understanding of all systems and how homeostasis in human bodies is achieved.

### **EMT 1111 Introduction to Pharmacology**

Includes the pharmacological developments, standards, and patient rights and drug controls. Pharmacological use of medications, pharmacokinetics, fluids, and electrolytes. Clinical pharmacology will be emphasized.

### **EMT 1121 EMS Environment I**

Role of the advanced pre-hospital provider in the EMS system is emphasized along with the legal responsibilities and liabilities of the EMS environment. Also covered will be utilization of medical direction and use of EMS protocol. The well-being of EMS personnel is emphasized with emphasis on illness and injury prevention.

### **EMT 1129 Clinical Practicum**

Will receive supervised clinical experience in the emergency department, respiratory therapy, and operating room. Students will perform patient procedures under the guidance of a professional health care provider with expertise in the patient care area. Students will observe care of critical and non-critical patients. Students will earn a team approach in clinical area while performing basic and advanced patient skills check-off in Lab I.

### **EMT 1201 Patient Assessment/ Human Systems**

Will learn an advanced and comprehensive approach to patient assessment and history taking. Students will apply current patient status and will continue to gather pertinent patient data. Review of anatomy and physiology with a more directed approach and emphasis on particular age groups. Students will use patient data with head to toe examinations and the use of mnemonics such as SAMPLE. An empathic approach will be discussed in this section.

### **EMT 1202 Clinical Practicum II**

Will apply basic and advanced assessment and procedures in adult patients in the emergency department, radiology, and hospital laboratory including operating room supervision.

### **EMT 1211 Pathophysiology of Shock/Fluid Therapy**

Introduction to processes of shock and physiological changes at the cellular level. The student will have an understanding of dis-ease processes and fluid and acid-base balance. Students will gain a knowledge of Hypoperfusion including various forms of shock, multiple organ dysfunction syndrome, and cellular metabolism impairment. Students will have the knowledge of assessment and treatment of various shock conditions.

### **EMT 1221 Pharmacology II**

Prerequisite: EMT 1111 Introduction to Pharmacology Continued course objectives from Pharmacology I. This section of pharmacology will focus on

cardiac medications and administration. A basic knowledge of cardiac complaints and medications that are required for proper treatment and stabilization will be covered into this portion.

### **EMT 1231 Lab II**

Will be re-evaluated in basic skills learned in Lab I. Students will learn the application of EKG monitors and the practical use of pulse oximeters. Students will apply the knowledge of advanced patient assessment to clinical scenarios.

### **EMT 1301 Emergency Cardiac Care**

Designed to teach a comprehensive approach to cardiac patients with cardiovascular compromise. Cardiac anatomy and physiology will be reviewed with pathological disease processes and acute coronary symptoms, recognition of life threatening cardiac conditions and treatment. This section reviews cardiac pharmacological and electrical intervention.

### **EMT 1302 Medical Emergencies I**

Will study pulmonary disease and common acute reactions with review of pulmonary anatomy and treatment. Students will understand a comprehensive approach and clinical assessment and treatment for medical emergencies. Behavioral emergencies and neurology and endocrinology with gastroenterology will be included in this section with an emphasis on assessment and field treatment.

### **EMT 1311 Clinical Practicum III**

Will be supervised in the following areas: Intensive Care Unit, Surgical Recovery, and Operating Room. Students will apply knowledge of course information learned and perform procedures that are appropriate for areas of hospital and patients needs.

### **EMT 1321 Lab III**

Will demonstrate all skills learned in Labs I and II. Students will learn pediatric skills such as airway management, invasive therapy, and advanced trauma skills. Students will also demonstrate competency in advanced cardiac life support.

### **EMT 1331 Rhythm Recognition**

Will gain knowledge of EKG monitoring of leads I, II, and III. Students will learn the basic electrophysiology of cardiac conduction through the heart. The study of arrhythmia etiologies and irregular wave forms and arrhythmia recognition. The knowledge of cardiac conversion and rhythm pacing will be demonstrated with student skills evaluation performed.

### **EMT 1401 EMT Environment II**

A continuation of EMS Environment I. Students will learn EMS rescue, stress management, triage, and well being of an EMT. Hazardous materials will be taught within this section as well as violence, with emphasis on pre-hospital provider safety.

