Career Technical Education

The Career Technical Education Division is responsible for all non- health related skills training in the College service area. The Division is tasked with offering comprehensive workforce and community development service training to support the needs of the communities served. The Division offers programs of study that lead to Associate in Applied Science (AAS) degrees, long-term certificates, short-term certificates, and certificates of completion.

The Associate in Applied Science degree is awarded to students who complete the requirements of a specific career or professional program of study. These programs of study range from 60 to 76 semester hours in length with approximately 40% of the programs designed to ensure competency in oral and written communication, critical thinking, computer literacy, mathematical principles and/or scientific reasoning. The remaining approximately 60% of the program contains courses designed to ensure competency in a specific career field. Additional information regarding programs of study in career technical fields can be obtained from this catalog or the specific career technical advisor, who is available to assist students in the advising and registration process.

Long-term certificates are awarded in most programs where the Associate in Applied Science is offered, as well as other career fields where the AAS degree is not offered. Long-term certificates are of varied length from 30 to 60 semester hours depending on the choice of career fields. The general education component of the certificate program contains, as a minimum, three semester hours each in written composition, mathematics, computer literacy skills, and speech. In general, long-term certificates contain most, if not all, of the technical career courses that are required in the Associate in Applied Science degree.

Short-term certificates are available in most career fields where AAS degrees and/or long-term certificates are already offered. The short- term certificates vary in length from 9 to 29 semester hours and are designed to allow the student to acquire career training in a short amount of time. Only minimal academic education requirements are included.

Career Technical students are also given the opportunity to participate in the CO-OP/Internship program. The CO-OP/ Internship program is designed to be an organized and planned work experience for the purpose of extending training to a student in his/her chosen career path, while at the same time providing the participating business with additional part-time personnel. A student is only eligible for an internship after meeting specific program prerequisites. The required amount of internship training time varies for individual programs and follows the semester schedule of the College. The student is interviewed by the prospective employer, and if hired as an intern, is expected to follow procedures and policies of the company. Students who are interested in participating in the CO-OP/Internship program should contact their program advisor.

Programs of study within the Career Technical Division require specific essential mental and physical capabilities if the student is to be successful. Essential functions for each Career Technical program of study are available in each career technical instructor's office and the Bevill State website - www.bscc.edu.

ATTENDANCE POLICY

Class attendance is considered an essential part of the educational process at Bevill State. The College subscribes to the philosophy that a student's academic progress is directly proportional to class attendance. Class attendance will be recorded from the first day of the student's official enrollment. Bevill State expects students to participate in all scheduled instructional classes and laboratory periods, regardless of the mode of delivery. Students are expected to be in class on time and to attend a minimum of 90% of the total class contact hours, including laboratory hours, for each course to be eligible to receive a passing grade. The instructor should inform the students how many absences this would mean for a specific class. If it becomes necessary for a student to withdraw from a course or from the College, it is the student's responsibility to complete the College's approved withdrawal process. If a student exceeds the 10% limit on absences, the instructor may examine any extenuating circumstances and allow the student to continue the class and make up the work.

Each student should be punctual. It is an interruption to the class for a student to arrive late. Instructors have the discretion to consider a late arrival or early departure, without the permission of the instructor, as an absence or some percentage

counting toward an absence. For example, a faculty member may consider a late arrival as 1/3 of an absence.

It is recognized that from time to time, extenuating circumstances may prevent a student from being able to attend a class. If the student misses a test or in-class assignment because of such an absence, makeup assignments may be given at the instructor's discretion. It is the student's responsibility to inquire about making up the work missed during any absence. However, there is no requirement that the instructor provide the opportunity for a makeup.

The following guidelines are provided for instructors who are willing to extend an opportunity for makeup work for absences resulting from extenuating circumstances.

1. Absences that occur because of emergencies (e.g., accidents, illness, court appearance, or death of an immediate family member) will be excused with proper notification to the instructor. Proper notification requires documentation as determined by the instructor. Examples include a copy of an accident report, a hospital admittance form, a doctor's excuse, subpoena, or a death announcement. When possible, the student or appropriate representative of the student (doctor, lawyer, hospital official, parent, spouse, etc.) should provide notification prior to the class that is to be missed.

2. Absences that occur as a result of Federal or State statutes will be excused upon proper notification to the instructor. Proper notification requires documentation as determined by the instructor.

