

CAREER / TECHNICAL COURSES

AGRICULTURAL BUSINESS AND MANAGEMENT TECHNOLOGY (AGT)

FIELD CROPS OPTION

AGR 1112. AGRICULTURAL SURVEY. An introductory course covering the general functions, organization, and operation of the agricultural in both national and international.

AGR 1214. ANIMAL SCIENCE. Fundamental principles and practical application of livestock, dairy, and poultry science.

AGR 1413. FARM MACHINERY. This is a study of the selection, operation, adjustment, maintenance, and repair of the different types of farm machinery; including the use of both acetylene and electric welding equipment.

AGT 1513. PRINCIPLES OF AGRICULTURAL MARKETING. An introduction to general principles of marketing agricultural products. Includes instruction in general marketing practices and the use of futures contracts. (2 hours lecture, 2 hours lab)

AGR 2314. BASIC SOILS. A general course in soils designed to give the student a basic understanding of all important phases of the subject, including soil genesis, morphology, classification, and the physical, chemical and biological aspects of soils as applied to soil fertility. Soil management, including fertilization and liming of soils, is also included.

AGT 2373. FIBER AND OILSEED CROPS. This course is a study of crop production techniques including tillage and planting, pest control, and physical marketing practices for cotton and soybeans. Prerequisite: BIO 1314 or AGT 1314.(2 hours lecture, 2 hours lab)

AGT 2383. GRAIN CROPS. This course is a study of crop production techniques including tillage, planting, pest control, irrigation and physical marketing practices for grain crops. Crops included are corn, milo, rice and wheat. Prerequisite: AGT 1314 or BIO 1314. (2 hours lecture, 2 hours lab)

AGR 2413. FARM MANAGEMENT. Decision making in the organization and operation of the farm business. Basic principles of the farm management, including records, finance, taxation and budgeting.

AGT 2413. WEED CONTROL. A course to provide students with information and skills for controlling plant pests in agricultural crops. Includes instruction in the use and application of chemicals for weed control. Prerequisite: AGT 1314 or BIO 1314. (2 hours lecture, 2 hours lab)

AGT 2463. INSECTS AND CONTROLS. A course to provide instruction and training in techniques of control of insect pests. Includes instruction in the safe and proper use of chemical and other control methods. Prerequisite: AGT 1314 or BIO 1314. (3 sch: 2 hours lecture, 2 hours lab)

AGR 2713. PRINCIPLES OF AGRICULTURAL ECONOMICS. Economic principles applied to production, value, prices, credit, taxation, land tenure, marketing, international trade, and related problems affecting agriculture.

AGT 2913. SPECIAL PROJECTS IN AGRICULTURAL BUSINESS AND MANAGEMENT. A course to provide students with an opportunity to utilize skills and knowledge gained in other Agricultural Business and Management courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. Prerequisite: Sophomore standing in Agricultural Business and Management Technology. (6 hours lab)

AGT 2923. SUPERVISED AGRICULTURAL EXPERIENCE. This internship course provides actual work experience in an agriculture business under the direction of the employer and the instructor. Prerequisites: Sophomore standing in Agricultural Business and Management Technology or instructor approval.

PRECISION AGRICULTURE OPTION

AGT 1163. SPATIAL INFORMATION SYSTEMS: An overview of spatial information concepts and the tools of spatial information systems (GPS, GIS, VRT, and Remote Sensing). Students will recognize the impact this technology has on our lives in the present as well as the future. Research career opportunities as they relate to these emerging technologies and the basic concepts under which spatial information functions. (3 sch: 3 hour lecture)

AGT 1254. GPS - DATA COLLECTION: A course to introduce students to the general principles of Global Positioning Systems, their use, realized and potential value in agriculture. Upon completion, the student will be able to competently acquire, import, export, and manipulate geo-referenced data. The student will also be able to perform basic troubleshooting task, grasp concepts of spatial variability, and understand projections. Prerequisite: consent of instructor. (4 sch: 3 hour lecture, 2 hour lab)

AGT 1354. REMOTE SENSING: This course provides an overview of remote sensing technologies for agricultural management. The course emphasizes basic concepts, satellite-based, airborne, and ground-based sensing methods. Digital image interpretation and analysis will be a major component. The student will understand how remote sensing is used with spatial information and variable rate technologies for precision agricultural management. Prerequisites: basic understanding of computer graphics and mathematics. (4 sch: 3 hour lecture, 2 hour lab)

AGT 2154. GEOGRAPHIC INFORMATION SYSTEMS I: This course is an overview of several applications of Geographic Information Systems. Commercial

software is used to cover user interface, views, themes, tables, and layouts. Basic functions of building, editing, querying, and spatial analysis of layers and databases will be reviewed. Hands on exercises will encompass several disciplines and will include mobile GIS applications. Prerequisites: CPT 1324, MAT 1313, or consent of instructor. (4 sch: 3 hour lecture, 2 hour lab)

AGT 2164. VARIABLE RATE TECHNOLOGY: Introductory course on basic principles of variable rate technology (site-specific technology, precision farming technology). This course will provide instruction on: the importance of variable rate technology; data collection techniques for variable rate applications; development of prescription application maps; and components, calibration, installation, and troubleshooting of variable rate equipment. Prerequisites: GPS, GIS, SIS, MAT 1313, CPT 1324. (4 sch: 3 hour lecture, 2 hour lab)

AGT 2174. AGRICULTURAL GEOGRAPHIC INFORMATION SYSTEMS: This course reviews several agricultural Geographic Information Systems. The use of spatial data and spatial analysis is used for recording keeping, modeling, and management of an agro ecosystem. Prerequisites: GIS I or consent of instructor. (4 sch: 3 hour lecture, 2 hour lab)

AGT 2434. CROP MANAGEMENT ZONES: The focus of this course will be the identification and management of production zones within crop fields. This course will give students a working knowledge of geo-spatial tools and remote imaging techniques to identify regions of distinction, and methods to develop management strategies to optimize production or minimize costs for cropping systems common to the Mississippi Delta. The course will introduce the use of various decision support tools available for crop management, including GIS and crop models. Prerequisites: AGT 1314, AGT 1714, SIS. (4 sch: 3 hour lecture, 2 hour lab)

AGT 2474. SITE SPECIFIC PEST MANAGEMENT: This course provides instruction and training in conventional and site-specific techniques used in control of agricultural pests including insects, diseases, and weeds. Students will use pest management techniques and tools including spatial information systems to evaluate impact of pest injury and costs associated with control. Students will learn how variable rate technologies are applied in the field for site-specific pest management. Prerequisites: GPS, GIS I, CMC, AGT 1314, or consent of instructor. (4 sch: 3 hour lecture, 2 hour lab)

AGRICULTURAL MECHANICS TECHNOLOGY

AMT 1123. AGRICULTURAL MECHANICS FUNDAMENTALS. An introduction to agricultural mechanics occupations, safe practices and procedures, the development of employability skills, the utilization of technical media, and the identification and use of fasteners and hardware identified in the agricultural mechanics industry. (2 hour lecture, 2 hour Lab)

AMT 1213. BASIC ELECTRICAL SYSTEMS. A basic study of electrical systems general operation, component locations and functions. (1 hour lecture, 4 hour lab)

AMT 1223. ADVANCED ELECTRICAL SYSTEMS. An advanced study of electrical systems and electronics schematic interpretations as it applies to agricultural mechanics. (1 hour lecture, 4 hour lab)

AMT 1313. BASIC POWER TRANSMISSION. A study of machines and the principles upon which they operate in the transmission of power. (1 hour lecture, 4 hour Lab)

AMT 1323. ADVANCED POWER TRANSMISSION. An advanced study of machines and the principles upon which they operate in the transmission of power. (1 hour lecture, 4 hour Lab)

AMT 1413. BASIC ENGINE DESIGN AND FUNCTION. A study of the theory of operation design part identification and function of the internal combustion engines. (1 hour lecture, 4 hour Lab)

AMT1423. ADVANCED ENGINE DESIGN AND FUNCTION. The study of disassembly/assembly, service and repair of the internal combustion engine according to technician media. (1 hour lecture, 4 hour Lab)

AMT 1511. PRINCIPLES OF AIR CONDITIONING. Principles and service of air conditioning systems used on agricultural equipment. (2 hour Lab)

AMT 1613. BASIC HYDRAULIC SYSTEMS. The study of the theory of hydraulic systems in agricultural machinery and equipment. (1 hour lecture, 4 hour Lab)

AMT 2923. SUPERVISED WORK EXPERIENCE IN AGRICULTURAL MECHANICS. A course, which is a cooperative program between industry and education and is designed to integrate the students studies with industrial experience.