### **EMT 1402 Medical Emergencies II**

Designed to train paramedics with the assessment of infectious disease and anaphylaxis, geriatric, pediatric, and abdominal emergency assessment and management. Medical Emergencies II will emphasize more advanced assessment of present illness and focused patient complaints.

### **EMT 1411 Clinical Practicum IV**

Areas to be supervised will be obstetrics and pediatrics along with additional time in ER and OR. Emphasis will be placed in ICU/CCU clinical areas with telemetry.

### **EMT 1421 Advanced Trauma Care**

Designed to train the advanced provider to evaluate mechanism of injury with a greater understanding of kinetic energy used in impacts and falls, or projectile forces. Emphasis is placed of assessment of all body systems and management. Students will perform a competency level of trauma care for each patient presentation.

### **EMT 1429 Paramedic Internship I**

Preceptors in the field will supervise patient assessment and management skills. Students will have a greater understanding of EMS systems and dispatching or emergencies with a higher level of competency in patient report transmission to the ED's and patient report documentation.

### **EMT 1431 Advanced Cardiac Life Support (ACLS)**

Designed to offer health care professionals a high density course of advanced cardiac knowledge and treatment. The course offers extensive EKG dysrhythmia treatment guidelines and a strong emergency cardiac pharmacological background. This course is for those individuals who are employed for an agency that requires knowledge and training in emergency cardiac care, such as RN's, paramedics, physicians, and other health care professionals who seek advance level training. The course will train an individual in a systematic approach to treatment of life-threatening cardiac and medical emergencies.

### **EMT 1451 Pre-hospital Trauma Life Support (PHTLS)**

Designed to expand pre-hospital care providers knowledge of trauma care. The course emphasizes that critically injured patients must be assessed and treated in a rapid systemic approach with aggressive acute care given en route to the receiving emergency department. Pre-hospital care providers are trained to operate within the Golden Hour, in order to offer a greater chance of patient survival. The course reviews and expands on anatomy and physiology, kinematics of trauma, pediatric and geriatric trauma, and shock treatment. The course can include RN's, paramedics, EMT's, physicians, and other health care providers who seek greater knowledge of trauma care.

### **EMT 1461 Pediatric Advanced Life Support (PALS)**

Designed to provide health care professionals a greater knowledge of emergency care for the pediatric age group. This course is advanced level guidelines for medically ill, traumatically ill infants and children. The course stresses critical thinking of the health care provider in life-threatening situations involving this age group. Resuscitation and management, as well as, anatomy and physiology review, pharmacologic

lectures and skills checkoffs, including a written exam are offered within this course. This course teaches current health care professionals such as RN's, paramedics, physicians, and other medically trained individuals who want to achieve a working knowledge of assessment of acutely sick or injured children.

### **EMT 1502 Life Span Development**

Designed to prepare the student for the psychological development of infancy to geriatrics. Emphasis on physiological changes both normal and abnormal.

### **EMT 1506 Paramedic Internship II**

Continue in this areas with preceptors in the field under supervision of patient assessment and management skills. A tour for all Paramedic Internship II students will be arranged. A closer evaluation of student's character and professionalism will be emphasized. This course will be the student's final step in pre-hospital field evaluation.

## **Practical Nursing**

### **LPN 1101 Vocational, Legal, and Ethical Concepts**

Includes personal development; ethical, legal, and social responsibilities with the patient, family, and coworkers; communication skills; vocational responsibilities of the practical nurse; nursing organizations; local, state and national health resources; and the concepts of delegation appropriate to the level of practice.

### **LPN 1103 Body Structure and Functions**

Includes anatomy and physiology of the human body and all its systems, a foundation for understanding the principles of maintaining positive health, as well as understanding deviations from normal. It is the basis for Nursing of the Adult Patient, Maternal Child Nursing, Pediatric and Geriatric Nursing, and Basic Nursing Principles. Medical Terminology is integrated with this course.

**LPN 1111 Nutrition in Health and Illness**

Includes the principles of good nutrition for all age groups and principles of modification for therapeutic purposes. Nutrition concepts are integrate throughout the entire curriculum.