Career Technical Education Programs

Air Conditioning & Refrigeration Technology (ACR)

Hamilton & Sumiton Campuses

Heating and air-conditioning systems control the temperature, humidity, and the total air quality in residential, commercial, industrial, and other buildings. By providing a climate controlled environment, refrigeration systems make it possible to store and transport food, medicine, and other perishable items. Heating, Air-conditioning, and Refrigeration Technicians install, maintain, and repair such systems. Because heating, ventilation, air-conditioning, and refrigeration systems often are referred to as HVACR systems, these workers also may be called HVACR technicians. The Air Conditioning and Refrigeration program at Bevill State is designed to teach basic theories and provide a working knowledge of air conditioning and heating for both comfort and environmental considerations. Graduates will be able to enter the fields of planning, installing, operating, and maintaining all types of heating, air conditioning and refrigeration equipment. The program is approved by the Alabama Board of Heating, Air Conditioning, and Refrigeration for the Alabama Contractor's License Exam.

(Occupational Outlook Handbook)

NOTE: Check with an advisor for program and course location by campus.

Air Conditioning & Refrigeration Technology (ACR) Degrees and Certificates

Associate In Applied Science Degree (ACR)

Program
Air Conditioning & Refrigeration Technology (ACR)

Degree Type
AAS Degree
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3

Field of Study Courses

Item #	Title	Credits
ACR 111	PRINCIPLES OF REFRIGERATION	3
ACR 112	HVAC/R SERVICE PROCEDURES	3
ACR 113	REFRIGERATION PIPING PRACTICES	3
ACR 119	FUNDAMENTALS OF GAS HEATING SYSTEMS	3
ACR 121	PRINCIPLES OF ELECTRICITY FOR HVAC/R	3
ACR 122	HVAC/R ELECTRICAL CIRCUITS	3
ACR 123	HVAC/R ELECTRICAL COMPONENTS	3
ACR 128	HEAT LOAD CALCULATIONS	3
ACR 132	RESIDENTIAL AIR CONDITIONING	3
ACR 135	MECHANICAL/GAS/SAFETY CODES	3
ACR 147	REFRIGERATION TRANSITION & RECOVERY THEORY	3
ACR 148	HEAT PUMPS SYSTEMS I	3
ACR 203	COMMERCIAL REFRIGERATION	3

Field of Study Electives

Select 4 courses from the following offerings:

Item #	Title	Credits
ACR 120	FUNDAMENTALS OF ELECTRIC HEATING SYSTEMS	3
ACR 126	COMMERCIAL HEATING SYSTEMS	3
ACR 127	HVAC/R ELECTRIC MOTORS	3
ACR 133	DOMESTIC REFRIGERATION	3
ACR 144	BASIC DRAWING AND BLUEPRINT READING IN HVAC	3
ACR 153	FUNDAMENTALS OF PROPANE SYSTEMS	3
ACR 192	HVAC Apprenticeship/Internship	3
ACR 200	REVIEW FOR CONTRACTORS EXAM	3
ACR 209	COMMERCIAL AIR CONDITIONING SYSTEMS	3
ACR 210	TROUBLESHOOTING HVAC/R SYSTEMS	3
WKO 110	NCCER CORE	3
ACR 134	ICE MACHINES	3
	Total Credits	**67-68**

Long-Term Certificate (ACR)

Program
Air Conditioning & Refrigeration Technology (ACR)
Degree Type
Long-Term Certificate
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
ACR 111	PRINCIPLES OF REFRIGERATION	3
ACR 112	HVAC/R SERVICE PROCEDURES	3
ACR 113	REFRIGERATION PIPING PRACTICES	3
ACR 119	FUNDAMENTALS OF GAS HEATING SYSTEMS	3
ACR 121	PRINCIPLES OF ELECTRICITY FOR HVAC/R	3
ACR 122	HVAC/R ELECTRICAL CIRCUITS	3
ACR 123	HVAC/R ELECTRICAL COMPONENTS	3
ACR 128	HEAT LOAD CALCULATIONS	3
ACR 132	RESIDENTIAL AIR CONDITIONING	3
ACR 147	REFRIGERATION TRANSITION & RECOVERY THEORY	3
ACR 148	HEAT PUMPS SYSTEMS I	3

Field of Study Electives

Select 3 courses from the following offerings

Item #	Title	Credits
ACR 120	FUNDAMENTALS OF ELECTRIC HEATING SYSTEMS	3
ACR 126	COMMERCIAL HEATING SYSTEMS	3
ACR 127	HVAC/R ELECTRIC MOTORS	3
ACR 133	DOMESTIC REFRIGERATION	3
ACR 134	ICE MACHINES	3
ACR 144	BASIC DRAWING AND BLUEPRINT READING IN HVAC	3
ACR 153	FUNDAMENTALS OF PROPANE SYSTEMS	3
ACR 192	HVAC Apprenticeship/Internship	3
ACR 200	REVIEW FOR CONTRACTORS EXAM	3
ACR 209	COMMERCIAL AIR CONDITIONING SYSTEMS	3
ACR 210	TROUBLESHOOTING HVAC/R SYSTEMS	3
WKO 110	NCCER CORE	3