AMT 2913. SPECIAL PROJECTS IN AGRICULTURAL MECHANICS. A course to provide students with an opportunity to utilize skills and knowledge gained in other agricultural mechanics courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project.

AMT 2113. GRAIN HARVESTING EQUIPMENT. Procedures for the inspection, adjustment, repair and lubrication of grain harvesting equipment. (2 hour lecture, 2 hour lab)

AMT 2313. COTTON HARVESTING EQUIPMENT. Procedures for the inspection, adjustment, repair and lubrication of grain harvesting equipment. (2 hour lecture, 2 hour lab)

AMT 2513. SPRAY EQUIPMENT. Selection, assembly, inspection, adjustment, calibration and repair of spray equipment, including safety procedures and environmental concerns. (2 hour lecture, 2 hour lab)

AMT 2623. ADVANCED HYDRAULIC SYSTEMS. The study of different application and test procedures for hydraulic systems in agricultural machinery and equipment.

(1 hour lecture, 4 hour lab)

AMT 2713. ROW CROP PLANTING SYSTEMS. Set-up, inspection, adjustment, and service of row crop planting equipment and global positioning system (GPS equipment).

(2 hour lecture, 2 hour lab)

AMT 2813. COMPACT ENGINES AND EQUIPMENT. Inspection, adjustment, repair, and lubrication of compact engines and equipment. (2 hour lecture, 2 hour lab)

AMT 2823. SERVICE REPAIR CENTER MANAGEMENT AND OPERATIONS.

Management and daily operation of an agricultural service center including records keeping, reference materials, tools and equipment maintenance and service scheduling. (2 hour lecture, 2 hour lab)

AUTOMOTIVE MACHINIST (AUV)

AUV 1116. FUNDAMENTALS FOR AUTOMOTIVE MACHINISTS. This course includes the study and practice of personal hand tools and shop safety; study and practice of measuring; types of calipers, micrometers, and gauges; types and uses of hand tools, mechanical tools, power, and hydraulic tools, fluids, and coolants; and identification of materials and metals. Included is the development of employment skills useful to the Automotive Machining occupations. (2 hour Lecture, 8 hour Lab)

AUV 1216. CYLINDER HEAD SERVICE. This course includes the rebuilding and cleaning of cylinder heads; valve guide reconditioning; valve seat replacing and installation; refacing seats, surfacing cylinder heads, and assembling a cylinder head. (2 hour Lecture, 8 hour Lab)

AUV 1316. CYLINDER BLOCK SERVICE. This course includes the study of cylinder boring, crankshaft grinding and welding, rod reconditioning, and engine balancing. (2 hour Lecture, 8 hour lab)

AUV 1416. ENGINE ASSEMBLY AND TESTING. This course includes preparation of a block and components for assembly, cam bearings installation, core plugs, seals, cylinder block and components, testing oil pressure; compression; valve adjustment; and checking for leaks and knocks. (2 hour lecture, 8 hour Lab)

AUV 1513. PARTS AND LABOR. This course includes training in the use of computerized parts pricing and inventory, labor price guides, the purchasing and recovery of core materials.

(1 hour Lecture, 4 hour lab)

AUV 1613. ADVANCED CRANKSHAFT BALANCE AND GRINDING. This course includes the study of dynamic and couple unbalance, external and internal

balancing, static balancing, crankshaft indexing, straightening, and stroking. Pre/Co-requisites: Cylinder Block Service (AUV 1316) (1 hour lecture, 4 hr lab)

AUV 1713. BRAKE ROTOR AND DRUM MACHINING. This course includes machining of the brake drum and rotor. (1 hour lecture, 4 hour Lab)

AUV 1913 SPECIAL PROJECT IN AUTOMOTIVE MACHINIST.

Provides the student with practical application of skills and knowledge gained in this program. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. Prerequisites: Consent of instructor. (6 hour lab)

AUV 1923 SUPERVISED WORK EXPERIENCE IN AUTOMOTIVE

MACHINIST. Cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Prerequisite: Consent of instructor and the completion of at least twelve hours in this program's core curriculum.

AUTOMOTIVE MECHANICS (ATV/ATT)

ATV/ATT 1124. BASIC ELECTRICAL/ELECTRONIC SYSTEMS This is a course designed to provide advanced skills and knowledge related to all components of the vehicle electrical system including lights, battery, and charging components. (4 sch: 2 hour lecture, 4 hour lab)

ATV/ATT 1134 ADVANCED ELECTRICAL/ELECTRONIC SYSTEMS This is a course designed to provide advanced skills and knowledge related to all components of the vehicle electrical system including gauges, driver information systems, horn, wiper/wiper systems, and accessories. (2 hour lecture, 4 hour lab)

ATV/ATT 1214. BRAKES. A course to provide advanced skills and knowledge related to the repair and maintenance of brake systems on automobiles. Includes instruction and practice in diagnosis of braking systems problems and the repair of brake systems.(2 hours lecture, 4 hours lab)

ATV/ATT 1424 ENGINE PERFORMANCE I This is a course designed to provide advanced skills and knowledge related to the maintenance and adjustment of gasoline engines for optimum performance. It includes instruction, diagnosis, and correction of problems associated within these areas. (2 hour lecture, 4 hour lab)

ATV/ATT 1715. ENGINE REPAIR. A course to provide advanced skills and knowledge related to the repair and rebuilding of automotive-type engines. Includes instruction and practice in the diagnosis and repair of engine components including valve trains, blocks, pistons and connecting rods, crankshafts, and oil pumps. (2 hours lecture, 6 hours lab)

ATV/ATT 1812 INTRODUCTION, SAFETY, AND EMPLOYABILITY SKILLS

This is a course designed to provide knowledge of classroom and lab policies and

procedures. Safety practices and procedures associated with the automotive program and automotive industry. (2 hour lecture)

ATT 1314. MANUAL DRIVE TRAINS/TRANSAXLES. A course to provide advanced skills and knowledge related to the maintenance and repair of manual transmissions, transaxles and drive train components. Includes instruction in the diagnosis of drive train problems and the repair and maintenance of transmissions, transaxles, clutches, CV-joints, differentials and other components. (3 hours lecture, 4 hours lab)

ATT 2325. AUTOMATIC TRANSMISSIONS/TRANSAXLES. A course to provide technical skills and knowledge related to the diagnosis and repair of automotive type automatic transmissions and transaxles. Includes instruction and practice in testing and inspecting these devices and in disassembly, repair, and reassembly. (3 hours lecture, 4 hours lab)

ATV/ATT 2334. STEERING AND SUSPENSION SYSTEMS. A course to provide advanced skills and knowledge related to the inspection and repair of steering and suspension systems on automobiles. Includes instruction and practice in the diagnosis of steering system problems and the repair/replacement of steering systems components. (2 hours lecture, 4 hours lab)

ATV/ATT 2434. ENGINE PERFORMANCE II This is a course designed to provide advanced skills and knowledge related to the ignition system, fuel, air induction, and exhaust systems. It includes instruction, diagnosis, and correction of problems associated within these areas. (2 hour lecture, 4 hour lab)

ATT 2444. ENGINE PERFORMANCE III This is a course designed to provide advanced skills and knowledge related to the ignition system, fuel, air induction, and exhaust systems. It includes instruction, diagnosis, and correction of problems associated within these areas. (2 hour lecture, 4 hour lab)

ATT 2614. HEATING AND AIR CONDITIONING. A course to provide advanced skills and knowledge associated with the maintenance and repair of automotive heating and air conditioning systems. Includes instruction and practice in the diagnosis and repair of air conditioning system components, heater lines and cores, and control systems. (2 hours lecture, 4 hours lab)

ATT 2923. SUPERVISED WORK EXPERIENCE IN AUTOMOTIVE TECHNOLOGY. Cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Prerequisite: Consent of instructor and the completion of at least twelve hours in this program's core curriculum.

