

# Course Descriptions

---

## Accounting

### **ACC 100 Business Accounting (Fa, Sp) 3 SCH**

Business Accounting includes the theory and practice associated with double-entry accounting. Special emphasis is placed on the preparation of the documents necessary to complete the accounting cycle. Topics include: transactions, journals, financial statements, schedules, adjustments/closing entries, accounting cycle, cash control, bank reconciliation, and payroll. Prerequisites: None

### **ACC 120 Financial Accounting (Fa, Sp) 3 SCH**

Emphasis on working with financial statements, notes receivables and payables, inventory valuation, depreciation, partnerships, financial analysis for a merchandising business. Commercial accounting software is used to solve problems. Prerequisites: None

### **ACC 125 Computerized Accounting (Sp) 3 SCH**

This course covers small business accounting using QuickBooks software. Topics include printing reports, creating chart of accounts, recording customer and vendor transactions, processing payrolls, creating new companies, working with budgets, export to other software, and using the audit trail. Prerequisites: ACC 100 or higher with a grade of C or better

### **ACC 130 Payroll Accounting (Fa) 3 SCH**

Development of skills in preparing time cards, payroll registers, individual employee earnings records, payroll checks, governmental reports, and journal entries both manually and electronically. Included are the study of government regulations that affect payroll and controls needed in a payroll system. Prerequisites: None

### **ACC 140 Managerial Accounting (Sp) 3 SCH**

Emphasis on accounting for corporations, cash flow and financial statement analysis; departmental and manufacturing accounting; and spreadsheet and commercial accounting software are used to solve problems. Prerequisites: ACC 120 with a grade of C or better

### **ACC 260 Accounting for Nonprofit Organizations (Sp) 3 SCH**

A survey of not-for-profit accounting and its primary users: federal, state and local governments, hospitals, and schools. Includes an exploration of the primary fund and accounting groups, review of the budget process, and examination of variances. Prerequisites: None

### **ACC 270 Tax Accounting (Fa) 3 SCH**

A study and preparation of income tax returns and a study of tax regulations and forms. Prerequisites: None

## Air Conditioning and Refrigeration

### **HVA 100 Refrigeration Theory (Fa) 4 SCH**

How mechanical refrigerators operate; heat and heat flow; temperature measurement; pressure, and states of matter; the laws of refrigeration, and safety procedures. Prerequisites: None

### **HVA 110 Electrical Theory (Fa) 3 SCH**

Generation of electricity, types of electricity - direct and alternating current circuit fundamentals, magnetism and electrical components. Prerequisites: None

### **HVA 120 Domestic Refrigeration (Fa) 3 SCH**

Terminology associated with domestic refrigeration, identification of types of domestic refrigeration, location of data plates and their purpose. Also covered will be sealed system components, their function, operation, as well as locating and solving problems in a safe manner. Prerequisites: HVA 100

### **HVA 130 Controls & Motors (Fa) 3 SCH**

Electric control circuits in ladder diagram, and pictorial form. Also covered will be ice-maker diagrams, comfort cooling controls, central air conditioning controls, pressure motor controls, motor safety controls, defrost controls and humidity controls. Prerequisites: HVA 110

### **HVA 140 Heating (Fa) 3 SCH**

Terminology associated with heating and humidification. Heating equipment covered will include, gas heating systems, hydronic heating, electric heating and oil heating as well as humidification. Prerequisites: HVA 130

### **HVA 150 Cooling (Sp) 3 SCH**

Focus on operation, installation, and service procedures for heat pumps and complete air conditioning systems. Prerequisites: HVA 130

### **HVA 160 Advanced Electrical Theory (Sp) 3 SCH**

Course covers complex electrical circuits, reading from a diagram, and how circuits operate. Students will develop an understanding of electrical components and terminology to diagnose electrical problem related to HVAC and commercial electrical circuits. Prerequisites: HVA 110

### **HVA 170 Design & Blueprint Reading (Sp) 3 SCH**

Learn to read plans and blueprints for new construction and be able to calculate loads for heating and cooling systems then design a HVAC system for residential setting. HVA 180 Commercial Refrigeration (Sp) 4 SCH

### **HVA 180 Commercial Refrigeration (Sp) 4 SCH**

Study of condensing units, condensers, refrigerant controls, evaporators, and other components used in commercial refrigeration systems as well as diagnosing, testing, servicing and repair of commercial equipment. Safety for the technician, customer, and equipment are also covered. Prerequisites: HVA 150

### **HVA 185 Customer Service (Sp) 1 SCH**

Enhances the student's ability to seek employment in the field of air conditioning, and to communicate with customers and businesses. Prerequisites: None

### **HVA 190 Project Management (Sp) 2 SCH**

Application of technical skills with projects which include installing condensing unit, cooling coil, line set, and thermostat to the heating system. Students will also analyze performance of the heating and cooling system for proper operation. Prerequisites: HVA 180 Commercial Refrigeration Control Systems

### **HVA 199 Occupational Work Experience (Sp) 2 SCH**

Supervised work experience in the public and private sector. Prerequisites: HVA 180; faculty recommendation

## Automotive Collision Repair

### **ACR 104 Non-Structural Analysis and Damage Repair 1 (Fa) 4 SCH**

This course provides an overview of the collision repair career opportunities, orientation, safety training, basics of metal straightening, and GMAW (MIG) welding fundamentals.

### **ACR 108 Non-Structural Analysis and Damage Repair 2 (Fa) 4 SCH**

This course covers the application of metal finishing techniques as well as performance of GMAW (MIG) welding for collision repair and moveable glass operations. Instruction also includes the application of plastic body filler and metal cutting procedures for non-structural repair.

---

**ACR 114 Non-Structural Analysis and Damage Repair 3 (Fa) 4 SCH**

Students will perform body trim and molding removal and storage; outer body repairs, replacements, and adjustments; and complex metal straightening techniques. Students will understand the difference between direct and non-direct damage.

**ACR 118 Non-Structural Analysis and Damage Repair 4 (Fa) 4 SCH**

This course will instruct students in the use of plastic, composite material repairs, and replacements. Students will also receive instruction in weld on panel procedures including the use of GMAW (MIG) welding, panel bonding adhesives, and the use of Squeeze Type Resistance Spot Welding.

**ACR 124 Painting and Refinishing 1 (Fa) 3 SCH**

Students will identify safety and personal health hazards associated with refinishing operations to include paint mask fit test. Students will also identify different types of substrates and sanding materials relevant to surface preparation and distinguish among the various types of spray equipment.

**ACR 128 Painting and Refinishing 2 (Fa) 3 SCH**

Students will distinguish different types of primer materials applied to painted surfaces and bare metal or plastic surfaces. Instruction will also include identification of proper sanding procedures for different repair situations and the application of proper safety precautions. Instruction in paint gun adjustments for proper primer and paint applications will also be included.

**ACR 134 Painting and Refinishing 3 (Sp) 3 SCH**

Students will prepare a vehicle for undercoats and cleaning procedures for refinishing preparation. Students will apply procedures for mixing, catalyzing and activating paint; applying paint to a vehicle using a variety of spray techniques and spray equipment; and analyze and correct paint defects with proper procedures.

**ACR 138 Painting and Refinishing 4 (Sp) 4 SCH**

Students will prepare panels to be blended using proper paint procedures and practices; perform proper procedures and practices for refinishing plastic and composite parts; and learn how to color match paint through tinting and proper mixing procedures.

**ACR 144 Mechanical and Electrical Components (Sp) 3 SCH**

Students will study mechanical and electrical components that can be damaged as a result of collision and will learn how to find where the damage is located and identify proper repair procedures.

**ACR 148 Employability Skills (Sp) 2 SCH**

This course is designed to prepare students for the interview process and provide employability skills instruction for gainful employment in the collision repair field.

**ACR 154 Structural Analysis and Damage Repair 1 (Sp) 2 SCH**

This course will enable students to analyze structural damage and identify safety requirements pertaining to structural damage repairs. Students will identify types of welds used for structural repairs. This course will also study the use of different types of measuring equipment in order to learn and identify basic structural damage conditions.

**ACR 158 Structural Analysis and Damage Repair 2 (Sp) 3 SCH**

Students will measure and analyze frame damage to develop a repair plan. The course will provide students the opportunity to analyze and develop a repair plan for unibody vehicles.

**ACR 164 Structural Analysis and Damage Repair 3 (Sp) 3 SCH**

Students will raise and clamp a vehicle to perform structural repairs; perform structural straighten repairs on conventional body over frame and unibody vehicles; and learn and use proper welds for structural repairs.

**ACR 168 Structural Analysis and Damage Repair 4 (Sp) 3 SCH**

In this course, students will learn how to replace complex structural parts after pulling has been completed. Students will perform complex structural repairs to heavily damaged vehicles and study the role that fixed glass plays in the structural strength of a vehicle in a collision and the importance of proper replacement procedures.