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Total Credits	**49**

Basic Air Conditioning & Refrigeration

Program
Air Conditioning & Refrigeration Technology (ACR)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Heating and air-conditioning systems control the temperature, humidity, and the total air quality in residential, commercial, industrial, and other buildings. By providing a climate controlled environment, refrigeration systems make it possible to store and transport food, medicine, and other perishable items. Heating, Air-conditioning, and Refrigeration Technicians install, maintain, and repair such systems. Because heating, ventilation, air conditioning, and refrigeration systems often are referred to as HVACR systems, these workers also may be called HVACR technicians. The Air Conditioning and Refrigeration program at Bevill State is designed to teach basic theories and provide a working knowledge of air conditioning and heating for both comfort and environmental considerations. Graduates will be able to enter the fields of planning, installing, operating, and maintaining all types of heating, air conditioning and refrigeration equipment. The program is approved by the Alabama Board of Heating, Air Conditioning, and Refrigeration for the Alabama Contractor's License Exam.

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
ACR 111	PRINCIPLES OF REFRIGERATION	3
ACR 112	HVAC/R SERVICE PROCEDURES	3
ACR 121	PRINCIPLES OF ELECTRICITY FOR HVAC/R	3
ACR 123	HVAC/R ELECTRICAL COMPONENTS	3
ACR 147	REFRIGERATION TRANSITION & RECOVERY THEORY	3
ACR 132	RESIDENTIAL AIR CONDITIONING	3
	Total Credits	**19**

Air Conditioning & Refrigeration Technology (ACR) Classes

ACR 111 : PRINCIPLES OF REFRIGERATION

This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer, HVAC/R system components, common, and specialty tools for HVAC/R, and application of the concepts of basic compression refrigeration. Upon completion, students should identify system components and understand their functions, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

ACR 112 : HVAC/R SERVICE PROCEDURES

This course covers system performance checks and refrigerant cycle diagnosis. Emphasis is placed on the use of refrigerant recovery/recycle units, industry codes, refrigerant coils and correct methods of charging and recovering refrigerants. Upon completion, students should be able to properly recover/recycle refrigerants and demonstrate safe, correct service procedures which comply with the no-venting laws.
Credits 3
Lecture Hours 1
Lab Hours 4

ACR 113 : REFRIGERATION PIPING PRACTICES

This course introduces students to the proper installation procedures of refrigerant piping and tubing for the heating, ventilation, air conditioning and refrigeration industry. This course includes various methods of working with and joining tubing. Upon completion, students should comprehend related terminology and be able to fabricate pipe, tubing, and pipe fittings.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

ACR 119 : FUNDAMENTALS OF GAS HEATING SYSTEMS

This course provides instruction on general service and installation for common gas furnace system components. Upon completion, students will be able to install and service gas furnaces in a wide range of applications.
Credits 3
Lecture Hours 1

Lab Hours 4

ACR 120 : FUNDAMENTALS OF ELECTRIC HEATING SYSTEMS

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

Credits 3
Lecture Hours 1
Lab Hours 4

ACR 121 : PRINCIPLES OF ELECTRICITY FOR HVAC/R

This course is designed to provide the student with the basic knowledge of electrical theory and circuitry as it pertains to air conditioning and refrigeration. This course emphasizes safety, definitions, symbols, laws, circuits, and electrical test instruments. Upon completion, students should understand and be able to apply the basic principles of HVAC/R circuits and circuit components.

Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

ACR 122 : HVAC/R ELECTRICAL CIRCUITS

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

Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

ACR 123 : HVAC/R ELECTRICAL COMPONENTS

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

Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

ACR 126 : COMMERCIAL HEATING SYSTEMS

This course covers the theory and application of larger heating systems. Emphasis is placed on larger heating systems associated with commercial applications such as gas heaters, boilers, unit heaters and duct heaters. Upon completion, students should be able to troubleshoot and perform general maintenance on commercial heating systems.

Credits 3
Lecture Hours 1
Lab Hours 4

ACR 127 : HVAC/R ELECTRIC MOTORS

This course covers the basic maintenance of electric motors used in HVAC/R systems. Topics include types of motors, motor operations, motor installation and troubleshooting motors. Upon completion, students should be able to install and service HVAC/R electric motors.
Credits 3
Lecture Hours 1
Lab Hours 4

ACR 128 : HEAT LOAD CALCULATIONS

This course focuses on heat flow into and out of building structures. Emphasis is placed on determining heat gain/heat loss of a given structure. Upon completion, students should be able to calculate heat load and determine HVAC equipment size requirements.
Credits 3
Lecture Hours 3
Lab Hours 0