ATT 2913. SPECIAL PROJECT IN AUTOMOTIVE TECHNOLOGY. Provides the student with practical application of skills and knowledge gained in this program. The instructor works closely with the student to insure that the selection of a

project will enhance the student's learning experience. Prerequisites: Consent of instructor. (3 hours lab)

BRICK, BLOCK AND STONE MASONRY (BBV)

BBV 1115. BRICK AND BLOCK LAYING. This course is designed to give the student experience in laying brick and block. (1 hour lecture, 8 hour lab)

BBV 1215. MASONRY CONSTRUCTION. This course is designed to give the student experience in various types of walls, finishing, and masonry construction techniques. (1 hour lecture, 8 hrs. lab)

BBV 1223. MASONRY MATH, ESTIMATING, AND BLUEPRINT READING. This course is designed to give the student experience in calculations, estimating, and blueprint reading. (2 hour lecture, 2 hrs. lab)

BBV 1313. TOOLS, EQUIPMENT, AND SAFETY. This course is designed to give the student experience in the use and care of tools and equipment along with the safety procedures used in the masonry trade. (2 hrs. lecture, 2 hour lab)

BBV 1425. ADVANCED BLOCK LAYING. This course is designed to give the student advanced experience in laying block columns, piers and various walls. (1 hour lecture, 8 hrs. lab)

BBV 1525. ADVANCED BRICKLAYING. This course is designed to give the student advanced experience in brick columns, piers, and various walls. (1 hour lecture, 8 hour lab)

BBV 1623. CHIMNEY AND FIREPLACE CONSTRUCTION. The student will gain experience in layout and construction of chimney's and fireplaces. (1 hour lecture, 4 hrs. lab)

BBV 1723. STEPS, ARCHES, AND BRICK FLOORS. Students will gain experience in layout and construction of steps, arches, and brick floors. (1 hour lecture, 4 hrs. lab)

BBV 1913. SPECIAL PROJECTS IN BRICK, BLOCK, AND STONE MASONRY. Provides the student with practical application of skills and knowledge gained in this program. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. Prerequisite: Consent of instructor.

BBV 1923. SUPERVISED WORK EXPERIENCE. Cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Prerequisite: Consent of instructor.

BUSINESS AND OFFICE TECHNOLOGY (BOT)

BOT 1013. INTRODUCTION TO KEYBOARDING. This course provides an introduction to basic word processing commands and essential skill development using the touch system on the alphabetic keyboard. It is for students with little or no experience on the keyboard. (3 hours lecture)

BOT 1113. DOCUMENT FORMATTING AND PRODUCTION. This course focuses on improving keyboarding techniques using the touch method and on production of documents using word processing functions. Prerequisite: Introduction to Keyboarding (BOT 1013) OR consent of instructor. (2 hours lecture, 2 hours lab)

BOT 1123. KEYBOARDING SKILL BUILDING. This course further develops keyboard techniques emphasizing speed and accuracy. Prerequisite: Document Formatting and Production (BOT 1113) (2 hours lecture, 2 hours lab)

BOT 1133. MICROCOMPUTER APPLICATIONS. This course will introduce an operating system and word processing, spreadsheet, database management, and presentation software applications. Prerequisite: Introduction to Keyboarding (BOT 1013) OR consent of instructor. (2 hours lecture, 2 hours lab)

BOT 1143. WORD PROCESSING. This course focuses on production of documents using word processing functions. Production with accuracy is stressed and practice is given through a variety of documents for skill building. Prerequisites: Mechanics of Communication (BOT 1713), Microcomputer Applications (BOT 1133), and Document Formatting and Production (BOT 1113) or consent of instructor. (3 sch: 2 hour lecture, 2 hour lab)

BOT 1213. PROFESSIONAL DEVELOPMENT. This course develops an awareness of interpersonal skills essential for job success. (3 hours lecture)

BOT 1313. APPLIED BUSINESS MATH. This course is designed to develop competency in mathematics for business use. (3 hours lecture)

BOT 1413. RECORDS MANAGEMENT. This course focuses on the systems approach to managing recorded information in any form. Emphasis is placed on the three categories into which records generally fall and the treatment of these categories in proper management, storage, and retrieval. Prerequisite: None. (3 sch: 3 hour lecture)

BOT 1433. BUSINESS ACCOUNTING. This course is designed to develop an understanding of recording, classifying, and summarizing business transactions and events with insight into interpreting and reporting the resulting effects upon the business. (3 hours lecture)

BOT 1443. ADVANCED BUSINESS ACCOUNTING. This course is a continuation of BOT 1433 - Business Accounting. Prerequisite: Business Accounting (BOT 1433). (3 hours lecture)

BOT 1513. MACHINE TRANSCRIPTION. This course is designed to teach transcription of a wide variety of business communications from machine dictation. Prerequisite: Word Processing Applications (BOT 1143). (2 hours lecture, 2 hours lab)

BOT 1613. MEDICAL OFFICE TERMINOLOGY I. This course is a study of medical language relating to the various body systems including diseases, physical conditions, procedures, clinical specialties, and abbreviations. Emphasis is placed on correct spelling and pronunciation. (2 hours lecture, 2 hours lab)

BOT 1623. MEDICAL OFFICE TERMINOLOGY II. This course presents medical terminology pertaining to human anatomy in the context of body systems. Emphasis is directed toward medical terminology as it relates to Medical Office Technology. (2 hours lecture, 2 hours lab)

BOT 1713. MECHANICS OF COMMUNICATION. This course is designed to develop the basic English competencies necessary for success in the business world. A study of the parts of speech, sentence structure, sentence types, capitalization, punctuation, and spelling is emphasized. Prerequisite: None. (3 sch: 3 hour lecture)

BOT 1813. ELECTRONIC SPREADSHEET. This course focuses on advanced applications of the electronic spreadsheet as an aid to management decision making. Prerequisites: Applied Business Math (BOT 1313) and Microcomputer Applications (BOT 1133), or consent of instructor. (2 hours lecture, 2 hours lab)

BOT 2133. DESKTOP PUBLISHING. This course presents graphic design techniques, principles of page layout and design, and electronic publishing terminology and applications to create a variety of documents such as flyers, brochures, newsletters, and business cards using industry standard desktop publishing software, graphics, and effective design conventions. Prerequisite: Word Processing Applications (BOT 1143). (2 hours lecture, 2 hours lab)

BOT 2323. DATABASE MANAGEMENT. This course applies database concepts for designing and manipulating data files and formatting output as complex documents and reports. Prerequisites: Microcomputer Applications (BOT 1133) and Records Management (BOT 1413). (2 hours lecture, 2 hours lab)

BOT 2413. COMPUTERIZED ACCOUNTING. This course applies basic accounting principles using a computerized accounting system. Prerequisite: Business Accounting (BOT 1433) or Principles of Accounting I (ACC 1213). (2 hours lecture, 2 hours lab)

BOT 2523. MEDICAL MACHINE TRANSCRIPTION I. This course is designed to teach transcription of various medical documents. Prerequisites: Document Formatting and Production (BOT 1113), Medical Office Terminology I (BOT 1613), and Medical Office Terminology II (BOT 1623). (1 hour lecture, 4 hours lab)

BOT 2643. CPT CODING. This course is an introduction to the field of procedural coding and requirements for insurance reimbursement. Prerequisite: Medical Office

Terminology I (BOT 1613) and Medical Office Terminology II (BOT 1623).
(2 hours lecture, 2 hours lab)

BOT 2653. ICD CODING. This course is an introduction to the field of diagnostic coding. Prerequisite: Medical Office Terminology I (BOT 1613) and Medical Office Terminology II (BOT 1623). (2 hours lecture, 2 hours lab)

BOT 2663. ADVANCED CODING. This course includes advanced analysis of diagnostic and procedural coding systems.) Prerequisites: CPT Coding (BOT 2643/BCT 2123) and ICD Coding (BOT 2653/BCT 2133) (2 hours. lecture, 2 hours. Lab)

BOT 2673. MEDICAL INSURANCE BILLING. This course is a culmination of skills and knowledge of appropriate procedures for generating, processing, and submitting health insurance claims to private and governmental health insurance programs. Prerequisites: CPT Coding (BOT 2643/BCT 2123) and ICD Coding (BOT 2653/BCT 2133) (2 hours. lecture, 2 hours. lab)

BOT 2723. ADMINISTRATIVE OFFICE PROCEDURES. This course will provide comprehensive coverage and integration of business skills and issues, develop critical thinking and problem-solving skills, and establish a foundation in business procedures. Prerequisite: Word Processing Applications (BOT 1143). (2 hours lecture, 2 hours lab)

BOT 2743. MEDICAL OFFICE CONCEPTS. This course will provide coverage and integration of medical office skills and issues using knowledge of medical terminology. Prerequisites: Document Formatting and Production (BOT 1113) and Records Management (BOT 1413). (2 hours lecture, 2 hours lab)

BOT 2753. MEDICAL INFORMATION MANAGEMENT. This course will continue coverage of medical office skills and issues with emphasis on health insurance filing. Prerequisites: Medical Office Concepts (BOT 2743). (2 hours lecture, 2 hours lab)

BOT 2813. BUSINESS COMMUNICATION. This course develops communication skills with emphasis on principles of writing business correspondence and reports and analyzing and summarizing information in a logically written presentation. Prerequisites: Mechanics of Communication (BOT 1713) and Document Formatting and Production (BOT 1113). (3 hours lecture)