## Automotive Technology

**AMT 110 Electrical Systems I (Fa, Sp) 4 SCH**

This is an introductory course to automotive electrical systems diagnostics and service. Topics covered are the principles of basic electrical circuits, battery and starting circuits, and an introduction to basic automotive electronics. Diagnosis, testing and unit repair for each circuit are also taught. Prerequisites: None

**AMT 115 Electrical Systems II (Sp) 4 SCH**

This course builds on the material learned in AMT 110 Electrical Systems I. Subjects include charging, lighting, instrumentation and accessory systems, along with testing, diagnosis and unit repair for each circuit. Restraint systems theory, diagnosis and service are taught in this course. Prerequisites: AMT 110, AMT 120

**AMT 120 Engine Performance I (Fa, Sp) 4 SCH**

This is an introductory course to three areas of engine performance: Ignition, Fuel and Emission Control systems. An introduction to computer control and electronics as related to ignition, fuel and emission control systems is also covered. Prerequisites: None

**AMT 125 Engine Performance II (Fa, Sp) 4 SCH**

This course builds on the material learned in AMT 120 Engine Performance I. The areas of automotive electronics including microprocessors, sensors and actuators as related to ignition, fuel and emission control systems are studied. The operation and diagnosis/testing of these systems are also covered. Prerequisites: AMT 110, AMT 120

**AMT 130 Brakes (Sp) 4 SCH**

A study of basic theory and design of modern automotive and light truck braking systems. Hydraulics, drum and disc brake systems, power assist, anti-lock, diagnosis, adjustment, service and repair, and shop safety procedures will be taught. Prerequisite: AMT 110, AMT 120

**AMT 140 Manual Drive-Trains & Axles (Fa, Sp) 4 SCH**

Addressed are areas of modern automotive manual drive-train and axle theory, design, maintenance, service, and repair. The course will include fly-wheel and clutch, manual transmissions, transfer cases, driveshafts and universal joints, constant velocity joints, differentials, limited slip and drive axles. Prerequisites: AMT 110, AMT 120

**AMT 145 Automatic Transmissions & Transaxles (Fa) 4 SCH**

Areas studied are automotive automatic transmission/transaxle theory, design, service, and repair. The course introduces the basic concepts, and then proceeds from the simple to the more complex units. Areas included are power flow, hydraulic operation, electronic control, diagnosis and service/repair. Prerequisites: AMT 110, AMT 120

**AMT 150 Suspension & Steering (Fa) 4 SCH**

Areas of modern automotive and light pickup steering and suspension systems theory, design, maintenance, service and repair. Includes straight axles, short arm / long arm independent suspensions, McPherson strut, steering and suspension geometry, diagnosis, wheel alignment, tires and wheels, and balancing. Prerequisites: AMT 110, AMT 120

---

**AMT 160 Heating & Air Conditioning (Sp) 4 SCH**

Areas studied are the theory, design and service/repair of automotive climate control systems. Safety practices and troubleshooting of heating, ventilation, and air conditioning (HVAC) systems used on cars and light trucks are taught. Prerequisites: AMT 110, AMT 120

**AMT 210 Electrical Systems III (Fa) 4 SCH**

This advanced course builds on the material learned in AMT 110 and AMT 115. Areas of study are body control modules, antilock brake/traction control systems, antitheft/security systems and automotive multiplexing/networking systems. An introduction to hybrid vehicles is also included in this course. Prerequisite: AMT 115

**AMT 220 Engine Repair (Sp) 4 SCH**

The study of basic theory, design, service, and diagnosis of live automotive and light truck engines. Practical application of diagnosis, removal, inspection, measurement, repair, installation, and safety procedures will also be taught. Prerequisites: AMT 110, AMT 120

**AMT 264 Agricultural Power 2 SCH**

The course is designed to provide students with the theoretical basis, knowledge, and skills necessary for the repair and maintenance of small gas engines and basic hydraulic systems. Emphasis will be placed on laboratory safety, general laboratory measurements, engine operation, compression, fuel, governor, electrical, cooling, lubrication systems, engine troubleshooting and basic hydraulics. Prerequisites: None

## Building Trades

**BTR 100 Tools & Materials (Fa) 2 SCH**

An overview of tools and materials required for the Building Trades. An introduction to the nature, characteristics, and application of wood and lumber, engineered panels, engineered lumber products, fasteners, hand tools, portable power tools, and stationary power tools. Safe operation of hand and power tools is stressed. Prerequisites: None

**BTR 110 Blueprints, Building Codes & Building Layout (Fa) 1 SCH**

A study of the importance of accurately reading blueprints and integrating current building codes and zoning ordinances in building construction. Instruction includes building layout and use of measuring, leveling, and layout tools. Prerequisites: None

**BTR 120 Residential Concrete (Fa) 4 SCH**

Use and application of concrete used in residential construction. Learning experiences include: form setting, pouring of foundations, footings and floors, types of concrete mixes, terms, volumes of concrete, sources for concrete, expansion and contraction, finishing, mixtures used in concrete, reinforcement, tools and equipment used in concrete construction. Prerequisites: None

**BTR 130 Residential Rough Carpentry (Fa) 5 SCH**

Overview of framing a house, floor and rough construction, roofing and siding. Topics of discussion and on-site experiences include floor framing, wall framing, interior rough work, scaffolds, ladders, and horses, roof framing, and stair framing. Prerequisites: None

**BTR 135 Residential Exterior Carpentry (Fa) 5 SCH**

Study of roofing, shingling, windows, exterior doors, siding, porches, decks, and fences for the building trades. Emphasis will be placed on the application, skills, and techniques used in residential construction for the previously listed topics. Prerequisites: None

**BTR 140 Cabinets & Installation (Sp) 2 SCH**

The application of carpentry to construct cabinets used in residential housing. Topics include kitchen location, design, arrangement of cabinets, lighting, standard cabinet sizes, cabinet materials, drawer guides, the work triangle, and building of cabinet units. Prerequisites: None

**BTR 150 Drywall, Insulation, & Ventilation for Residential Construction (Sp) 5 SCH**

A study of the techniques of drywall application, various uses and ratings of insulation, and requirements of proper ventilation for residential construction. Students will cut, apply adhesives, hang, tape, finish, and texture drywall. Prerequisites: None

**BTR 160 Interior Finish Carpentry (Sp) 5 SCH**

Application and techniques for installing interior jambs, ceiling mold, hanging doors, installing baseboards, suspended ceilings, trim, painting, and molding used for residential construction. Prerequisites: None

**BTR 170 Painting, Finishing & Decorating (Sp) 4 SCH**

Techniques required to finish the interior and exterior of a residence. Topics include caulk, oil and latex paint, sanding, staining, filling, varnish and other materials used for finishing. Prerequisites: None

**BTR 262 Agricultural Structures 2 SCH**

The course is designed to provide students with the theoretical basis, knowledge and skills necessary for the construction/fabrication of agricultural structure type projects. Emphasis will be placed on: laboratory safety, general laboratory measurements, material selection, basic construction techniques, electrical theory and construction, and basic surveying. Prerequisites: None

## Business Administration

**BUS 100 Keyboarding (Fa, Sp) 1 SCH**

The keyboarding course teaches and develops the ability to key alphabetic, numeric and symbols by touch using proper techniques. A typing speed of at least 25 wpm is important to completing this course successfully.

**BUS 104 Skillbuilding (Fa, Sp) 3 SCH**

This course will enable the student to gain in speed and accuracy by applying systematic practice on a computer keyboard. Diagnostic software is used to determine the student's starting point and areas needed to improve. Successful completion of this course is measured by an increase in words per minute, and a decrease in errors per minute. Blended format: face-to-face and online. Prerequisites: Proven ability to keyboard at 20 wpm or higher for 5 min.