ACR 132 : RESIDENTIAL AIR CONDITIONING

This course introduces students to residential air conditioning systems. Emphasis is placed on the operation, service, and repair of residential air conditioning systems. Upon completion, students should be able to service and repair residential air conditioning systems.
Credits 3
Lecture Hours 1
Lab Hours 4

ACR 133 : DOMESTIC REFRIGERATION

This course covers domestic refrigerators and freezers. Emphasis is placed on installation, removal, and maintenance of components. Upon completion, students should be able to service and adjust domestic refrigeration units.
Credits 3
Lecture Hours 1
Lab Hours 4

ACR 134 : ICE MACHINES

This course introduces students to commercial ice machines. Emphasis is placed on components, electrical and mechanical operation sequences, control adjustment procedures, preventive maintenance, repairs, and installation procedures. Upon completion, student should be able to install, service, and repair commercial ice machines.
Credits 3
Lecture Hours 1
Lab Hours 4

ACR 135 : MECHANICAL/GAS/SAFETY CODES

This course is to enhance the student knowledge of the International Fuel Gas Code and International Mechanical Code as well as fire and job safety requirements. Emphasis is placed on code book content and compliance with installation requirements. Upon completion, students should be able to apply code requirements to all work.
Credits 3
Lecture Hours 3
Lab Hours 0

ACR 144 : BASIC DRAWING AND BLUEPRINT READING IN HVAC

This course covers basic drawing and
blueprint reading as applied to the HVAC industry. Emphasis is on three-view drawings, basic duct systems, and isometric piping. Upon course completion, students should be able to perform basic drawings related to HVAC systems and read pertinent blueprints.
Credits 3
Lecture Hours 3
Lab Hours 0

ACR 147 : REFRIGERATION TRANSITION & RECOVERY THEORY

This course is EPA-approved and covers material relating to the requirements necessary for type I, II, and III universal certifications. Upon completion, students should be prepared to take the EPA 608 certification examination.
Credits 3
Lecture Hours 3
Lab Hours 0

ACR 148 : HEAT PUMPS SYSTEMS I

Instruction received in this course centers around the basic theory and application of heat pump systems and components. Upon completion, students will be able to install and service heat pumps in a wide variety of applications.
Credits 3
Lecture Hours 1
Lab Hours 4

ACR 153 : FUNDAMENTALS OF PROPANE SYSTEMS

The purpose of this course is to provide current information, practices, and procedures to educate HVAC and plumbing students on how to design, install, test and operate propane-based HVAC and plumbing systems in a safe and efficient manner.
Credits 3
Lecture Hours 1
Lab Hours 4

ACR 200 : REVIEW FOR CONTRACTORS EXAM

This course prepares students to take the State Certification Examination. Emphasis is placed on all pertinent codes, piping procedures, duct design, load calculation, psychometrics, installation procedures, and air distribution. Upon completion, students should be prepared to take the contractors exam.
Credits 3
Lecture Hours 3
Lab Hours 0

ACR 203 : COMMERCIAL REFRIGERATION

This course focuses on commercial refrigeration systems. Emphasis is placed on evaporators, condensers, compressors, expansion devices, special refrigeration components, and application of refrigeration systems. Upon completion students should be able to service and repair commercial refrigeration systems.
Credits 3
Lecture Hours 1

Lab Hours 4

ACR 209 : COMMERCIAL AIR CONDITIONING SYSTEMS

This course focuses on servicing and maintaining commercial and residential HVAC/R systems. Topics include system component installation and removal and service techniques. Upon completion, the student should be able to troubleshoot and perform general maintenance on commercial and residential HVAC/R systems.
Credits 3
Lecture Hours 1
Lab Hours 4

ACR 210 : TROUBLESHOOTING HVAC/R SYSTEMS

This course provides instruction in the use of various meters and gauges used in the HVAC/R industry. Emphasis is placed on general service procedures, system diagnosis, corrective measure, methods of leak detection, system evacuation, charging, and performance checks. Upon completion, students should be able to perform basic troubleshooting of HVAC/R systems.
Credits 3
Lecture Hours 1
Lab Hours 4

Advanced Engineering Design Technology (EDT)

Hamilton & Sumiton Campuses

The Advanced Engineering Design Technology (DDT)program, prepares individuals to apply basic engineering principles and technical skills to the identifications and resolution of production problems in the manufacture of products. The courses offer instructional skills for engineering technicians in design through 2-D and 3-D concepts in mechanical and architectural design, computer- aided manufacturing (CAM), additive manufacturing, planning. Bevill State graduates in Advanced Engineering Design Technology will obtain the essential skill to link engineering and manufacturing. Preparing them for entry into the workplace of CAD/CAM engineering design, planning, and additive manufacturing.