**LPN 1113 Basic Nursing Principles and Skills I**

Teaches the fundamental principles, skills and attitudes needed to give nursing care and prevent the spread of disease; common procedures used in the care of the sick and the development of the ability to adapt them to various situations with skill, safety and comfort for the patient; first aid and CPR; and the development of an awareness of responsibility to make, report, and record observations. Lab demonstrations and return demonstrations will be used in this course, clinical skills will be practiced and observed by the instructors in the clinical setting.

**LPN 1121 Pharmacology I**

Includes a brief history of drugs, methods of administration, drugs commonly used in the treatment of illness. The student will be taught material pertaining to the usual dosages, expected actions, side effects, contraindications, and points of observation following the administration of drugs. It will also include the math necessary for conversion between the apothecary and the metric systems, as well as household measurements. Formulas for calculations of dosages for adults, infants, and children. This course includes theory, video presentations, instructor demonstration, and lab practice with medication equipment and supplies.

**LPN 1125 Clinical I**

Rotation provides the student with an opportunity to obtain experience in the health care setting. The basic nursing skills necessary for the client comfort, safety, and security. This gives the student an opportunity to practice skills and observation management techniques taught in the clinical laboratory.

**LPN 1131 Nursing of the Geriatric Patient**

Includes the normal aging process, characteristics of aging, special problems associated with aging and the experiences in the caring for the aging patient.

**LPN 1141 Basic Mathematics**

Designed to develop competencies in fraction, Roman Numerals and decimals relative to Nursing and Pharmacology. This course is a prerequisite to Pharmacology I and II

**LPN 1151 Communications**

Designed to develop competencies in communication tech-niques that involve active listening, speaking and writing (docu-mentation) skills relative to the health care field. Completion of a job application, resume writing and job interview skills are also included.

**LPN 1161 Mental Health and Care of the Mentally III**

Includes an introduction of common conditions of mental illness, prevention of such conditions, and the care of patients suffering from abnormal mental and emotional responses. Basic nursing skills, communication skills, and techniques are a must for this course. Medical terminology is integrated with this course. Medical terminology is integrated with this course.

**LPN 1201 Pharmacology II**

A continuation of LPN 1121 Pharmacology I

**LPN 1203 (Aug)****LPN 1414 (Jan)****Nursing of Adults with Medical Surgical Conditions I**

Prerequisites: LPN 1103 Body Structure and Function, LPN 1111 Nutrition in Health and Illness, LPN 1121 Pharmacology I, LPN 1161 Pharmacology II, LPN 1113 Basic Nursing Principles and Skills I. Study of common conditions of illness and the nursing care of patients in acute, sub-acute or convalescent stages of illness, of both short and long term duration, including nutrition and the administration of medications. It is divided into two parts, Part I is an

introduction to adult health nursing and includes the care of the surgical patient, care of the patient with an immune disorder, care of the patient with HIV disease, care of the patient with cancer. It also includes the study of the health care delivery system and its components including home health and rehabilitative nursing. Part II includes the study of diseases related to each of the body's systems, with basic nursing principles and skills, nutrition and pharmacology.

**LPN 1210 (Aug)****LPN 1223 (Jan)****Clinical II**

Rotation is in various health care settings with patients who have more complex needs because of their health problems and teaches the students more acute observations of their clients needs and how to meet these needs with safety.

**LPN 1211 (Aug)****LPN 1222 (Jan)****Basic Nursing Principles and Skills II**

A continuation of LPN 1113 Basic Nursing Principles and Skills I

**LPN 1232 Nursing of Mothers and Infants**

Includes the principles and practices of nursing care during prenatal, labor, delivery and post partum and neonatal periods.

**LPN 1301/1401 (Jan)****Nursing of Adults with Medical Surgical Conditions II**

A continuation of LPN 1203/1414 Nursing of Adults with Medical Surgical Conditions I

**LPN 1305 (Jan)****LPN 1307 (Aug)****Clinical III**

A continuation with clinical experience for the student in a health care setting. In this clinical experience the student will have clinical rotations in specialty areas as well as evenings and night rotations. Appropriate clinical areas will be chosen and supervision provided in cooperation with area health facilities. Rotation plans will be developed so each student will spend time in each facet of health care in the clinical facilities.