**BUS 110 Business Mathematics (Fa, Sp) 3 SCH**

Emphasis is placed upon learning mathematical concepts through practical application to common business problems. Topics covered will help to provide students with their math needs for other class requirements. Prerequisites: None

**BUS 120 Business English (Fa, Sp) 3 SCH**

This course will enable the student to master language principles for the information age. The student will develop language skills while gaining computer experience. The student will gain expertise in basic rules of English grammar, punctuation, capitalization, number style, spelling, and vocabulary. Prerequisites: None

**BUS 125 Business Communication (Fa, Sp) 3 SCH**

Areas of communication studied and applied are business writing, listening skills, one-to-one oral communication, personal communication styles, and making presentations. Grammar, usage, and style will be reviewed and reinforced. Prerequisites: BUS 120 with a grade of C or higher

**BUS 126 Introduction to Business (Fa, Sp) 3 SCH**

Foundation course about business and its importance in a free market economy. The course includes the study of types of business ownership and operations. Business terminology is used to understand and interpret business news and information. Prerequisites: None

---

**BUS 130 Records & Information Management (Fa, Sp) 3 SCH**

Instruction in the creation, maintenance, protection, and disposition of records stored in a variety of media forms. Instruction will include the ARMA (Association for Records Managers and Administrators, Inc.) rules for filing, retrieving documents, and specialized functions such as micrographics and optical disk technology. Also included are laws relating to records management. Prerequisites: None

**BUS 141 Medical Terminology (Fa) 3 SCH**

This course will enable the student to use prefixes, suffixes, combining forms, and word roots to build medical terms; analyze component parts of medical terms to determine meaning; identify, pronounce, and define common anatomical terms related to the major body systems; and define basic terms and abbreviations used in documenting health records. Prerequisites: None

**BUS 146 Medical Billing & Coding (Fa) 3 SCH**

This course will enable the student to develop a basic knowledge of the national diagnostic and procedural coding systems and to simplify the process of filing claim forms. The student will be introduced to the major nationwide medical insurance programs. Prerequisites: BUS 141 or concurrent enrollment with a grade of C or higher

**BUS 148 Advanced Medical Coding (Sp) 3 SCH**

This course will enable the student to further develop a basic knowledge of the national diagnostic and procedural coding systems. The student will be able to accurately assign ICD-9-CM diagnosis codes, CPT procedure codes and modifiers, and HCPCS supply and medication codes to outpatient and inpatient services. Prerequisites: BUS 146 with a grade of C or higher

**BUS 185 Business Ethics & Human Relations (Fa, Sp) 3 SCH**

This course introduces contemporary and controversial ethical issues facing the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. The course emphasizes employability skills such as communication, work habits and attitudes, ethics, conflict management, motivation and problem solving, self-concept, perception, self-awareness, personality, values and communications. Prerequisites: None

**BUS 199 Business Internship (Fa, Sp) 1 to 3 SCH**

Business Internship will give students an opportunity to work in a business or governmental agency to apply competencies achieved in previous courses to current office conditions. Each student will be evaluated by the instructor and the supervisor in the office. Prerequisites: Completion of 20 program credit hours with 3.0 or higher GPA and permission of advisor

**BUS 210 Workstation Management (Fa) 3 SCH**

Study of computer components, software, and usage; troubleshooting software problems; preparing proposals for system purchases; performing Internet research; and safeguarding integrity of system components. Prerequisites: None

**BUS 220 Administrative Procedures (Fa, Sp) 3 SCH**

The focus will be on skills required in today's office. Topics include telephone, mail, business equipment, office layout and ergonomics, and meeting and travel planning. Time management, decision-making, critical thinking, prioritizing, and teamwork will be emphasized. Prerequisites: None

**BUS 240 Integrated Applications (Sp) 3 SCH**

Integrated Applications will give administrative support students a real-life exposure to business documents/projects and workflow. The utilization and integration of word processing, spreadsheet, database, and presentation software will be incorporated. Prerequisites: CIS 110 Word Processing, CIS 120 Spreadsheet Management, CIS 130 Database Management or concurrent enrollment with a grade of C or higher

**BUS 250 Project Management (Fa) 3 SCH**

This course is specifically designed to focus on the practical application of project management concepts. The student will gain the knowledge and tools needed to get projects started correctly and completed successfully. Prerequisites: None

**BUS 275 Professional Development (Fa, Sp) 2 SCH**

A study of professional workplace behavior; development of personal, educational, and professional career goals; and understanding of effective job-seeking skills. Also included is an overview of laws relating to labor relations, contracts, and personnel matters. Prerequisites: None

**Computer Software****CIS 100 Software Applications (Fa, Sp) 3 SCH**

This introductory course provides extensive hands-on experience with word processing, spreadsheet, database, and presentation software. Prerequisites: Must achieve a score of 20 wpm on keyboarding pretest.

**CIS 110 Word Processing (Fa, Sp) 3 SCH**

Application of advanced word processing competencies. Topics include: preparation of documents as newsletters, letters, mailing labels; creation of outlines, tables, forms; management of complicated documents; customization of software; and integration of word processing software with other software programs. Prerequisites: CIS 100 with a grade of C or better and keyboarding speed of 30 wpm.

**CIS 117 Microsoft DOS Operating System (Fa, Sp) 1 SCH**

This course introduces the standard Microsoft DOS operating system. The course is designed to give the students a working, hands-on knowledge of the commands and techniques used for manipulating and managing files at the DOS prompt level. Lab exercises make use of student activities diskettes that provide files that the students can manipulate. Prerequisite(s): Keyboarding skills and some familiarity with computer operation is recommended.

**CIS 120 Spreadsheet Management (Fa, Sp) 3 SCH**

Simulated business problems to create and maintain financial records. Tools used will include functions, templates, macros, charts, and databases. Spreadsheet files will be created using Microsoft Excel. Prerequisites: BUS 110, CIS 100 with a grade of C or higher

**CIS 130 Database Management (Fa, Sp) 3 SCH**

Database management includes designing and creating a database; displaying a database; adding, changing and deleting records; creating and using indexes and views; changing structures; using statistical functions; sorting; report and form generation; using query wizards, action queries and briefcase replication, and macros. Prerequisites: CIS 100 with a grade of C or higher

**CIS 150 Web Page Applications (Fa, Sp) 3 SCH**

Web Page Applications includes planning and designing a web page, using both HTML and specialized software, working with templates, editing features, creating forms, using frames, and providing knowledge in the maintenance of web sites. Prerequisites: None

---

## Computer-Aided Drafting Technology

### **DFT 103 Fundamentals of Drafting (Fa, Sp) 3 SCH**

Basic concepts and skills of mechanical drawing using conventional, computer-aided drafting, and use and knowledge of tool, supplies, and equipment. Mechanical drafting fundamentals, using conventional drafting, will be presented, along with an explanation of standard drafting practices. Topics covered will include drafting equipment, media, sketching, and lettering and lines, geometric construction, multi-views, auxiliary views, sections, pictorials, and dimensioning. Practical and realistic math problems associated with drafting topics will also be covered. Must have a grade of C or higher to pass. Prerequisites: None

### **DFT 105 CAD Applications (Fa, Sp) 3 SCH**

Concepts and skills of AutoCAD 2D and 3D applications. Topics include setup, drawing, editing, layer and line-type management, making prints, annotations and dimensioning, inquiry, and 3D dimensional drawing. Must have a grade of C or higher to pass. Prerequisites: None

### **DFT 110 Applied Descriptive Geometry (Fa, Sp) 3 SCH**

A study of the graphic language for technicians in drafting covering fundamental concepts with an emphasis on logical reasoning, visualization, and practical applications of descriptive geometry and orthographic projection. Prerequisites: None

### **DFT 120 Structural Drafting: Concrete (Fa, Sp) 2 SCH**

An introduction to the basic knowledge and skills necessary for entry-level employment in Concrete Detailing. Concrete Detailing is an instructional area within the framework of Architectural Drawing. Concrete Detailing includes the detailing of concrete necessary for light commercial, residential building, heavy commercial building, and frameworks. Topics covered include information and technique on concrete detailing for light commercial, residential concrete and concrete for heavy frameworks. American Concrete Institute standards will be followed. Prerequisites: None

### **DFT 130 Mechanical Drafting: Plumbing/HVAC (Fa, Sp) 3 SCH**

An activity-based unit of technical drawing and information for those employed by architects, consulting engineers, and mechanical contractors. Topics include graphic representation and terminology of Heating, Ventilation, and Air Conditioning (HVAC) and Plumbing as applied to residential and commercial buildings. The course is designed for the preparation and interpretation of HVAC and plumbing working plans and details. Instruction is through lectures, quizzes and CAD drawing lab assignments

### **DFT 135 Mechanical Drafting: Electrical (Fa, Sp) 2 SCH**

An activity-based course in mechanical drawing for those employed by architects, consulting engineers, and mechanical contractors. Topics are preparation and interpretation of electrical and electronic drafting for residential and commercial applications. Prerequisites: None

### **DFT 160 Advanced CAD Applications (Fa, Sp) 3 SCH**

An introduction and overview of Three-dimensional (3D) CAD and a review of the basic concepts of 2D CAD in a lecture and lab format. The course will explain 3D cad drafting techniques, commands and terminology. Additional topics covered will include external references, paper space vs. model space, dimensioning, scaling, UCS manipulation, slicing and rendering/modeling of three-dimensional solids. Instruction is through lectures, quizzes and CAD drawing lab assignments. Prerequisites: DFT 105 with a grade of C or higher.