Advanced Engineering Design Technology (EDT) Degrees and Certificates

Associate In Applied Science Degree (EDT)

Program
Advanced Engineering Design Technology (EDT)
Degree Type
AAS Degree
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3

Required Courses

Item #	Title	Credits
ADM 101	PRECISION MEASUREMENT	3
DDT 244	ADVANCED 3D MODELING	3
DDT 104	BASIC COMPUTER AIDED DRAFTING AND DESIGN	3
DDT 111	FUNDAMENTALS OF DRAFTING AND DESIGN TECHNOLOGY	3
DDT 124	BASIC TECHNICAL DRAWING	3
DDT 127	INTERMEDIATE COMPUTER AIDED DRAFTING AND DESIGN	3
DDT 128	INTERMEDIATE TECHNICAL DRAWING	3
DDT 131	MACHINE DRAFTING BASICS	3
DDT 132	ARCHITECTURAL DRAFTING	3
DDT 144	BASIC 3D MODELING	3
DDT 211	INTERMEDIATE MACHINE DRAFTING	3
DDT 212	INTERMEDIATE ARCHITECTURAL DRAFTING	3
DDT 233	INTERMEDIATE 3D MODELING	3
DDT 238	SPECIAL TOPICS IN CAD	3

Electives

Choose Two Courses (6 Hours)

Item #	Title	Credits
ADM 162	ADDITIVE MANUFACTURING PROCESS-POLYMERS	3
AET 191	BUILDING INFORMATION MODELING (BIM)	3
DDT 236	DESIGN PROJECTS	3
DDT 244	ADVANCED 3D MODELING	3
DDT 115	BLUEPRINT READING FOR MACHINISTS	3
DDT 116	BLUEPRINT READING FOR CONSTRUCTION	3
DDT 215	GEOMETRIC DIMENSIONING & TOLERANCING	3
DDT 133	BASIC SURVEYING	3
	Total Credits	**64-65**

Additive Engineering Technology Short-Term Certificate

Program
Advanced Engineering Design Technology (EDT)
Degree Type
Short-Term Certificate
Location

Hamilton & Sumiton Campuses

Required Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
ADM 162	ADDITIVE MANUFACTURING PROCESS-POLYMERS	3
DDT 144	BASIC 3D MODELING	3
DDT 233	INTERMEDIATE 3D MODELING	3
	ADM/DDT Elective	3
	Total Credits	**13**

Advanced Engineering Design Technology Short-Term Certificate

Program
Advanced Engineering Design Technology (EDT)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Required Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
ADM 101	PRECISION MEASUREMENT	3
DDT 244	ADVANCED 3D MODELING	3
DDT 211	INTERMEDIATE MACHINE DRAFTING	3
	ADM/DDT Elective	3
	Total Credits	**13**

Architectural Engineering Technology Short-Term Certificate

Program
Advanced Engineering Design Technology (EDT)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Required Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
DDT 127	INTERMEDIATE COMPUTER AIDED DRAFTING AND DESIGN	3
DDT 132	ARCHITECTURAL DRAFTING	3
DDT 212	INTERMEDIATE ARCHITECTURAL DRAFTING	3
DDT 238	SPECIAL TOPICS IN CAD	3
	AET/DDT Elective	3
	Total Credits	**16**

Engineering Design Technology Short-Term Certificate (EDT)

Program
Advanced Engineering Design Technology (EDT)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Required Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
DDT 104	BASIC COMPUTER AIDED DRAFTING AND DESIGN	3
DDT 127	INTERMEDIATE COMPUTER AIDED DRAFTING AND DESIGN	3
DDT 111	FUNDAMENTALS OF DRAFTING AND DESIGN TECHNOLOGY	3
DDT 124	BASIC TECHNICAL DRAWING	3
DDT 128	INTERMEDIATE TECHNICAL DRAWING	3
DDT 131	MACHINE DRAFTING BASICS	3
	Total Credits	**19**

Advanced Engineering Design Technology (EDT) Classes

ADM 150 : TECHNICAL COOPERATIVE EDUCATION

Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate student progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.
Credits 1

ADM 151 : TECHNICAL COOPERATIVE EDUCATION

Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate student progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.
Credits 1

ADM 152 : TECHNICAL COOPERATIVE EDUCATION

Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate student progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.

Credits 1

ADM 153 : TECHNICAL COOPERATIVE EDUCATION

Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate students progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.

Credits 1

ADM 154 : TECHNICAL COOPERATIVE EDUCATION

Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate student progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.