**LPN 1321 (Jan)****Basic Nursing Principles and Skills III**

A continuation of LPN 1201 Basic Nursing Principles and Skills II

**LPN 1331 (Aug)****LPN 1442 (Jan)****Nursing of Children I**

Principles of growth and development; nursing of the infant through adolescence; the behavior of well and sick children are studied in this course. Differences in the functioning of the child's body system are contrasted with that of the adult patient as well as the differences in the body's response to illness.

**LPN 1404 (Aug)****LPN 1412 (Jan)****Clinical IV**

Emphasize clinical practice with the medical-surgical patient both with their physical needs but also their psychological needs. Doing special procedures skills and medication administration.

**LPN 1411 Basic Nursing Principles and Skills IV**

A continuation of LPN 1321.

**LPN 1401 (Jan)****Nursing of Adults with Medical Surgical Conditions II**

A continuation of LPN 1414 Nursing of Adults with Medical Surgical Conditions I

**LPN 1421 (Aug)****Nursing of Children II**

A continuation of LPN 1331/1422

**Welding Technology****WLD 1103 Gas Welding/Cutting**

Covers the principles and procedures for oxyacetylene welding, including: flame cutting of welding equipment and safe shop practices.

**WLD 1104 Internship**

Prerequisite: Must have passed all first year course work prior to Internship. Provides students with the experience of a job in welding. Students will participate in internship during the final phase of program completion after

having been placed in a job training position by the internship coordinators. There will be contracts signed between the school, student, and training site stating the rules and objectives of internship.

**WLD 1202 Blueprint Reading**

Includes the reading and interpreting of various kinds of blueprints and working drawings. It also covers making simple two and three-dimensional sketches.

**WLD 1206 Introduction to Arc Welding**

Study of the theory and applications of basic Shielded Metal Welding (SMAW) will include the setting of equipment, selecting electrodes, and running of beads and flat positions. Practical application is provided through a laboratory (shop) experience. Safety is emphasized.

**WLD 1212 Industrial Safety in Welding**

Study of safety practice necessary for the safe use of all existing methods of welding and the existing equipment that accompanies the welding profession.

**WLD 1302 Metallurgy**

An elementary and practical approach to the structure, marking classifications, machinability, ratings, interpretations, and specifications of steel and their properties as found in the various manufacturer's catalogs, bulletins, and charts. Also, the principles, methods, and techniques of heat treating various metals will be studied. Heat treatment terminology, testing procedures and equipment will also be covered from the practical and applied approach. Lecture, demonstrations and laboratory experiments will be utilized during this course.

**WLD 1409 Position Welding**

A continuation of the study of SMAW in the flat, vertical, horizontal, and overhead positions. Metallurgy heat treating of residual stresses of metal is included. Practical applications is provided through a laboratory experience. Safety is emphasized.

**WLD 1503 MIG Welding**

Application of Gas Metal Arc Welding (MIG) and the introduction of nonferrous metals. Practical applications is provided through a laboratory experience. Safety is emphasized.

**WLD 1603 TIG Welding**

Study of inert gas welding which will consist of the study of equipment, safe practices, different uses of and advantages of this type of welding, and the general practice of inert gas welding.

**WLD 1702 Weldment Testing**

Covers both destructive and nondestructive testing of welding joints. Some of the destructive tests include free bend and guided bend test, tensile test, fracture test, and acid tech test. Some of the nondestructive include the study of magnetic particle, dye-penetrant, radiographic, ultrasonic, microscopic, and visual inspection.

**WLD 1804 Certification Welding**

Students are required to study and practice qualification requirements and to take performance tests in types of welding in which instruction has been received.

**WLD 1912 Advanced Welding Elective I**

Continuation of ARC Welding for the advanced student. The objective of the course is to allow the student ample time for certification in nonferrous materials. All other diploma requirements must be met prior to this elective.

**WLD 2012 Advanced Welding Elective II**

Allow for certification in pipe, ferrous and/or nonferrous. Basic layout and fabrication will be addressed. Diploma requirements must be met prior to this elective.