### **DFT 170 Structural Drafting: Steel (Fa) 3 SCH**

An activity based course that develops the knowledge and skills necessary for entry-level employment in Structural Steel Detailing within the framework of Architectural Drawing. Includes the framework drawings required for light commercial and residential buildings plus the framework drawings for larger buildings and construction, such as bridges and bents. Topics covered include information and technique on structural steel detailing for both light commercial and residential steel, heavy steel framework building, and other construction, such as bridges and bents. American Institute of Steel Construction standards will be followed. Weldment and fabrication of materials will be included in the course. CAD drawings are required to complete the assignments. Prerequisites: DFT 103 with a grade of C or higher

### **DFT 175 Structural Drafting: Wood (Fa, Sp) 2 SCH**

An activity-based course that develops the knowledge and skills necessary for entry-level employment in Wood Detailing within the framework of architectural drawing. Topics include information and techniques for detailing of wood requirements in commercial and residential buildings. CAD drawing is required to complete assignments. Prerequisites: DFT 103 with a grade of C or higher.

### **DFT 180 Civil Drafting I: Site Plan (Fa, Sp) 3 SCH**

Site Plan/Details applies principles of civil layout practice to CAD drafting assignments. Students are required to complete problems in surveying traverse and plotting techniques, and interpreting surveyor's notes to construct topographic layouts. Topics to also be covered include landscape details, commercial building plat layout and a residential subdivision. Prerequisites: DFT 105 with a grade of C or higher.

### **DFT 215 Commercial Architectural Drafting (Fa) 3 SCH**

The Commercial Architectural Drafting course is an overview of the basic concepts of commercial construction and detailing. Emphasis is on the commercial architectural aspects of drafting techniques and commands and terminology using AutoDesk Revit software. Instruction includes online mediated learning lectures, quizzes, and CAD drawing assignments. Prerequisite(s): Successful completion of DFT 105 CAD Applications.

### **DFT 225 Residential Architectural Drafting (Sp) 3 SCH**

The Residential Architectural Drafting course is an overview of the basic concepts of residential construction and detailing. Emphasis is on the residential architectural aspects of drafting techniques and commands and terminology using AutoDesk Revit software. Topics covered will include line weight, viewport scaling, presentation drawings, research of building materials, and current building trends. Instruction includes online mediated learning lectures, quizzes, and CAD drawing assignments. Prerequisite(s): Successful completion of DFT 105 CAD Applications.

### **DFT 230 Machine Drafting I: Details (Fa, Sp) 3 SCH**

Development of skill in the use of handbooks, product catalogues and resource material to detail machine parts. Students are required to use catalogues to calculate size specifications of standard machine parts and assign tolerance for proper fit. The course requires satisfactory completion of CAD drawing assignments using Autodesk Inventor software. Prerequisites: DFT 105 with a grade of C or higher

### **DFT 235 Machine Drafting II: Assemblies (Fa, Sp) 3 SCH**

Development of skill in the use of handbooks, product catalogues and resource material to detail catalogues to calculate size specifications to standard machine parts and assign tolerance for proper fit. The course requires satisfactory completion of CAD drawing assignments using Autodesk Inventor software. Prerequisites: DFT 103 with a grade of C or higher

**DFT 250 Occupational Portfolio (Fa, Sp) 2 SCH**  
Presentation and collection of drafting projects in a portfolio format. Evaluation and critique of portfolios, as well as creation of a student's portfolio, is included. Prerequisites: (All prerequisites must have a grade of C or higher) DFT 103, DFT 105, DFT 150, DFT 155.

**DFT 265 Microstation (Fa, Sp) 3 SCH**  
An activity based units that develop the knowledge and skills necessary for working with Microstation software. Microstation drafting techniques, commands, and terminology will be explained. Topics covered include line weight, dimensioning, scaling, isometric sketching, editing techniques, and plotting. Also included are instruction and demonstration of 3-D drafting, rendering, and modeling. Learning lectures, quizzes and drawing assignments are available via online/mediated technology. Microstation technology is used by state department of transportation and most civil engineering firms. Prerequisites: DFT 105 with a grade of C or higher

**DFT 285 Civil Drafting II (Fa, Sp) 3 SCH**  
Civil Drafting II – Site Details will give the student a base working knowledge of the software, civil theories, and the math behind those theories. Students will apply the principles of civil layout practices to CAD drafting assignments. Students are required to complete problems in civil construction detailing. Details for culverts, retaining walls, curbs and gutters, streets and parking lots will be drawn. The course requires satisfactory completion of drawing assignments. Auto CAD Civil 3D software will be introduced during the last quarter of the semester with assignments coming from the chapter problems in the textbook and online quizzes. Prerequisites: DFT 105 CAD Applications; DFT 180 Civil Drafting I (DFT 180 can be taken concurrently with this course).

## Dental Hygiene

**DHT 101 Dental Health Safety (Fa) 1 SCH**  
This course will prepare dental hygiene students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students will also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite; students will be required to show proof of certification before beginning the course. Prerequisite(s): Acceptance into the Dental Hygiene program

**DHT 102 Oral Anatomy, Embryology, and Histology (Fa) 4 SCH**  
This course prepares dental hygiene students to apply detailed knowledge about oral anatomy to planning, implementation, assessment, and evaluation of patient care. Students will identify distinguishing characteristics of normal and abnormal dental, head, and neck anatomy and its relationship to tooth development, eruption, and health. Prerequisite(s): Acceptance into the dental hygiene program.

**DHT 103 Dental Radiography (Fa) 3 SCH**  
This course prepares dental hygiene students to operate x-ray units and expose bitewing, periapical, extra oral, and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. This course also provides the background in radiographic theory required for students to make informed decisions and adjustments. Prerequisite(s): Admission into the Dental Hygiene program

**DHT 105 Dental Hygiene Process I (Fa) 4 SCH**  
This course prepares the student for overall patient care in the clinical setting including use of basic dental equipment, patient assessment, documentation, patient education, preventative treatment, oral hygiene recommendations and auxiliary procedures. Under the direction of an instructor, students integrate hands-on skills with entry-level critical thinking and problem-solving skills. Prerequisite(s): Admission into the Dental Hygiene program

**DHT 106 Dental Hygiene Process II (Sp) 4 SCH**  
This course builds on and expands the technical/clinical skills developed in Dental Hygiene Process I including application of fluoride and desensitizing agents, mouth assessments, comprehensive periodontal examinations, and patient classification. Students also begin performing removal of supragingival stain, dental plaque, calcified accretions, and deposits. Under the direction of an instructor, students integrate hands-on skills with critical thinking and problem-solving skills. Prerequisite(s): Completion of DHT 101, DHT 102, DHT 103, and DHT 105 with a 2.5 gpa.

**DHT 108 Periodontology (Sp) 3 SCH**  
This course provides the dental hygiene student with an in-depth study of periodontal disease including: description of the inflammatory process and its relationship to the pathogenesis of periodontal disease; identification of etiological factors; classification of periodontal disease following a complete periodontal assessment; recognition of gingival conditions; description of periodontal surgical procedures; the recognition of periodontal emergencies; effectiveness of plaque control and nonsurgical periodontal therapy. Research and theoretical concepts are integrated for clinical application via case based learning. Prerequisites: Completion of DHT 101, DHT 102, DHT 103, and DHT 105 with a 2.5 gpa.

**DHT 109 Cariology (Sp) 1 SCH**  
This course focuses on the characteristics and contributing factors of dental decay. Prerequisite(s): Completion of DHT 101, DHT 102, DHT 103, and DHT 105 with a 2.5 gpa.

**DHT 110 Oral Pathology (Sp) 3 SCH**  
This course introduces the student to concepts related to general systemic and oral pathology. General principles of pathology include inflammation, immunity, neoplasia, and wound healing. Specific systems are explained, including cardiovascular, hematopoietic and skeletal systems. Basic pathology processes of oral conditions, their etiologies and treatments will be discussed. Prerequisite(s): Completion of DHT 101, DHT 102, DHT 103, and DHT 105 with a 2.5 gpa.