Credits 1

ADM 291 : MSSC SAFETY COURSE

This course is designed to provide students with knowledge and skills related to safety in a manufacturing environment. Topics covered include:

- Work in a safe and productive manufacturing workplace
- Perform safety and environmental inspections
- Perform emergency drills and participate in emergency teams
- Identify unsafe conditions and take corrective action
- Provide safety orientation for all employees
- Train personnel to use equipment safely
- Suggest process and procedures that support safety of work environment
- Fulfill safety and health requirements for maintenance, installation, and repair
- Monitor safe equipment and operator performance
- Utilize effective, safety-enhancing workplace practices

This course is equivalent to AUT 102 and WKO 131.

Students completing this course will receive an MSSC Certificate in Safety. Students completing courses ADM 291, 292, 293 and 294 will receive the Certified Production Technician credential.

Credits 3

ADM 292 : MSSC QUALITY PRACTICES AND MEASUREMENT COURSE

This course is designed to provide students with knowledge and skills related to quality practices and measurement in a manufacturing environment. Topics covered include:

- Participate in periodic internal quality audit activities

- Check calibration of gages and other data collection equipment
- Suggest continuous improvements
- Inspect materials and product/process at all stages to ensure they meet specifications
- Document the results of quality problems
- Communicate quality problems
- Take corrective actions to restore or maintain quality
- Record process outcomes and trends
- Identify fundamentals of blueprint reading
- Use common measurement systems and precision measurement tools

This course is equivalent to ADM 106 and WKO 132.

Students completing this course will receive an MSSC Certificate in quality practices and measurement. Students completing courses ADM 291, 292, 293 and 294 will receive the Certified Production Technician credential.
Credits 3
Prerequisite Courses
ADM 291

DDT 104 : BASIC COMPUTER AIDED DRAFTING AND DESIGN

This course provides an introduction to basic Computer Aided Drafting and Design (CADD) functions and techniques, using hands-on applications. Topics include terminology, hardware, basic CADD and operating system functions, file manipulation, and basic CADD software applications in producing softcopy and hardcopy.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

DDT 111 : FUNDAMENTALS OF DRAFTING AND DESIGN TECHNOLOGY

This course serves as an introduction to the field of drafting and design and provides a foundation for the entire curriculum. Topics include safety, lettering, tools and equipment, geometric constructions, and orthographic sketching, and drawing.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

DDT 115 : BLUEPRINT READING FOR MACHINISTS

This course provides the students with terms and definitions, theory of orthographic projection, and other information required to interpret drawings used in the machine trades. Topics include multiview projection, pictorial drawings, dimensions and notes, lines and symbols, and sketching. Upon completion, students should be able to interpret blueprint drawings used in the machine trades.
Credits 3
Lecture Hours 3
Lab Hours 0

DDT 116 : BLUEPRINT READING FOR CONSTRUCTION

This course provides the students with terms and definitions, theory or orthographic projection, and other information required to interpret drawings used in the construction trades. Topics include multiview projection, dimensions and notes, lines and symbols, sketching, foundations plans, site plans, floor plans, elevations, sections, details, schedules, electrical plans and specifications. Upon completion, students should be able to interpret blueprint drawings used in the construction and building trades.
Credits 3
Lecture Hours 3
Lab Hours 0

DDT 117 : MANUFACTURING PROCESSES

This course in materials and processes includes the principles and methodology of material selection, application, and manufacturing processes. Emphasis is directed to solids to include material characteristics, castings, forging, and die assemblies. Upon completion, students should be able to discuss and understand the significance of materials' properties, structure, basic manufacturing processes, and express and interpret material specifications.
Credits 3
Lecture Hours 3
Lab Hours 0

DDT 118 : BASIC ELECTRICAL DRAFTING

This course covers the universal language of electrical drafting, including electrical lines, symbols, abbreviations, and notation. Emphasis is place on typical components such as generators, controls, transmission networks, and lighting, heating, and cooling devices. Upon completion, students should be able to draw basic diagrams of electrical and electronic circuits using universally accepted lines and symbols.
Credits 3
Lecture Hours 1
Lab Hours 4

DDT 124 : BASIC TECHNICAL DRAWING

This course covers sections, auxiliary views, and basic space geometry. Emphasis will be placed on the theory as well as the mechanics of applying sections, basic dimensioning, auxiliary views, and basic space geometry.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

DDT 125 : SURFACE DEVELOPMENT

This course covers sections, auxiliary views, and basic space geometry. Emphasis will be placed on the theory as well as the mechanics of applying sections, basic dimensioning, auxiliary views, and basic space geometry.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE
Prerequisites
As required by college.

DDT 127 : INTERMEDIATE COMPUTER AIDED DRAFTING AND DESIGN

This course covers intermediate-level concepts and applications of CADD. Emphasis will be placed on intermediate-level features, command, and applications of CADD software.CORE
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104, DDT 111, DDT 124 or advisor approval.