BOT 2823. COMMUNICATION TECHNOLOGY. This course will present an overview of the resources available for communication using current technology. Prerequisite: Word Processing (BOT 1143) or by consent of Instructor). (3 sch: 2 hour lecture, 2 hour lab)

BOT 2833. INTEGRATED COMPUTER APPLICATIONS. This course integrates activities using applications software including word processing, database, spreadsheets, graphics, and multi-media. Prerequisites: Word Processing Applications (BOT 1143), Business Communications (BOT 2813), Database Management (BOT 2323) and Electronic Spreadsheet (BOT 1813) or by consent of Instructor. (2 hours lecture, 2 hours lab)

BOT 2913. SUPERVISED WORK EXPERIENCE. This course provides related on-the-job training in an office environment. This training must include at least 135 clock hours. Prerequisite: Successful completion of at least 30 semester hours in the program and consent of the instructor. (3 sch: 9 hour externship)

COMMERCIAL TRUCK DRIVING (DTV)

DTV 1115. COMMERCIAL TRUCK DRIVING I. A course to provide fundamental instruction on safety, rules and regulations, driving practices, air brakes, hazardous materials, and emergencies. This course also includes instruction and practice in performing vehicle inspections, coupling and uncoupling, maneuvering, backing, and driving a tractor-trailer truck under varying road and climate conditions. (0 lecture, 120 hour Lab.)

DTV 1125. COMMERCIAL TRUCK DRIVING II. Continuation of CTD I with additional instruction on safety, rules and regulations, driving practices, air brakes, hazardous materials and emergencies. This course also includes instruction and practice in performing vehicle inspections, coupling and uncoupling, maneuvering, backing, and driving a tractor trailer truck under varying road and climate conditions. (0 Lecture, 120 hour Lab)

DTV 1943. SUPERVISED WORK EXPERIENCE IN COMMERCIAL TRUCK DRIVING. Cooperative program between industry and education designed to integrate the student technical studies with industrial experience. Pre-requisite: Consent of instructor

COMPUTER NETWORKING TECHNOLOGY

IST 1123. IT FOUNDATIONS. This course covers the diagnosis, troubleshooting, and maintenance of computer components for IT professionals. Topics include hardware compatibility, system architecture, memory, input devices, video displays, disk drives, modems, printers, safety and environmental issues, communication, and professional behavior. Prerequisite: IST 1223. (Lecture, 2 hours; lab, 2 hours)

IST 1134. FUNDAMENTALS OF DATA COMMUNICATIONS. This course presents basic concepts of telephony, local area networks, wide area networks, data transmission, and topology methods. Prerequisite: None (Lecture, 2 hours; lab, 4 hours).

IST 1143. SECURITY PRINCIPLES AND POLICIES. This course is an introduction to the various technical and administrative aspects of information security and assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system with appropriate intrusion detection and reporting features. Prerequisite: None (Lecture, 2 hours; lab, 2 hours).

IST 1153. WEB AND PROGRAMMING CONCEPTS. This course is an introduction to Web site development and programming logic. Students will gain hands-on experience

in the development of computer programs. Upon completion of this course, students will be able to create a Web site and post it on the Internet. Prerequisite: IST1134, IST1143 (Lecture, 2 hours; lab, 2 hours).

IST 1163. CONCEPTS OF DATABASE DESIGN. This course is an introduction to the design of relational databases. Emphasis is placed on creation, manipulation, extraction, and display of data from existing databases. QBE and SQL are explored. Prerequisites: IST1134, IST1143. (Lecture, 2 hours; lab, 2 hours)

IST 1223. NETWORK COMPONENTS. This course presents local area network and wide area connectivity. It focuses on architectures, topologies, protocols, and transport methods of a network. Prerequisite: IST 1134, IST1143. (Lecture, 2 hours; lab, 2 hours).

IST 1234. NETWORK ADMINISTRATION USING NOVELL. This course focuses on the management of a computer network using the Novell network operating systems. Emphasis will be placed on daily administrative tasks performed by a network administrator. Prerequisites: IST 1134, IST 1143. (Lecture, 2 hours; lab, 4 hours).

IST 1244. NETWORK ADMINISTRATION USING MICROSOFT WINDOWS SERVER. This course focuses on the management of a computer network using the Microsoft Windows Server network operating system. Emphasis will be placed on daily administrative tasks performed by a network administrator. Prerequisites: IST 1223, IST 1234. (Lecture, 2 hours; lab, 4 hours)

IST 1254. NETWORK ADMINISTRATION USING LINUX. This course focuses on the management of a computer network using Linux operating system. Emphasis is placed on installation, configuration, implementation, and administrative tasks of a functional server. Prerequisite: IST 1244. (Lecture, 2 hours; lab, 4 hours)

IST 1314. VISUAL BASIC PROGRAMMING LANGUAGE. This introduction to the Visual BASIC programming language introduces the student to object-oriented programming and a graphical integrated development environment. Prerequisites: IST 1153, IST 1163. (Lecture, 2 hours; lab, 4 hours)

IST 2223. NETWORK PLANNING AND DESIGN. This course involves applying network concepts and planning and designing a functioning network. Emphasis is placed on recognizing the need for a network, conducting an analysis, and designing a solution. Prerequisite: IST 1223, IST 1143. (Lecture, 2 hour; lab 2 hours)

IST 2234. NETWORK IMPLEMENTATION. This course is the culmination of all concepts learned in the network curriculum. Topics include planning, installation, evaluation, and maintenance of a network solution. Prerequisite: IST 2223. (Lecture, 2 hours; lab 4 hours)

IST 292(1-3). SPECIAL PROBLEM IN INFORMATION TECHNOLOGY. Cooperative program in which the student will participate in a planned program of activities under the direction of the program instructor. Prerequisites: Consent of instructor. (1-3 sch: 2-6-hr lab).

CPT 1324. SURVEY OF MICROCOMPUTER APPLICATIONS. This course will introduce microcomputer operation, word processing, spreadsheet, and database management software. Prerequisites: IST 1134. (Lecture, 2 hours; lab, 4 hours)

CPT1113. FUNDAMENTALS OF MICROCOMPUTER APPLICATIONS. This course will introduce information processing concepts including word processing, spreadsheet, and database management software. Service course: not to be taken by Business and Office and Related Technology students. Prerequisites: None. (Lecture, 2 hours; lab, 2 hours)

CONSTRUCTION EQUIPMENT OPERATION (CEV)

CEV 1212. SAFETY I. Personal safety, fire safety, traffic safety rules, and the rules of safety of each machine to include pre-start, operational, and post-operation. (1 hour lecture, 2 hour lab)

CEV 1222. SAFETY II. Pedestrian safety, safety communications and safety procedures in working near utilities. (1 hour lecture, 2 hour lab)

CEV 1313. SERVICE AND PREVENTIVE MAINTENANCE I. This course includes instruction in characteristics of oils and greases, fuel handling procedures and performing minor mechanical maintenance. Practice includes servicing a fuel filter system and changing engine oil. (2 hour lecture, 2 hour lab)

CEV 1323. SERVICE AND PREVENTIVE MAINTENANCE II. Lubrication procedures; servicing air filters; servicing cooling systems; servicing hydraulic systems; and installation, removal and storage of batteries (1 hour lecture, 4 hour lab).

CEV 1416. EQUIPMENT OPERATION I. Basic operation of the backhoe, scraper and grader. Includes operating the controls and basic skills performed with each machine and performing assignments by verbal and written instructions. (1 hour lecture, 10 hour lab)

CEV 1426. EQUIPMENT OPERATION II. Basic operation of the dozer, and loader and excavator. Includes the controls and basic skills performed with each machine and performing assignments by verbal and written instructions. (1 hour lecture, 10 hour lab)

CEV 1514 GRADE WORK I. Setting and checking of grade stakes which are used on job sites. Instruction and practice of transferring elevations are also included. (1 hour lecture, 6 hour lab)

CEV 1524. GRADE WORK II. Additional instruction and practice regarding the setting and checking grades. Also, instruction and practice on the compaction of various materials. (1 hour lecture, 6 hour lab)

CULINARY ARTS

CUT 1114. CULINARY ARTS I. Fundamentals of food preparation and cookery emphasizing high standards for preparation of meat, poultry, seafood, vegetables, soups, stocks, sauces, and farinaceous items. (4sch: 2hr. lecture, 4hr. lab)

CUT 1124. CULINARYARTS II. Advanced study of Culinary Principles I to polish and perfect the techniques of food preparation and cookery emphasizing high standards for preparation of meat, poultry, seafood, vegetables, soups, stocks, sauces, and farinaceous items. (4 sch: 2 hr. lecture, 4 hr.lab)