**DHT 205 Dental Hygiene Process III (Fa) 5 SCH**  
This course builds on and expands the technical/clinical skills developed in Dental Hygiene Process I and II including root detoxification using hand and ultra-sonic instruments, manipulation of files, use of oral irrigators, selection of dental implant prophylaxis treatment options, and administration of chemotherapeutic agents. The student will discuss comprehensive dental hygiene plans to meet oral needs, total body wellness, and will learn how to adapt to meet needs of special patients. Prerequisite(s): DHT 101, DHT 102, DHT 103, DHT 105, DHT 106, DHT 108, DHT 109, DHT 110 with a 2.5 GPA

**DHT 206 Dental Materials (Fa) 3 SCH**  
This course focuses on more definitive instrumentation and prepares dental hygiene students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. Students will learn to take alginate impressions on manikins and clean removable appliances. Prerequisite(s): DHT 101, DHT 102, DHT 103, DHT 105, DHT 106, DHT 108, DHT 109, DHT 110 with a 2.5 GPA

**DHT 207 Pharmacology (Fa) 3 SCH**  
This course is designed to help dental hygiene students understand pharmacology and methods of pain control as it relates to the practice of dentistry. The course focuses on adverse drug reactions, pharmacological effects, and their usual indications and contraindications. It emphasizes the clinical application of topical and local anesthesia. It discusses systemic toxicity and local complications to prepare students for the prevention and management of emergencies that may develop during treatment as well as sedation methods and general anesthesia. Prerequisite(s): DHT 101, DHT 102, DHT 103, DHT 105, DHT 106, DHT 108, DHT 109, DHT 110 with a 2.5 GPA

---

**DHT 208 Dental Pain Management****(Fa) 3 SCH**

This course is designed to help students learn to prevent and manage common emergencies related to administration of local anesthesia, prepare the armamentarium, and administer local anesthesia. The course also addresses the recommendation of alternative pain control measures. Prerequisite(s) DHT 101, DHT 102, DHT 103, DHT 105, DHT 106, DHT 108, DHT 109, DHT 110 with a 2.5 GPA

**DHT 210 Dental Hygiene Process IV****(Sp) 4 SCH**

This course builds on and expands the technical/clinical skills developed in Dental Hygiene Process I, II, and III including managing all aspects of cases in the course of providing comprehensive care for various types of patients. The course emphasizes maximization of clinical efficiency and effectiveness. Prerequisite(s): DHT 101, DHT 102, DHT 103, DHT 105, DHT 106, DHT 108, DHT 109, DHT 110, DHT 205, DHT 206, DHT 207, and DHT 208 with a 2.5 GPA

**DHT 211 Ethics, Legal Issues, and Kansas Law****(Sp) 1 SCH**

This course reviews the laws and ethics that apply to the dental profession. The student will know the laws; understand the differences between laws and ethics, and the paramount importance of both ethical and lawful behavior in the dental hygiene profession. Prerequisite(s): DHT 101, DHT 102, DHT 103, DHT 105, DHT 106, DHT 108, DHT 109, DHT 110, DHT 205, DHT 206, DHT 207, and DHT 208 with a 2.5 GPA

**DHT 212 Community Public Health and Education****(Sp) 2 SCH**

This course is designed to prepare the student to provide patient education to individuals and groups, with emphasis on a holistic approach. Preventive dentistry applies the principles of prevention to oral health education with emphasis on the diverse role of the dental hygienist. Through analysis of patients' lifestyle, values, behavior, and environment, the course includes the development, implementation, and evaluation of oral health education programs in a variety of settings. Prerequisite(s): DHT 101, DHT 102, DHT 103, DHT 105, DHT 106, DHT 108, DHT 109, DHT 110, DHT 205, DHT 206, DHT 207, and DHT 208 with a 2.5 GPA

**Electric Power & Distribution****EPD 105 Climbing Skills****(Sp) 4 SCH**

Introduction to proper methods of climbing wood pole structures. The student must master climbing wood pole structures with and without the use of a pole safety strap. Upon successful completion of this course, the student will be qualified in two methods of pole top rescue. Prerequisite: None

**EPD 110 Pole Framing & Construction Specifications****(Sp) 4 SCH**

Introduction to Rural Electric Association line construction specifications and knowledge of pole framing on the ground and aerial framing. The student will gain a working knowledge of 7200 volt, 14,400 volt and 34,500 volt primary distribution systems. The student will also be introduced to copper and aluminum primary conductors and line staking. Prerequisites: EPD 105 with a grade of C or higher

**EPD 120 Equipment Operation****(Sp) 3 SCH**

Mastery of safe operation of various digger/derrick trucks, bucket/ basket aerial platforms and trenchers commonly used in overhead and underground electric distribution work. The student will safely operate and perform routine maintenance and inspection on all units. Prerequisites: None

**EPD 125 Setting & Replacing Poles****(Sp) 1 SCH**

Theory in pole setting and change-out techniques. Emphasis is placed on setting and replacing poles in energized lines with digger/derrick trucks. The student will also gain a working knowledge of the proper use of cover-up material, both hard shell and rubber goods; vehicle grounding practices; manual pole setting; temporary pole supports; and worksite hazard analysis. Prerequisites: Must have a grade of C or higher in EPD 110, EPD 120

**EPD 130 Transformer Theory****(Sp) 4 SCH**

Introduction to basic electricity, related math, and transformer theory with hands-on experience in the installation and connection of single transformers and various three-phase transformer banks. Topics include transformer over voltage and over current protection; equipment grounding; cutout and lightning arrestor use and installation; current and potential transformer applications; use of the VOM; and principles of troubleshooting. Prerequisites: Must have a grade of C or higher in EPD 110

**EPD 135 Transformer Installation****(Sp) 4 SCH**

Experience in installation and connection of single transformers and various three-phase transformer banks. Other topics addressed are transformer over voltage current protection, equipment grounding, cutout and lightning arrestor installation, current transformer applications, use of the Voltage Ohm Meter (VOM), and basic troubleshooting techniques are also practiced. Prerequisites: Must have a grade of C or higher in EPD 110

**EPD 140 Service Installation & Metering****(Sp) 4 SCH**

Working knowledge of single- and three-phase watt hour meter applications with practical experience in the installation and sizing of service conductors, construction and installation of meter loops and poles, instrument metering, and temporary service installations. Tampering and power theft, grounding and safe work practices are also covered. Prerequisites: Must have a grade of C or higher in EPD 132, EPD 135

**EPD 145 Conductor Installation & Repair****(Fa) 4SCH**

This course focuses on the repair of various types of aluminum and copper conductors. Students will gain practical experience in the dead ending and splicing of conductors and installation of conductor shoes and clamps, and in the use of preformed line ties and service grips, bolt-on and compression connectors and sleeves, compression tools, strap hoists, pulling grips, sag charts and tables, mechanical jumpers, and grounding practices. Prerequisites: Must have a grade of C or higher in EPD 110

**EPD 150 Rubber Gloving Methods****(Fa) 3 SCH**

Methods of working on energized distribution lines and equipment with rubber gloves and sleeves from insulated aerial platforms. Students will gain a working knowledge of the application, care and use of hard shell covers, rubber line hoses and blankets, personal protective equipment, hot-line tools, and live-line maintenance. The course will also provide a review operation of bucket/basket aerial platforms, and pole top and bucket rescue techniques; and proper truck-grounding techniques. Prerequisites: Must have a grade of C or higher in EPD 120, EPD 145

**EPD 160 Underground Distribution****(Fa) 3 SCH**

Working knowledge of Underground Residential Distribution (URD) with practical experience in the direct burial of primary and secondary cables; installation of 200 and 600 amp elbows, splices, lightning arrestors, and overhead terminations; installation of single-phase and three-phase pad-mount and transclosure transformer installations; methods of shoring and sloping trenches and excavations; troubleshooting of primary and secondary cables; and fault location. The student will also review the operation of trencher digging equipment and safe work practices and procedures, proper grounding techniques of padmount transformers and transclosures. Prerequisites: Must have a grade of C or higher in EPD 132, EPD 135

**EPD 170 Fusing & System Coordination****(Fa) 1 SCH**

A study of various methods of system coordination, knowledge of oil circuit reclosures, sectionalizing, and the application of fuses where students will learn to install and operate single-phase and three-phase pole mount reclosures, substation fuses and reclosures, and gang operated air-break and load-break switches. The course also provides review of proper grounding techniques on various OCRs, sectionalizers and gang-mounted switches. Prerequisites: Must have a grade of C or higher in EPD 135

---

**EPD 180 Substations & Voltage Regulation (Fa) 4 SCH**

A study of substations, capacitors, voltage regulators, auto-boosters; practical experience in substation grounding, inspections, substation maintenance; operation and installation of high side fuses, power transformers, substation buswork, and transfer switches; methods of voltage regulation, and Supervisory Control and Data Acquisition (SCADA). Prerequisites: Must have a grade of C or higher in EPD 140, EPD 150, EPD 170

**EPD 195 Employability Skills (Fa) 1 SCH**

Course provides students with experience in preparing resumes, contacting future employers, and interviewing with prospective employers. Students will also gain experience in the interview process through mock interview sessions provided to help prepare the student for actual interviews. Prerequisites: None

**EPD 199 Utility Internship (Su) 8 SCH**

Course provides practical work experience as an apprentice lineman with an operating utility and is completed between the first and second semesters. The student must spend at least eight clock hours in the computer learning center to develop his/her resume prior to interviewing for internship placement. Prerequisites: Must have a grade of C or higher in all first semester coursework and permission of instructor.

## General Education

**BSC 125 Anatomy and Physiology (Fa, Sp) 5 SCH**

This course will enable the student to develop an understanding of the principles in structure and function of the human body systems. An intermediate study designed primarily for pre-professional students in health-related fields. The student will participate in three hours of lecture and four hours of laboratory per week. Prerequisites: Highly recommended Chemistry with a C or better

**COM 100 Workplace Writing (Fa, Sp) 3 SCH**

Workplace writing emphasizes sentence and paragraph structure, organization, development, and grammatical correctness. It offers practice in writing letters, resumes, and academic and workplace documents.