DDT 128 : INTERMEDIATE TECHNICAL DRAWING

This course is designed to develop a strong foundation in common drafting and design practices and procedures. Topics include dimensioning concepts and pictorial drawings.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE
Prerequisites
DDT 111, DDT 124 or advisor approval.

DDT 130 : FUNDAMENTALS OF DRAFTING FOR RELATED TRADES

This course is an applications lab for the theory of related trades drafting. Topics include civil, piping, electronic and welding drawings. Upon completion, students should be able to produce drawings to convey basic information related to these fields.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
As required by college.

DDT 131 : MACHINE DRAFTING BASICS

This course in machine drafting and design provides instruction in the largest speciality area of drafting in the United States, in terms of scope and job opportunities. Emphasis will be placed on the applications of multi-view drawings, including drawing organization and content, title blocks and parts lists, assembly drawings, detail drawings, dimensioning and application of engineering controls in producing industrial-type working drawings. Upon completion, students should be able to organize, layout, and produce industrial-type working drawings, including the application of title blocks, parts lists, assemblies, details, dimensions, and engineering controls.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104, DDT 111, DDT 124 or advisor approval.

DDT 132 : ARCHITECTURAL DRAFTING

This course in architectural design and drafting introduces basic terminology, concepts and principles of architectural design and drawing. Topics include design considerations, lettering, terminology, site plans, and construction drawings. Upon completion, students should be able to draw, dimension, and specify basic residential architectural construction drawings.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104, DDT 111, DDT 124 or advisor approval.

DDT 133 : BASIC SURVEYING

This course covers the use of surveying instruments, mathematical calculations and the theory of land surveying. Topics include USGS benchmarks, measuring horizontal and vertical angles and distances, terms, and recording and interpreting field notes. Upon completion, students should be able to recognize benchmarks and measure, specify, and record field notes.
Credits 3
Lecture Hours 1
Lab Hours 4

DDT 134 : DESCRIPTIVE GEOMETRY

This course is designed to teach the fundamental concepts of descriptive geometry with an emphasis on logical reasoning, visualization, and practical applications. Topics include orthographic projection, points and lines in space, auxiliary views, plane representation, intersecting and non-intersecting lines, piercing and intersecting planes, plane development, and calculations. Upon completion, students should be able to project and intersect points, lines, and planes, with their relationships in space.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 111, DDT 124, or advisor approval.

DDT 139 : FUNDAMENTALS OF DRAFTING FOR RELATED TRADES LAB

This course is an applications lab for the theory of related trades drafting. Topics include civil, piping, electronic, and welding drawings. Upon completion, students should be able to produce drawings to convey basic information related to these fields.
Credits 3
Lecture Hours 0
Lab Hours 3
Prerequisites
As required by college.

DDT 144 : BASIC 3D MODELING

This course is an introduction to 3D solid modeling techniques utilizing feature-based, constraint-based parametric design. This course encourages the student to visualize parts in the 3D world and have a "design intent" plan for each part in which they will design. Upon completion of the course students should be able to create basic 3D models and 2D working drawings.
Credits 3
Lecture Hours 1

Lab Hours 4
Prerequisites
As required by college.

DDT 150 : THEORY OF RESIDENTIAL DRAWING AND DESIGN

This course provides the theory of residential drawing and design. Topics include architectural styles, house design, site and space planning, environment, drawing requirements, construction materials and process, terminology, and specific types of drawings required to complete a full set of construction documents. Introductory and intermediate level topics are covered. Emphasis is placed on an understanding of the various issues and requirements essential to the field of residential drawing and design.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
As required by College.

DDT 181 : SPECIAL TOPICS IN DRAFTING AND DESIGN TECHNOLOGY

This course provides specialized instruction in various areas related to the drafting industry. Emphasis is placed on meeting students' needs.
Credits 3
Lecture Hours 1
Lab Hours 2

DDT 182 : SPECIAL TOPICS IN DRAFTING AND DESIGN TECHNOLOGY

This course provides specialized instruction in various areas related to the drafting industry. Emphasis is placed on meeting students' needs.
Credits 3
Lecture Hours 1
Lab Hours 2
Prerequisites
DDT 104, DDT 111, DDT 124

DDT 183 : SPECIAL TOPICS IN DRAFTING AND DESIGN TECHNOLOGY

This course provides specialized instruction in various areas related to the drafting industry. Emphasis is placed on meeting students' needs.
Prerequisites
DDT 104, DDT 111, DDT 124

DDT 191 : DRAFTING INTERNSHIP

This course is designed for those who are involved in a structured employment situation that is directly related to the field of drafting and design and is coordinated with the drafting instructor. The student must spend at least 5 hours per week in an activity planned and coordinated jointly by the instructor and the employer. Upon completion, the student will have gained valuable work experience in a well-planned, coordinated training/work situation.
Credits 1
Lecture Hours 1

Lab Hours 0
Prerequisites
As required by College.