CUT 1134. PRINCIPLES OF BAKING. Fundamentals of baking science, terminology, ingredients, weights and measures, and formula conversion and storage. Students will prepare yeast goods, pies, cakes, cookies, and quick breads; and use and care for equipment. (4 sch: 2hr. lecture, 4 hr. lab)

CUT 1513. GARDE MANGER. Provides orientation to garnishing, preparation of charcuterie items, cold foods, and buffet presentation. Explodes the various duties of the modern garde manger. (3 sch: 1hr. lecture, 4 hr. lab)

CUT 2223. MENU PLANNING AND FACILITIES DESIGN. The principles and concepts of menu planning, menu formats, and layout with regard to a wide variety of eating habits and taste of the dining public. Emphasis will be on pricing, menu design, merchandising, tools, nutritional considerations schedules, and profitability. Effective planning and layout of kitchen and equipment will also be emphasized. (3 sch: 2hr. lecture)

CUT 2243. DINING ROOM MANAGEMENT. Management of a restaurant dining room including good housekeeping technique, fine food, and efficient service. Covers French, Russian, American, and English waited table service, limited service, counter, tray, service, and catering. Emphasis will be place on staffing, scheduling, controls and skills required to effectively supervise a dining room operation. (3 sch: 1 hr. lecture, 4 hr. lab)

CUT 2314. AMERICAN REGIONAL CUISINE. Exploration cuisine concept emphasizing freshness, seasonality, nutrition, indigenous ingredients, and presentation. A thorough study into the cuisine characteristics and traditions of the various regions of the United States of America. (4 sch: 2hr. lecture, 4hr. lab)

CUT 2424. INTERNATIONAL CUISINE. A study of cuisines of the world. Emphasis is on use of authentic ingredients, methods, and terminology. (4 sch: 2hr. lecture, 4 hr. lab)

CUT 2921. SUPERVISED WORK EXPERIENCE IN CULINARY ARTS TECHNOLOGY. A Course which is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour 45 industrial contact hours. (1-6 sch: 3- 18 hr. Externship)

HRT 1123. INTRO TO HOSPITALITY AND TOURISM INDUSTRY. This course is designed as an introduction to the hospitality and tourism industry. The course includes discussions and industry observations to discover the opportunities, trends, problems, and organizations in the field. (3 sch: 3 hr. lecture)

HRT 1213. SANITATION & SAFETY. Basic principles of microbiology, sanitation, and safety procedures for a food service operation. Implementation of sanitation procedures, cost control, and risk reduction standards in a hospitality operation are covered. Serv Safe Sanitation Certification from the National Restaurant Association or equivalent is offered as a part of this course. (3 sch: 2hr. lecture, 2hr. lab)

HRT 2613. HOSPITALITY SUPERVISION. Supervisory skills in leadership styles, communication skills, motivational techniques, employee training techniques, and evaluation methods. (3 sch: 2 hr. lecture, 2hr. lab)

HRT 2623. HOSPITALITY HUMAN RESOURCE MANAGEMENT. This course is designed to explore the principles of hospitality human resource management with an emphasis placed on the study of human behavior and human relations in the hospitality industry. (3 sch: 3 hr. lecture)

HRT 2713. MARKETING HOSPITALITY SERVICES. This course covers the application of marketing methodologies and terms to the hospitality and tourism industry, the use of sales techniques for selling to targeted markets, and developing marketing plans for hospitality and tourism operations. (3 sch: 2hr. lecture, 2hr. lab)

DRAFTING AND DESIGN TECHNOLOGY (DDT)

DDT 1114. FUNDAMENTALS OF DRAFTING. Course designed to give drafting majors the background needed for all other drafting courses.(2 hour Lecture, 4 hour Lab)

DDT 1123. Computational Methods for Drafting. Study of computational skills required for the development of accurate design and drafting methods. (1 hour lecture, 4 hour lab)

DDT 1133. MACHINE DRAFTING. Emphasizes methods, techniques, and procedures in presenting screws, bolts, rivets, springs, thread types, symbols for welding, materials, finish and heat treatment notation, working order preparation, routing, and other drafting room procedures. Prerequisite: DDT 1114.(1 hour Lecture, 4 hour Lab)

DDT 1213. CONSTRUCTION MATERIALS. A course designed to familiarize the student with the physical properties of the materials generally used in the erection of a structure, with a brief description of their manufacture.(2 hour Lecture, 2 hour Lab)

DDT 1313. PRINCIPLES OF CAD. This course will introduce the student to the operating system and how to perform basic drafting skills on the CAD.(2 hour Lecture, 2 hour Lab)

DDT 1323. INTERMEDIATE CAD. This course is designed as a continuation of Principles of CAD. Subject areas will include dimensioning, sectional views, and symbols. Prerequisites: DDT 1313, DDT 1114.(2 hour Lecture, 2 hour Lab)

DDT 1413. ELEMENTARY SURVEYING. Basic course dealing with principles of geometry, theory, and use of instruments, mathematical calculations, and the control and reduction of errors.(1 hour Lecture, 4 hour Lab)

DDT 1613. ARCHITECTURAL DESIGN I. Presentation and application of architectural drafting room standards. Prerequisites: DDT 1114, DDT 1213.(1 hour lecture, 4 hour Lab)

DDT 2213. STRUCTURAL DRAFTING II. Study of the miscellaneous areas of structural drafting including stairs, handrails and cage ladders. Prerequisites: DDT 1323 and DDT 2233.
(1 hour Lecture, 4 hour Lab)

DDT 2233. STRUCTURAL DRAFTING I. Structural section, terms, and conventional abbreviations and symbols used by structural fabricators and erectors are studied. Knowledge is gained in the use of the A.I.S.C. Handbook. Problems are studied that involve structural designing and drawing of beams, columns, connections, trusses, and bracing (steel concrete, and wood). Prerequisite: DDT 1114. (1 hour lecture, 4 hour Lab)

DDT 2243. COST AND ESTIMATING. Preparation of material and labor quantity surveys from actual working drawings and specifications. Prerequisites: DDT 1213, DDT 0223. (1 hour Lecture, 4 hour Lab)

DDT 2253. STRENGTH OF MATERIALS. Study of forces acting on bodies; movement of forces; stress of materials; basic machine design; beams, columns, and connections. Prerequisite: MAT 1313. (2 hour lecture, 2 hour Lab)

DDT 2343. ADVANCED CAD. This course is designed as a continuation of Principles of CAD. Emphasis is placed on attributes, slide shows, the user coordinate system, 3-D faces, and solid modeling. Prerequisite: DDT 1313. (1 hour lecture, 4 hour lab)

DDT 2423. MAPPING AND TOPOGRAPHY. Selected drafting techniques are applied to the problem of making maps, traverses, plot plans, plan drawings, and profile drawings using maps, field survey data, aerial photographs, and related references and materials including symbols, notations, and other applicable standardized materials. Co/Prerequisite: (DDT 1413) and (DDT 1323). (2 hour Lecture, 2 hour Lab)

DDT 2523. PIPE DRAFTING. Pipe Drafting is designed to provide the student with the basic knowledge needed to create process piping drawings using individual piping components. Prerequisite: (DDT 1114). (2 hour Lecture, 2 hour Lab)

DDT 2623. ARCHITECTURAL DESIGN II. This course emphasizes standard procedures and working drawings. Details involving architectural, mechanical, electrical,

and structural drawings are covered, along with presentation of drawings and computer-aided design assignments. Prerequisite: DDT 1613. (1 hour Lecture, 4 hour Lab)

DDT 2913. SPECIAL PROJECT. A course designed to provide the student with practical application of skills and knowledge gained in other drafting courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. Prerequisite: Consent of instructor. (2-6 hour Lab)

DDT 1113. FUNDAMENTALS OF DRAFTING. Course designed to give drafting majors the background needed for all other drafting courses. Emphasis placed upon maintaining correct techniques while developing speed. (2 hour lecture, 2 hour lab).