**COM 105 English Composition I (Fa, Sp) 3 SCH**

Introduction to expository writing emphasizing expression of ideas, structure, organization, development, and grammatical correctness. Offers practice in researching, revising, and editing. Prerequisites: Compass score of 80 or better, 60-79 and E-write passed, or corresponding ASSET/ACT/SAT scores.

**COM 110 Technical Writing (Fa, Sp) 3 SCH**

This course is an introduction to professional and technical writing used in the workplace. The class offers practice in document design and editing. The types of correspondence include memos, letters, e-mail, reports, and instructional manuals. The course will focus on clarity, conciseness, document design, organization, audience recognition, audience involvement and accuracy. Collaboration and teamwork is stressed. Presentations will be practiced during class. Prerequisite(s): Compass score of 80 or better, 60-79 and E-write passed, or corresponding ASSET/ ACT/ SAT scores.

**COM 115 Public Speaking (Fa, Sp) 3 SCH**

This course is an elementary course in the study and practice of the basic principles of speech and interpersonal communication with emphasis on critical thinking, the creative and intelligent selection of material, organization and oral presentation. Prerequisites: None

**MAT100 Workplace Mathematics (Fa, Sp) 2 SCH**

This is a course that focus is on preparing students to succeed in college level mathematics. Topics include basic operations, fractions, decimals, percent, and measurement. Supplemental instruction will include overcoming math anxiety for academics and solving mathematical applications for the workplace. Prerequisites: None

**MAT101 Technical Mathematics I (Fa, Sp) 3 SCH**

This is an overview of mathematics course that focuses on technical applications. Topics include basic quantitative problem solving, algebra with technical applications, measurement, proportions, and geometry. This course is designed to provide students with the mathematical background necessary for entering technical career fields. Prerequisites: Appropriate COMPASS score or MAT 100 Workplace Mathematics

**MAT108 Beginning Algebra (Fa, Sp) 3 SCH**

This is an introductory algebra course that includes applications. Topics include a review of pre-algebra, variable expressions, solving algebraic equations, linear equations in two variables, inequalities and polynomials. Prerequisites: None

**MAT109 Technical Mathematics II (Fa, Sp) 3 SCH**

This is an algebra based mathematics course that focuses on technical applications. Topics include graphing linear equations, systems of linear equations, polynomials, factoring polynomials, quadratic equations, right triangle trigonometry and trigonometry with any angle. This course is designed to provide students with the critical thinking needed for solving complex technical problems and the mathematical background necessary to be successful in College Algebra. Prerequisites: MAT101 Technical Mathematics I or appropriate ASSET/COMPASS/ACT score

**MAT110 Intermediate Algebra (Fa, Sp) 3 SCH**

This course is designed for students who have only one year of high school algebra as a preparatory course for College Algebra. Topics covered will include Number Systems, Linear Equations and Inequalities, Lines, Systems of Linear Equations and Inequalities, Polynomials, Exponents, Rational Expressions and Quadratic Equations. Prerequisites: MAT108 Beginning Algebra or appropriate ASSET/COMPASS/ACT score

**NTR 105 Nutrition (Fa, Sp) 3 SCH**

This course offers information about the various nutrients essential to promoting growth and maintenance of the human body. Specific nutrient content identifies food sources, usages in the body as well as effects of deficiencies. Prerequisites: None

**PSY 100 General Psychology (Fa, Sp) 3 SCH**

This course is an introduction to the science of psychology with an emphasis on the principles which lead to a greater understanding of human behavior. A variety of laboratory experiences will be included in the course. Prerequisites: None

**PSY 125 Human Growth and Development (Fa, Sp) 3 SCH**

This course offers information concerning normal physical, psychological, and social development changes that occur in a person from birth to death. Specific information identifying factors which influence human development and changes in family structure and living during the life cycle are covered. Prerequisite(s): PSY 100 General Psychology recommended

**SOC 100 Introduction to Sociology (Fa, Sp) 3 SCH**

This course is an introduction to the study of the structure and function of human groupings, particularly those which occur in contemporary industrialized cultures. The relationships between the individual and his/her society, culture and society, and the social dynamics of institutions are investigated. Prerequisites: None

---

## Information & Networks Technology

**CRT 110 Employability Skills (Fa, Sp) 1 SCH**  
Discussion and scenarios are used to prepare for the world of work. Resume writing, customer relations and general job seeking and retention skills are covered. Prerequisite(s): None

**CRT 115 INT (Information & Network Technology) Essentials (Fa, Sp) 1 SCH**  
This course will provide students with the necessary foundation of basic knowledge (in number systems, electronics, and computing) to enhance their ability to successfully progress through and complete the INT program. Prerequisite(s): None

**CRT 120 Advanced Operating Systems (Fa, Sp) 3 SCH**  
This course covers personal computer operating systems in general. Topics include Overviews of Windows, DOS, Linux, and Mac OS, installation, configuration, and management. Microsoft Windows is the primary operating system (OS) used in this course to teach OS concepts but instruction is focused on properties and aspects of all computer operating systems. This course is one of three Information and Network Technology courses that enforce A+ certification skills. (CRT125, CRT150). Prerequisite(s): None

**CRT 125 PC Hardware (Fa, Sp) 3 SCH**  
This course covers personal computer hardware including; hard drive sub-systems, interfaces, memory, motherboards and peripherals. Students will also be introduced to device drivers, electrostatic discharge, safety and proper device installation. This course is one of three Information and Network Technology courses that enforce A+ certification skills. (CRT120, CRT150). Prerequisite(s): None

**CRT 144 UNIX Fundamentals (Fa) 3 SCH**  
The course is intended for new users of UNIX and teaches students how to use UNIX operating system commands. Students will learn fundamental command-line features of the UNIX environment including file system navigation, file permissions, the text editor, command shells and basic network use. This course utilizes the Linux operating system to teach basic UNIX commands, concepts and structure. Prerequisite(s): CIS 117 Microsoft DOS Operating System (Grade C or better)

**CRT 148 Microsoft Windows Network Operating Systems (Sp) 3 SCH**  
This course is intended as an introduction to the current version of Microsoft's Windows network operating system. Material presented extends from creating a site plan, through installation, configuration, administrative management and finishes with disaster recovery. Installation and management of virtual servers and secure networking are integrated within coursework. Students utilize hands-on activities to reinforce presented concepts. Prerequisite(s): CRT 120 Advanced Operating Systems (with a grade of C or higher)

**CRT 150 Microcomputer Troubleshooting (Fa) 3 SCH**  
This course presents and reinforces basic troubleshooting skills required by all IT professionals. This is accomplished by taking students through a rigorous procession of pre-bugged, real-world problems on various microcomputer configurations. Students gain extensive hands-on experience and hone analysis and synthesis skills. Microcomputer Troubleshooting is the third course specifically designed to enhance students' knowledge and skills as they are applicable to the CompTIA A+ certification as well as embed critical thinking ability; essential to an ever-changing industry. Prerequisite(s): CRT 120 Advanced Operating Systems (with a grade of C or higher); CRT 125 PC Hardware (with a grade of C or better)

**CRT 170 Networking Fundamentals (Fa, Sp) 3 SCH**  
This course introduces students to the essential concepts and skills that constitute the basic foundation of all networks. TCP/IP and Ethernet are the primary technologies used in the course to present network fundamentals. Course content also consists of WAN/LAN technologies, Network Addressing, IP Subnetting, the OSI model, encapsulation and path determination. This course is the first of four Cisco Networking Academy CCNA courses (Semester 1). Prerequisite(s): None

**CRT 175 Routing Protocols and Concepts (Fa, Sp) 3 SCH**  
This course includes WANs, routers, router command line interface, router components, router startup and setup, router configuration, TCP/IP, IP addressing, VLSM, routing, routing protocols, and network troubleshooting. Routing Protocols and Concepts is the second course in the CISCO Academy Program (Semester 2). Prerequisite(s): CRT 170 Networking Fundamentals (with a grade of C or higher)

**CRT 181 Network & Server Management (Sp) 3 SCH**  
This course provides the fundamental knowledge to implement and administer network management services in homes, small offices and other enterprise environments. Students learn effective techniques needed to install, manage, monitor, configure and troubleshoot networks. Other topics include: centralized event logging, time synchronization, remote desktop, remote installation, remote management, project management, disaster recovery, computer network policies, fault tolerance, packet analyzers, SNMP, central authentication, enterprise virus protection, encryption, centralized update and service packs, asset management, total cost of ownership, network performance monitoring, fault monitoring, change management, auditing and documentation. Prerequisite(s): CRT 120 Advanced Operating Systems (with a grade of C or higher); CRT 170 Networking Fundamentals (with a grade of C or higher)

**CRT 207 Advanced Network Applications (Fa, Sp) 3 SCH**  
This course will cover server and client management and monitoring, network management and monitoring, application distribution, security and web-based applications including installation, management and troubleshooting of these applications. Prerequisite(s): CRT 144 Unix Fundamentals (with a grade of C or higher); CRT 148 Microsoft Windows Network Operating Systems

**CRT 280 LAN Switching and Wireless (Fa, Sp) 3 SCH**  
The focus of this course is on LAN switching and wireless LANs. The goal is to develop an understanding of how a switch communicates with other switches and routers in a small- or medium-sized business network to implement VLAN segmentation. This course also teaches how to integrate wireless devices into a LAN. Prerequisite(s): CRT 175 (with a grade of C or higher)

**CRT 282 Network Security (Fa, Sp) 3 SCH**  
This course provides a comprehensive overview of the primary strategies and technologies used to defend a network including the knowledge and skills to design and implement essential technical solutions that provide the foundation level of security for all modern networks. Students will also learn the principles and practices of effective network policy and management practices. Prerequisite(s): CRT 280 (with a grade of C or higher) and concurrent enrollment in CRT 287 or CCNA certification.