ELECTRONICS TECHNOLOGY (EET) /
BIOMEDICAL EQUIPMENT REPAIR (EET)

EET 1192. FUNDAMENTALS OF ELECTRONICS. This course is designed to provide fundamental skills associated with all electronics courses. This course includes safety, bread boarding, use of calculator, test equipment familiarization, soldering, electronic symbols, and terminology. (1 hour lecture, 2 hours lab)

EET 1114. DC CIRCUITS. This course is designed for students to know the principles and theories associated with DC circuits. This course includes the study of electrical circuits, laws and formulae, and the use of test equipment to analyze DC circuits. Co-requisite: Technical Student must be enrolled in a math course. (2 hours lecture, 4 hours lab)

EET 1123. AC CIRCUITS. This course is designed to provide students with the principles and theories associated with AC circuits. This course includes the study of electrical circuits, laws and formulae, and the use of test equipment to analyze AC circuits. Prerequisite or Co-requisite for Technical Students: EET 1114. (2 hours lecture, 2 hours lab)

EET 1214. DIGITAL ELECTRONICS. A course designed to introduce the student to number systems, logic circuits, counters, registers, memory devices, combination logic circuits, Boolean algebra, and a basic computer system. Prerequisite: EET 1192. (2 hours lecture, 4 hours lab)

EET 1311. ORIENTATION TO BIOMEDICAL EQUIPMENT REPAIR. Orientation to the biomedical equipment repair field. Topics covered are the different career paths open to students, types of biomedical equipment, and the organization and operation of the hospital environment. (1 hour lecture)

EET 1334. SOLID STATE DEVICES AND CIRCUITS. A course designed to introduce the student to active devices which include PN junction diodes, bipolar transistors, bipolar transistor circuits, and unipolar devices with emphasis on low frequency application and troubleshooting. Prerequisite: EET 1123. (2 hours lecture, 4 hours lab)

EET 1324. MICROPROCESSORS. A course designed to provide students with skills and knowledge of microprocessor architecture, machine and assembly language, timing, interfacing, and other hardware applications associated with microprocessor systems. Prerequisite: EET 1214. (2 hours lecture, 4 hours lab).

EET 1413. MATHEMATICS FOR ELECTRONICS. Coverage of those areas of arithmetic, algebra, geometry, and trigonometry that have applications in electronics. (2 hour lecture, 2 hours lab)

EET 1613. COMPUTER FUNDAMENTALS FOR ELECTRONICS. This course introduces the student to basic computer science as used in electricity/electronics areas. Computer nomenclature, logic, numbering systems, coding, operating system commands, editing, and batch files are covered. (2 hours lecture, 2 hours lab)

EET 1713. ELECTRONIC DRAFTING. A course designed to provide instruction on the preparation and interpretation of schematics, ladder logic diagrams, flow charts, block diagrams and art work for printed circuit boards. (1 hour lecture, 4 hours lab)

EET 211(3-6). SUPERVISED WORK EXPERIENCE IN BIOMEDICAL EQUIPMENT REPAIR I. Cooperative program between the health care facility and education which is designed to integrate the student's technical studies with health care experience. Variable credit is awarded on the basis of 1 semester hour per 45 health care contact hours. (1-6 sch; 3-18 externship)

EET 222(3-6). SUPERVISED WORK EXPERIENCE IN BIOMEDICAL EQUIPMENT REPAIR II. Continuation of EET 211(3-6) with advanced study in the repair and maintenance of biomedical equipment.

EET 2334. LINEAR INTEGRATED CIRCUITS. A course designed to provide the student with skills and knowledge associated with advanced semiconductor devices and linear integrated circuits. Emphasis is placed on linear integrated circuits used with operational amplifiers, active filters, voltage regulators, timers, and phase locked loops. Prerequisite: EET 1314. (2 hours lecture, 4 hours lab)

EET 2414. ELECTRONIC COMMUNICATIONS. A course designed to provide the student with concepts and skills related to analog and digital communications. Topics covered include amplitude and frequency modulation, transmission, and reception, data transmission formats and codes, the RS-232 interface, and modulation- demodulation of digital communications. Prerequisite: EET 1314. (2 hours lecture, 4 hours lab)

EET 2423. FUNDAMENTAL OF FIBER OPTICS. This is a course that covers, the basics of fiber optics, optical fiber cables, fiber optic connectors, splices and tools. This course includes getting started with fiber optics, guidelines for fiber optic design and installation, and fiber optic installation safety. (2 hour lecture, 2 hour lab)

EET 2433. PHYSICS FOR ELECTRONICS. Coverage of those areas of physics that have applications in electronics. (2 hours lecture, 2 hours lab)

EET 2514. INTERFACING TECHNIQUES. A study of data acquisition devices and systems including their interface to microprocessors and other control systems. Prerequisite: EET 1324 and EET 2334. (2 hours lecture, 4 hours lab)

EET 2813. VIDEO SYSTEMS. A study of the circuits and systems used in the production, transmission, and reception of video information to include color systems and computer-video interfacing. Prerequisite: EET 1314. (3 hours lecture)

EET 291(1-3). SPECIAL PROJECT. A course designed to provide the student with practical application of skills and knowledge gained in other electronics or electronics-related technical courses. The instructor works closely with the student to insure that the selection of projects will enhance the student's learning experience. Prerequisite: Minimum of 12 semester hours of electronics related courses. (1 hour lecture, 4 hours lab)

ELT 1213. ELECTRICAL POWER. A course to provide skills related to electrical motors and their installation. Includes instruction and practice in using the different types of motors, transformers, and alternators. (2 hour lecture, 2 hour lab)

ELT 2613. PROGRAMMABLE LOGIC CONTROLLERS. This course provides instruction and practice in the use of programmable logic controllers (PLC's) in modern industrial settings. This course includes instruction in the operating principles of PLC's and practice in the programming, installation, and maintenance of PLC's. (2 hour lecture, 2 hour lab)

HEATING AND AIR CONDITIONING (ACT)

ACT 1125. BASIC COMPRESSION REFRIGERATION. A course to introduce the student to the field of refrigeration and air conditioning. Emphasis is placed on advanced principles of safety, hand tools, heat and cold temperature measurement, pressures, vacuum, wiring diagrams, and the basic refrigeration cycle. (2 hour lecture, 6 hour lab)

ACT 1133. TOOLS AND PIPING. A course to provide the student with various tube and pipe connecting techniques required in heating, air conditioning, and refrigeration. (2 hour lecture, 2 hour lab)

ACT 1213. CONTROLS. Fundamentals of gas, fluid, electrical, and programmable controls. (2 hour lecture, 2 hour lab)

ACT 1312. REFRIGERATION SYSTEMS COMPONENTS. An in-depth study of components and accessories of a sealed system including metering devices, evaporators, compressors and condensers. (1 hour lecture, 2 hour lab)

ACT 1713. ELECTRICITY FOR HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION. Basic knowledge of electricity, power distribution, components, solid state devices, and electrical circuits.(3 sch: 2 hour lecture, 2 hour lab)

ACT 1813. PROFESSIONAL SERVICE PROCEDURE. Business ethics necessary to work with both the employer and customer. Includes resume, record keeping and service contracts. (3 hour lecture)

ACT 2324. COMMERCIAL REFRIGERATION. This course covers commercial systems. Included are theory, troubleshooting, and repair of commercial heating, ventilation, air conditioning, and refrigeration units.(2 hour lecture, 4 hour lab)

ACT 2414. AIR CONDITIONING I. This course includes procedures for servicing residential and commercial window air conditioning units. (2 hour lecture, 4 hour lab)

ACT 2424. AIR CONDITIONING II. A study of residential heating, ventilation, air conditioning, and refrigeration systems. Included are theory, troubleshooting, and repair of residential heating, ventilation, air conditioning systems. (2 hour lecture, 2 hour lab)

ACT 2433. REFRIGERANT, RETRO FIT AND REGULATIONS. Regulations and standards for new retrofit and government regulations. Includes OSHA regulations, EPA regulations, local, and state codes. (3 sch: 2 hour lecture, 2 hour lab)

ACT 2513. HEATING SYSTEMS. Various types of residential and commercial heating systems. Includes gas, oil, electric, compression and hydroponic heating systems. (2 hour lecture, 2 hour lab)

ACT 2624. HEAT LOAD CALCULATION AND AIR PROPERTIES. A study of heat load calculations for residential and light commercial heating, ventilation, air conditioning, and refrigeration systems. Included are air distribution, duct sizing, selection of grills and registers, types of fans, air velocity, and fan performance. An introduction is provided to air testing instruments. (2 hour lecture, 4 hour lab)

ACT 291(1-4). SPECIAL PROJECT IN HEATING AND AIR CONDITIONING. Provides the student with practical application of skills and knowledge gained in this program. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. Prerequisites: Consent of instructor. (1 hour lecture, 2-8 hour lab)

ACT 292(1-6). SUPERVISED WORK EXPERIENCE IN HEATING AND AIR CONDITIONING. Cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Prerequisite: Consent of instructor and the completion of at least twelve hours in this program's core curriculum.

SMT 1315. METHODS OF LAYOUT I. Layout and development of various sheet metal problems using the principles of parallel line and triangulation development. (2 hour lecture, 6 hour lab)

SMT 1414. HAND PROCESSES I. Selection and use of hand tools in the sheet metal trade. (2 hour lecture, 4 hour lab)

SMT 2514. MACHINE PROCESSES I. Selection and the safe use of hand and foot operated machines of the sheet metal trade. (2 hour lecture, 2 hour lab)

HOTEL AND RESTAURANT MANAGEMENT

CUT 1114. CULINARY ARTS I. Fundamentals of food preparation and cookery emphasizing high standards for preparation of meat, poultry, seafood, vegetables, soups, stocks, sauces, and farinaceous items. (4sch: 2hr. lecture, 4hr. lab)

HRT 1123. INTRODUCTION TO THE HOSPITALITY AND TOURISM INDUSTRY. This course is designed as an introduction to the hospitality and tourism industry. The course includes discussions and industry observations to discover the opportunities, trends, problems, and organizations in the field.

HRT 1213. SANITATION AND SAFETY. Basic principles of microbiology, sanitation, and safety procedures for a food service operation. Implementation of sanitation procedures, cost control, and risk reduction standards in a hospitality operation are covered. ServSafe Sanitation Certification from the National Association or equivalent is offered as a part of this course.

HRT 1224. RESTAURANT AND CATERING OPERATIONS. Principles of organizing and managing a food and beverage operation.

HRT 1413. ROOMS DIVISION MANAGEMENT. An operational approach to rooms division management in the hospitality industry including front office management and housekeeping operations.

HRT 2323. HOSPITALITY FACILITIES MANAGEMENT AND DESIGN. Design and manage the physical plant of a hotel or restaurant and work effectively with the engineering and maintenance department.

HRT 2423. HOSPITALITY SECURITY MANAGEMENT & LAW. Explains issues surrounding the need for individual security programs, examines a variety of security equipment and procedures, and discusses internal security for food service and lodging operations. This course provides awareness of the rights and responsibilities that the law grants to or imposes upon a hotelier and consequences of failure to satisfy legal obligations.

HRT 2613. HOSPITALITY SUPERVISION. Supervisory skills in leadership styles, communication skills, motivational techniques, employee training techniques, and evaluation methods.

HRT 2623. HOSPITALITY HUMAN RESOURCE MANAGEMENT. This course is designed to explore the principles of hospitality human resource management with an emphasis placed on the study of human behavior and human relations in the hospitality industry.

HRT 2713. MARKETING HOSPITALITY SERVICES. This course covers the application of marketing methodologies and terms to the hospitality and tourism industry, the use of sales techniques for selling to targeted markets, and developing marketing plans for hospitality and tourism operations.

HRT 2843. SEMINAR IN TRAVEL AND TOURISM. Simulations of activities related to travel and tourism including reservations tasks and services.

HRT 2853. CONVENTION AND MEETING PLANNING. Planning, promotion, and management of meetings, conventions, expositions, and events.

HRT 2863. TOURISM PLANNING AND DEVELOPMENT. This course is designed to provide the knowledge to plan and implement the marketing and management of special events and tourism events.

HRT 291(1-6). SUPERVISED WORK EXPERIENCE IN HOTEL AND RESTAURANT MANAGEMENT. A course which is a cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Variable credit is awarded on the basis of one semester hour per 45 industrial contact hours.

INDUSTRIAL ELECTRICITY/INDUSTRIAL/MAINTENANCE (ELT)

ELT 1192. FUNDAMENTALS OF ELECTRICITY. This is a basic course designed to provide fundamental skills associated with all electrical courses. It includes safety, basic tools, special tools, equipment, and introduction to simple AC and DC circuits. (1 hour lecture, 2 hour lab)

ELT 1113. RESIDENTIAL/LIGHT COMMERCIAL WIRING. A course to provide advanced skills related to the wiring of multi-family and small commercial buildings. Includes instruction and practice in service entrance installation, specialized circuits, and use of commercial raceways. Pre/co-requisite: ELT 1192. (2 hour lecture, 2 hour lab)

ELT 1123. COMMERCIAL AND INDUSTRIAL WIRING. A course to provide instruction and practice in the installation of commercial electrical service including the types and uses of conduit and other raceways, NEC code requirements, and three-phase distribution networks. Prerequisite 1192. (2 hour lecture, 2 hour lab)

ELT 1133. INTRODUCTION TO THE NATIONAL ELECTRIC CODE This is a course in the layout, format, rules, and regulations set forth in the National Electric Code. Emphasis is placed on developing the student's ability to find information in the National

Electric Code and apply that information in real world applications. (3 sch: 2 hour lecture, 2 hour lab)

ELT 1143. AC AND DC CIRCUITS FOR ELECTRICAL TECHNOLOGY

Principles and theories associated with AC and DC circuits used in the electrical trades. Includes the study of electrical circuits, laws and formulas, and the use of test equipment to analyze AC and DC circuits. (4 sch: 2 hour lecture, 4 hour lab)

ELT 1213. ELECTRICAL POWER. A course to provide skills related to electrical motors and their installation. Includes instruction and practice in using the different types of motors, transformers, and alternators. Prerequisite: ELT 1192. (2 hour lecture, 2 hour lab)

ELT 1223. MOTOR MAINTENANCE AND TROUBLESHOOTING. A course to familiarize the student with the principles and practice of electrical motor repair. Includes instruction and practice in the disassembly/assembly and preventive maintenance of common electrical motors. Prerequisite: ELT 1192. (2 hour lecture, 2 hour lab)

ELT 1253. BRANCH CIRCUIT AND SERVICE ENTRANCE CALCULATIONS: Calculating circuit sizes for all branch circuits and service entrances in residential installation. (2 hour lecture, 2 hour lab) Pre/Co-requisites: Residential/Light Commercial Wiring – ELT 1113 or equivalent.

ELT 1263. BLUEPRINTS AND ESTIMATING. A course to develop skills and knowledge related to the interpretation of blueprints for commercial/industrial installations and estimating costs of such installations. (2 hour lecture, 2 hour lab)

ELT 1273. SWITCHING CIRCUITS FOR RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL APPLICATIONS: Introduction to various methods by which single pole, 3-way, and 4-way switches are used in residential, commercial, and industrial installations. Also includes installation and operation of low voltage, remote control switching. (2 hour lecture, 2 hour lab)

ELT 1413. MOTOR CONTROL SYSTEMS. A course in the installation of different motor control circuits and devices. Emphasis is placed on developing student's ability to diagram, wire and troubleshoot the different circuits and mechanical control devices. Prerequisite: ELT 1192. (2 hour lecture, 2 hour lab)

ELT 1713. DRAFTING FOR ELECTRONIC/ELECTRICAL TECHNOLOGY. A course designed to provide instruction on the preparation and interpretation of schematics. (1 hour lecture, 4 hour lab)

ELT 2424. SOLID STATE MOTOR CONTROL. This course deals with the principles and operation of solid state motor control. This course includes instruction and practice in the design, installation, and maintenance of different solid state devices for motor control. Prerequisites: Motor Control Systems (ELT 1413) (2 hour lecture, 4 hour lab)

ELT 2613. PROGRAMMABLE LOGIC CONTROLLERS. This course provides instruction and practice in the use of programmable logic controllers (PLC's) in modern industrial settings. This course includes instruction in the operating principles of PLC's and practice in the programming, installation, and maintenance of PLC's Prerequisites: Motor Control Systems (ELT 1413) (2 hour lecture, 2 hour lab)

ELT 292(1-6). SUPERVISED WORK EXPERIENCE IN INDUSTRIAL ELECTRICITY/ INDUSTRIAL MAINTENANCE I Cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Prerequisite: Consent of instructor and the completion of at least twelve hours in this program's core curriculum.

ELT 294(1-6). SUPERVISED WORK EXPERIENCE IN INDUSTRIAL ELECTRICITY/ INDUSTRIAL MAINTENANCE II. Cooperative program between industry and education designed to integrate the student's technical studies with industrial experience. Prerequisite: Consent of instructor and the completion of at least twelve hours in this program's core curriculum.