**CRT 287 Accessing the WAN (Fa, Sp) 3 SCH**  
The focus of this course is on accessing wide area networks (WAN). The goal is to develop an understanding of various WAN technologies to connect small- to medium-sized business networks. This course is an introduction to fundamental networking concepts and technologies. Prerequisite(s): CRT 280 (with a grade of C or higher)

---

**CRT 290/ Network Troubleshooting (Fa, Sp) 3 SCH**

This course covers essential concepts required for network troubleshooting, and describes how to use various resources to solve common network problems to maintain a network at peak performance. Troubleshooting and network analysis is an integral part of the network design process. Students will learn to track down problems and maximize their confidence that their networks are running properly. This course highlights some of the common pitfalls of network design and allows students to practice diagnosing and debugging the resulting problems. Prerequisite(s): CRT 150 Microcomputer Troubleshooting (with a grade of C or higher), CRT 207 Advanced Network Applications (with a grade of C or higher), CRT 287 WAN Theory and Design (with a grade of C or higher), or CRT 287 WAN Theory and Design concurrently

**Medical Laboratory Technology****MLT 1203 Introduction to Medical Technology Lab 1 SCH**

Laboratory skills involving measurement and instrumentation are introduced in this course. Topics to be covered include safety, medical terminology, laboratory mathematics, specimen collection, microscope use, staining procedures, professional behavior, ethics, use of general lab equipment, and introductory procedures in serology, urinalysis, chemistry, hematology, blood banking, and microbiology. Pre-requisite: Concurrent enrollment in SCCC's MT 1203.

**MLT 2206 Hematology and Coagulation Lab 3 SCH**

This course presents hematology principles including the formation of blood cells, identification of normal and abnormal blood cells as they correlate to disease. Coagulation is the study of the clotting mechanisms of the blood. All aspects of the coagulation system are covered including homeostasis, fibrinolysis, coagulation disorders, and factor deficiencies. The course is the application of theory by laboratory practice in both disciplines. Pre-requisites: Admission to the MLT program, concurrent enrollment in SCCC's MT 2206.

**MLT 2306 Pathogenic Microbiology Lab 3 SCH**

This course will survey routine microbiology procedures in the laboratory. Normal flora and possible pathogenic bacteria will be identified by morphology, staining characteristics, colonial morphology, growth on selective media, biochemical testing, and serological methods. Basic theory in antimicrobial susceptibility testing will be covered. Principles of all tests will be studied. Normal and pathogenic parasites and fungal elements will be identified and procedures utilized for proper identification. Pre-requisites: Admission to the MLT program, concurrent enrollment in SCCC's MT 2306.

**MLT 2406 Clinical Chemistry Lab 3 SCH**

This course will cover the basic interpretations of biochemistry by study of the concentration of enzymes, carbohydrates, lipids, proteins, electrolytes, and blood gases. The need for drug testing and evaluation will also be a part of this curriculum. The student will perform routine clinical tests on biological fluids, maintain quality assurance records, and perform preventative maintenance on instrumentation. This course will utilize computer technology to enhance student learning. Pre-requisites: Admission to the MLT program, concurrent enrollment in SCCC's MT 2406.

**MLT 2506 Blood Bank and Serology Lab 3 SCH**

This course will offer clinical application of the study of the immunology of blood, including those principles and practices that are known collectively as blood banking. Techniques relevant to blood banking in a donor or transfusion service and techniques used in serological diagnosis of acute bacterial infections, pregnancy, rheumatoid arthritis, infectious mononucleosis, rubella, and syphilis will be explored. Pre-requisites: Admission to the MLT program, concurrent enrollment in SCCC's MT 2506.

**MLT 2703 Body Fluids Lab 1 SCH**

Correlation of abnormal findings and disease states will be discussed as laboratory tests are performed on urine, feces, seminal, amniotic, cerebrospinal, pleural, pericardial, and peritoneal fluids. Discrimination between normal and abnormal findings and relating this knowledge to disease states will be included in the course material. Pre-requisites: Admission to the MLT program, concurrent enrollment in SCCC's MT 2703.

**MLT 2907 Advanced Clinical Practicum 7 SCH**

Seven credit hours clinical rotation. Students will work one-on-one with clinical instructors to refine clinical laboratory skills within a designated clinical affiliate laboratory. This rotation will include 480 hours of clinical practicum experience. This course will integrate knowledge gained in all MLT courses with practical experience in hematology, coagulation, chemistry, immunology, immunohematology, microbiology, urinalysis, and serology. Admission to the MLT program. Successful completion of all previous MLT courses.

**Nursing****NUR 102 Medication Math 1 SCH**

This course directs the student toward gaining proficiency in medication math calculations. Information is offered about the formulas and computations used in calculation of medication dosages and monitoring of intravenous fluid therapy. Specific principles used in converting measurements from metric, apothecaries, and household equivalencies appropriate to nursing care will be covered. Prerequisite: Admission to the PN program.

**NUR 107 KSPN Foundations of Nursing 4 SCH**

This course utilizes the nursing standards of practice based on principles of biology, psychosocial, spiritual and cultural to meet the needs of clients throughout the lifespan. Emphasis is placed on basic nursing skills, patient safety and therapeutic communication. Concepts and skills are enhanced in subsequent courses. Prerequisite: Admission to the PN program, and concurrent enrollment in NUR 108.

**NUR 108 KSPN Foundations of Nursing Clinical 2 SCH**

This course explores the art and science of nursing. Emphasis is placed on the nursing process, cultural and spiritual awareness, communication, data collection, performance of basic nursing skills, and documentation. Principles of safe medication administration are introduced. Prerequisites: Admission to the PN program, and concurrent enrollment in NUR 107.

**NUR 110 KSPN Pharmacology 3 SCH**

This course introduces the principles of pharmacology, drug classifications, and the effects of selected medications on the human body. The nursing process is used as the framework for ensuring safe and effective nursing care for clients across the lifespan. Prerequisite: Admission to the PN program.

**NUR 117 KSPN Medical-Surgical Nursing I 4 SCH**

This course focuses on the effect of disorders of selected systems throughout the lifespan and applies the nursing process in meeting basic needs. Health promotion and maintenance, rehabilitation and continuity of care are emphasized. The role of the practical nurse is incorporated throughout. Prerequisites: NUR 107 and NUR 108 and concurrent enrollment in NUR 118.

**NUR 118 KSPN Medical-Surgical Nursing I Clinical 3 SCH**

This course includes simulated and actual care situations of selected systems throughout the lifespan, utilizing acute and long-term care setting. An emphasis is placed on critical thinking and clinical decision-making skills. NUR 107 and NUR 108 and concurrent enrollment in NUR 117.

---

**NUR 133 Personal and Career Orientation** 1 SCH

This seminar-style course provides orientation to the LPN role and responsibilities. Seminar sessions will be held during the spring semester. Prerequisites: NUR 117 and NUR 118.

**NUR 134 KSPN Mental Health Nursing** 2 SCH

This course explores basic concepts and trends in mental health nursing. Therapeutic modalities and client behavior management are discussed. Emphasis is placed on using the nursing process and meeting the basic human needs of the mental health client. Prerequisites: NUR 117 and NUR 118.

**NUR 136 KSPN Gerontology** 2 SCH

This course is designed to explore issues related to the aging adult using the nursing process as the organizing framework. Also discussed are the impact of ageism, alterations in physiological and psychosocial functioning, and the role of the practical nurse in caring for older adult clients. Prerequisites: NUR 117 and NUR 118.

**NUR 137 KSPN Medical-Surgical Nursing II** 4 SCH

This course focuses on the effect of disorders of selected systems throughout the lifespan using the nursing process in meeting basic needs. Prevention, rehabilitation and continuity of care are emphasized. The role of the practical nurse is incorporated throughout. Prerequisites: NUR 117 and NUR 118, NUR 110 and concurrent enrollment in NUR 138.