ELT 291(1-3) SPECIAL PROJECTS I. This course is designed to provide the student with practical application of skills and knowledge gained in other electronics or electronics related technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. Prerequisite: Consent of instructor.
(6 hour lab)

ELT 293(1-3) SPECIAL PROJECTS II. This course is designed to provide the student with practical application of skills and knowledge gained in other electronics or electronics related technical courses. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. Prerequisite: Consent of instructor.
(6 hour lab)

IMM 1314. PRINCIPLES OF HYDRAULICS AND PNEUMATICS. Instruction in basic principles of hydraulics and pneumatics, and the inspection, maintenance, and repair of hydraulic and pneumatic systems. (1 hour lecture, 6 hour lab)

IMM 2114. EQUIPMENT MAINTENANCE, TROUBLESHOOTING, AND REPAIR. Maintenance and troubleshooting techniques, use of technical manuals and test equipment, and inspection/evaluation/repair of equipment. (1 hour lecture, 6 hour lab)

MACHINE TOOL TECHNOLOGY (MST)

MST 1115. POWER MACHINERY I. Operation of power machinery which includes instruction and practice in the safe operation of lathes, drill presses and vertical mills. (2 hour lecture, 6 hour lab)

MST 1125. POWER MACHINERY II. A continuation of Power Machinery I with emphasis on advanced applications of lathes, mills, shapers, and precision grinders. Prerequisite: MSV/MST 1115. (2 hour lecture, 6 hour lab)

MST 1313. MACHINE TOOL MATHEMATICS. An applied mathematics course designed for machinists which includes instruction and practice in algebraic and trigonometric operations. (2 hour lecture, 2 hour lab)

MST 1413. BLUEPRINT READING. Plans and specifications interpretation designed for machinists. Includes instruction and practice in reading plans and applying specifications. (2 hour lecture, 2 hour lab)

MST 1423. ADVANCED BLUEPRINT READING. A continuation of Plans and Specifications with emphasis on advanced features of plans and specifications. Includes instruction on the identification of various projections, views, and assembly components. Prerequisites: MSV/MST 1413. (2 hour lecture, 2 hour lab)

MST 1613. PRECISION LAYOUT. Precision layout for machining operations which includes instruction and practice in the use of layout instruments. (2 hour lecture, 2 hour lab)

MST 2135. POWER MACHINERY III. A continuation of the Power Machinery II with emphasis on safety, and advanced applications of the engine lathe, milling, and grinding machine. Prerequisite MSV/MST 1125. (2 hour lecture, 6 hour lab)

MST 2144. POWER MACHINERY IV. A continuation of Power Machinery III with emphasis on highly advanced safe operations on the radial arm drill, milling machine, engine lathe, and precision grinder. Prerequisite: MSV/MST 2135. (2 hour lecture, 4 hour lab)

MST 2714. COMPUTER NUMERICAL CONTROL OPERATIONS I. An introduction of computer numerical control (CNC) and computer assisted manufacturing (CAM) techniques and practices. Includes the use of the Cartesian coordinate system, programming codes and command, and tooling requirements for CNC/CAM machines. (3 hour lecture, 2 hour lab)

MST 2725. COMPUTER NUMERICAL CONTROL OPERATIONS II. A continuation of Computer Numerical Control Operations I. Includes instruction in writing and editing CNC programs, machine setup and operation, and use of CAM equipment to program and operate CNC machines (CNC lathes, CNC mills, CNC machine centers, and wire EDM). Prerequisite: MSV/MST 2714. (2 hour lecture, 6 hour lab)

MST 2812. METALLURGY. Concepts of metallurgy which includes instruction and practice in safety, metal identification, heat treatment, and hardness testing. (1 hour lecture, 2 hour lab)

MST 2913. SPECIAL PROJECTS IN MACHINE TOOL. Practical application of skills and knowledge gained in other Machine Tool courses. The teacher works closely

with the student to insure that the selection of a project will enhance the student's learning experience. Prerequisite: Consent of instructor.

MST 2923. SUPERVISED WORK EXPERIENCE IN MACHINE TOOL. Cooperative program between industry and education and is designed to integrate the student's technical studies with industrial experience. Prerequisites: Consent of instructor (Career and Technical students) and completion of at least one semester of advanced course work in Machine Tool (Technical students).

WELDING AND CUTTING PROGRAMS (WLV)

WLV 1115. SHIELDED METAL ARC WELDING I. This course is designed to teach students welding techniques using E-6010 electrodes. (1 hour lecture, 8 hour lab)

WLV 1124. GAS METAL ARC WELDING. This course is designed to give the student experience in various welding applications with the GMAW welder including short circuiting and pulsed transfer. (1 hour lecture, 6 hour lab)

WLV 1171. WELDING INSPECTION AND TESTING PRINCIPLES. This course is designed to give the student experience in inspection and testing of welds. (2 hour Lab)

WLV 1136. GAS TUNGSTEN ARC WELDING. This course is designed to give the student experience in various welding applications with the GTAW welder. (1 hour Lecture, 10 hour Lab)

WLV 1143. FLUX CORED ARC WELDING. This course is designed to give the student experience in FCAW. (1 hour Lecture, 4 hour Lab)

WLV 1225. SHIELDED METAL ARC WELDING II. This course is designed to teach students welding techniques using E-7018 electrodes. (1 hour Lecture, 8 hour Lab)

WLV 1232. DRAWING AND WELDING SYMBOL INTERPRETATION. This course is designed to give the student advanced experience in reading welding symbols. (1 hour Lecture; 2 hour Lb)

WLV 1314. CUTTING PROCESSES. This course is designed to give the student experience in oxyfuel cutting principles and practices, air carbon cutting and gouging, and plasma arc cutting. (2 hour Lecture, 4 hour lab)

WLV 1913. SPECIAL PROJECTS IN WELDING AND CUTTING. Provides the student with practical application of skills and knowledge gained in this program. The instructor works closely with the student to insure that the selection of a project will enhance the student's learning experience. Prerequisite: Consent of instructor. (1 hour Lecture; 4 hour Lab)

WLV 1923. SUPERVISED WORK EXPERIENCE IN WELDING AND CUTTING. Cooperative program between industry and education designed to integrate the student's

technical studies with industrial experience.

SUPERVISED WORK EXPERIENCE

Restrictive Electives

In order to qualify for supervised work experience, a student must have completed at least 12 hours of course work in their chosen program of study and be approved by the Career/Technical Instructor and the Assistant to the Vice President of Instruction for Career Technical Education.

This course is a cooperative program between industry and education and is designed to integrate the student's career studies with industrial experiences. Three hours of credit is awarded upon course completion. Course numbers are as follows: 1913, 1923, 2913, 2926, 2933, and 2944. (Individual course prefix attached as listed below).

While enrolled in supervised work experience, the student will participate in a planned program of activities under the direction of the program instructor. Weekly contact between the student and instructor will be made to provide for completion of assignments and course requirements. Grading of supervised work experience follows the college grading scale.

Participating programs include: Agricultural Business and Management Technology; Agricultural Mechanics; Automotive Machinist; Automotive Mechanics; Brick, Block and Stone Masonry; Biomedical Equipment Repair Technology; Business and Office Technology; Computer Network Technology; Commercial Truck Driving; Drafting and Design Technology; Heating and Air Conditioning; Industrial Electrical/Industrial Maintenance; Machine Tool Operations; and Welding.

SPECIAL PROJECTS

Restrictive Electives

Must be approved by Career/Technical Instructor and Assistant to the Vice President of Instruction for Career Technical Education.

1943, 1944, 2913, 2923, 2943, 2946, 2953. A course to provide students with an opportunity to utilize skills and knowledge gained in career or technical courses. The instructor and student work closely together to select a topic and establish criteria for completion of the project. (Lecture and lab hours set by individual instructors.)

Programs participating are: Agricultural Business and Management Technology; Agricultural Power Mechanics; Automotive Machinist; Automotive Mechanics; Brick, Block and Stone Masonry; Computer Network Technology; Drafting and Design Technology; Electronics; Heating and Air Conditioning; Industrial Electrical/Industrial Maintenance; Machine Tool Operations; and Welding.

WORK-BASED LEARNING

Work-Based Learning combines classroom instruction in the Career Technical Programs with structured on-the-job experiences in local businesses and industries to provide a curriculum for career/technical students which better equips them for employment in technical careers. Placed in a work environment which compliments classroom learning, the Work-Based Learning student masters skills and competencies which have been outlined by participating businesses and industries on state-of-the-art equipment. In so doing, the Work-Based Education participant is not only better able to see the connection between education and work but is also able to earn wages while learning from skilled professionals and testing a potential career. Work-Based Learning students enter the workforce equipped with employability skills as well as an educational background which enhances their future career options.

Restrictive Elective

Must be enrolled in a Career Technical Program and be approved by both the WBL Coordinator & the Career/Technical Instructor

WBL 191(1-4), 192(1-4), 193(1-4), 291(1-4), 292(1-4), 293(1-4). This course is designed for students enrolled in Career/Technical programs only. Students are placed in a business/industry related to their career/technical area for a minimum of 15 hours per week. Course content is based on the standardized curriculum of the Career/Technical course in which the student is enrolled, specific workplace needs, and specific objectives addressing competent workplace performance. One to three semester hours credit based upon the total quantity of approved clock hours. (Accompanying the course title and grade on the transcript will be a statement to indicate the number of clock hours of on-the-site work experience obtained during the semester).