**NUR 138 KSPN Medical-Surgical Nursing II Clinical** 3 SCH

This experience uses simulated and actual care situations of selected systems throughout the lifespan, utilizing acute and long-term care settings. An emphasis is placed on critical thinking and clinical decision-making skill development. Principles of leadership for the practical nurse will be implemented, as well as multi-task management skills for transition as a practical nurse. Prerequisites: NUR 117 and NUR 118, and concurrent enrollment in NUR 137.

**NUR 170 KSPN Maternal Child Nursing** 2 SCH

This course focuses on pre- and post-natal maternal nursing care, as well as, the care of children from infancy to adolescence. Emphasis is given to normal reproduction and frequently occurring biological, cultural, spiritual and psychosocial needs of the child-bearing and child-rearing family. Prerequisites: NUR 117, NUR 118, and NUR 110, and concurrent enrollment in NUR 171.

**NUR 171 KSPN Maternal Child Nursing Clinical** 1 SCH

This clinical course applies concepts from Maternal Child I. Emphasis is placed on the nursing process and meeting the basic needs of the maternal child client. Prerequisites: NUR 117, NUR 118, and concurrent enrollment in NUR 170.

**NUR 201 RN Transition Course** 2 SCH

Focus is on the role transition from LPN to RN. It includes the review and/or validation of major content/concepts and skills from the Kansas PN Core Curriculum. Emphasis is placed on the transition of the LPN to the RN role, physical assessment skills, communication and critical thinking skills. The student's responsibility for learning, self-evaluation and collaboration is also emphasized. Prerequisites: Admission to the ADN program. Offered in a 4 week semester.

**NUR 220 Nursing Across the Lifespan** 10 SCH

Focus is on IV therapy, health promotion, illness prevention, and maintenance of health in acute or chronic conditions for individuals experiencing psychological, psychiatric, child bearing, and medical or surgical problems across the lifespan. Clinical experiences may be gained on the obstetric, pediatric, psychiatric, and medical-surgical units. Nursing role emphasis is on organizing care for individuals using the nursing process. Critical thinking

differentiates client needs based on age, health status, acuity of condition, ethnic origins, and prognosis. The client's role within the family, his/her occupation, and society are taken into accounting. Principles and practices of IV Therapy are emphasized. Prerequisites: NUR 201 and concurrent enrollment in microbiology and MAT 110 Intermediate Algebra, or evidence of previous credit.

**NUR 230 Management of Patient Care** 12 SCH

Focus is on the management of patient care for larger groups. Critical thinking is emphasized in the organization, coordination, and delegation of client care. Experience is provided in the care of patients with more acute or complex conditions in areas such as critical care, emergency room, and rehabilitation settings. Ethical and legal issues are explored as they related to nursing practice. Transition to the professional nursing role is revisited. Prerequisites: NUR 220, microbiology, MAT 110 Intermediate Algebra, and concurrent enrollment in COM 105 and COM 115, or evidence of previous credit.

## Surgical Technology

**STL 1005 Introduction to Surgical Technology Lab** 2 SCH

This is a two credit hour lab course designed to provide the student with in-depth knowledge concerning the scope and practice of Surgical Technology. Students will be exposed to concepts of hospital structure and management and the physical environment of a surgical suite. Students will learn patient safety procedural issues such as identification, consent, chart review, and needs of the patient. Students will also study skills related to teamwork, professional credentialing and organizations, and legal and ethical issues. Prerequisite(s): Admission to the ST program and concurrent enrollment in SCCC's ST1005.

**STL 1015 Fundamentals of Surgical Technology Lab** 2 SCH

This is a two credit hour lab course designed to provide the student with in-depth knowledge concerning the scope and practice of Surgical Technology. Students will be exposed to concepts of hospital structure and management and the physical environment of a surgical suite. Students will learn patient safety procedural issues such as identification, consent, chart review, and needs of the patient. Students will also study skills related to teamwork, professional credentialing and organizations, and legal and ethical issues. Prerequisite(s): Admission to the ST program and concurrent enrollment in SCCC's ST1015.

**STL 1110 Surgical Procedures I Lab** 5 SCH

This is a five credit hour clinical course designed to allow the student to begin to apply skills learned in the first semester to real life procedures. With the web-based learning platform and clinical practice the student will learn to select instrumentation and other supplies for specific procedures. The student will apply learning in anatomy and pathophysiology, and techniques from first semester in the practical experience of passing instruments to the surgeon in the clinical setting. The student will apply the basic skills of aseptic technique both in the laboratory setting and the clinical practicum as well as the basic terms and usages of medical terminology. Prerequisite(s): Admission to the ST program and concurrent enrollment in SCCC's ST1110.

**STL 1707 Surgical Procedures II Lab** 4 SCH

This is a four credit hour clinical course designed to allow the student to learn to select instrumentation and other supplies for surgical procedures. The student will learn more difficult procedures and continue the learning process from Surgical Procedures I. In the surgical suite of the clinical areas the student will be able to demonstrate the more advanced skills of the Surgical Technologist. The student will also be encouraged to further develop his/her sterile consciousness in order to work more confidently within the operating room. Job interviews with resumes will also be covered. Prerequisite(s): Admission to the ST program and concurrent enrollment in SCCC's ST1707.

---

## Welding Technology

### WLD 100 Welding Theory

(Fa) 2 SCH

An introduction to theories of welding Shielded Metal Arc, Gas Metal Arc, and Gas Tungsten Arc. Prerequisites: None

### WLD 110 Welding Metallurgy

(Fa) 1 SCH

A study of the effects of heat on the structure of metal and with what happens to metal when certain alloying elements are added to it. Prerequisites: WLD 100

### WLD 115 Blueprint Reading

(Fa) 2 SCH

The intent of this course is to provide instruction in proper reading and interpretation of welding symbols and fabrication layout designs. Prerequisites: WLD 110

### WLD 120 Oxy-Acetylene Welding

(Fa) 2 SCH

Practice properly set-up and operate oxy-fuel torch outfit safely, to make several weld samples on mild steel metal in all positions, and to properly operate all oxy-fuel, plasma, and carbon arc gouging to make proper cuts and bevels on a variety of materials and thicknesses. Prerequisites: WLD 115

### WLD 130 Cutting Processes

(Fa) 2 SCH

Includes cutting of ferrous metals with manual, motor driven, and oxy-fuel shape cutting equipment. Also included is high-energy plasma-arc and carbon arc cutting.

### WLD 140 Shielded Metal ARC Welding I

(Fa) 3 SCH

Practice in proper set-up of ARC welding equipment to weld in all positions on mild steel plate. Prerequisites: WLD 100

### WLD 145 Shielded Metal ARC Welding II

(Fa) 4 SCH

Shielded metal arc welding safety, theory, and manipulative skills in the vertical and overhead positions.

### WLD 150 Gas Metal ARC Welding I

(Sp) 2 SCH

Instruction in proper set-up and operation of MIG welding equipment to weld in all positions using sheet metal and steel plate, as well as several different sizes, wires and types of gasses. Prerequisites: WLD 100

### WLD 155 Gas Metal ARC Welding II

(Sp) 3 SCH

Instruction in proper set-up and operation of MIG welding equipment to weld in all positions using aluminum, as well as several different sizes, wires and types of gasses. Prerequisites: WLD 100

### WLD 160 Flux Cored Arc Welding

(Sp) 2 SCH

A study of the use of self-shielded flux cored and gas-shielded flux cored tubular wire electrodes. Prerequisites: WLD 100

### WLD 170 Gas Tungsten ARC Welding I

(Sp) 2 SCH

Practice in proper set-up and operation of TIG welding equipment to weld in all positions by using mild steel and stainless steel. Prerequisites: WLD 100

### WLD 175 Gas Tungsten ARC Welding II

(Sp) 3 SCH

Practice in proper set-up and operation of TIG welding equipment to weld in all positions using aluminum. Prerequisites: WLD 100

### WLD 190 Project Management

(Sp) 2 SCH

Capstone course utilizing welding and cutting skills combined with layout, design and metal working procedures, such as using power brakes, rolls, blueprint reading, math and special formula skills in project format. Prerequisites: 20 SCH in WLD completed & permission

### WLD 195 Employability Skills

(Sp) 1 SCH

Develop skills in computers usage, speed reading, resume writing, human relations, personal and professional development. Prerequisites: 15 SCH in WLD completed

### WLD 199 Occupational Work Experience

(Sp) 2 SCH

Planned work experience in the workforce which is supervised by a welding professional and monitor by an instructor. Prerequisites: 20 SCH in WLD completed & permission

### WLD 260 Agricultural Construction

(Sp) 3 SCH

The course is designed to provide students with the theoretical basis, knowledge and skills necessary for the construction/fabrication of metal projects. Emphasis will be placed on: laboratory safety, general laboratory measurements, metal identification/characteristics, oxyacetylene welding and cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), plasma cutting, and project construction. Prerequisites: None