DDT 192 : DRAFTING INTERNSHIP

This course is limited to those who are involved in a structured employment situation that is directly related to the field of drafting and design and is coordinated with the drafting instructor. The student must spend at least 10 hours per week in an activity planned and coordinated jointly by the instructor and the employer. Upon completion, the student will have gained valuable work experience in a well-planned, coordinated training/work situation.
Credits 2
Lecture Hours 2
Lab Hours 0
Prerequisites
As required by College.

DDT 193 : DRAFTING INTERNSHIP

This course is limited to those who are involved in a structured employment situation that is directly related to the field of drafting and design and is coordinated with the drafting instructor. The student must spend at least 15 hours per week in an activity planned and coordinated jointly by the instructor and the employer. Upon completion, the student will have gained valuable work experience in a well-planned, coordinated training/work situation.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
As required by College.

DDT 211 : INTERMEDIATE MACHINE DRAFTING

This second course in machine drafting and design provides more advanced instruction in the largest speciality area of drafting. Topics include applications of previously developed skills in the organization and development of more complex working drawings, use of vendor catalogs and the Machinery's Handbook for developing specifications, and use of standardized abbreviations in working drawings.
Credits 3
Lecture Hours 1
Lab Hours 4

DDT 212 : INTERMEDIATE ARCHITECTURAL DRAFTING

This second course in architectural design and drafting continues with more advanced and detailed architectural plans. Topics include interior elevations, plot plans, and interior details. Upon completion, students should be able to draw and specify advanced level plans including various architectural details.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
As required by college.

DDT 213 : CIVIL DRAFTING PLAT MAPS

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

Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104, DDT 111, DDT 124 or advisor approval.

DDT 214 : PIPE DRAFTING

This course covers the theory and practical applications necessary to understand piping fundamentals as used in refineries and petrochemical plants. Topics include process and mechanical flow diagrams, plant equipment, isometric drawings, instrumentation symbols, pipe symbols, flanges, fittings, and applications of basic math and trigonometry. Upon completion, students should be able to demonstrate pipe drafting techniques and fundamentals in order to prepare working drawings used in refineries and the petrochemical industrial environment.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104, DDT 111, DDT 124

DDT 215 : GEOMETRIC DIMENSIONING & TOLERANCING

This course is designed to teach fundamental concepts of size description by geometric methods including appropriate engineering controls. Emphasis is placed on the drawing and application of common geometric dimensioning and tolerancing symbols to engineering drawings as designated by the latest ANSI/ASME Standards. Upon completion, students should be able to use geometric dimensioning and tolerancing symbols in applying size information and manufacturing controls to working drawings.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104, DDT 111, DDT 124 or advisor approval.

DDT 216 : DESIGN OF STRUCTURAL WOOD MEMBERS

This course provides structural theory and rule-to-thumb design for structural wood members. Joists, beams, girders, rafters, posts, and columns are designed as related to residential and light commercial needs. Bending moment, shear, and slenderness rations are discussed as well as code requirements and rule-of-thumb. Emphasis is placed upon competency.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
DDT 104, DDT 111, DDT 124

DDT 220 : ADVANCED TECHNICAL DRAWING

This course covers the method of providing size description and manufacturing information for production drawings. Emphasis will be placed on accepted dimensioning and tolerancing practices, including Geometric Dimensioning and Tolerancing for both the Customary English System and the ISO System, fasteners, and welding symbols. Upon completion, students should be able to apply dimensions, tolerances, and notes to acceptable standards, including GDT and produce drawings using and specifying common threads and fasteners including welding methods.
Credits 3
Lecture Hours 1
Lab Hours 4

DDT 222 : ADVANCED ARCHITECTURAL DRAFTING

This third course in architectural design and drafting continues with advanced architectural plans, including a slant toward light commercial construction. Topics include climate control plans, application of building codes, building materials and finish specifications, cost estimating, and bid specifications. Upon completion, students should be able to apply current techniques in producing advanced-level architectural plans, including residential and light commercial applications. This course is designed to develop the knowledge and skills necessary to understand the basic components and terminology of pre-cast and poured-in-place concrete structures. Emphasis is placed on pre-cast concrete framing plans, sections, fabrication and connection details, poured-in-place concrete foundations, floor systems, and bills of material. Upon completion, students should be able to do construction engineering and shop drawings of concrete beams, column, floor, roof, and wall framing plans using the A.I.S.C. Manual and incorporating safety practices.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104, DDT 111, DDT 124, DDT 132, or advisor approval.

DDT 224 : STRUCTURAL CONCRETE DRAFTING

This second course in machine drafting and design provides more advanced instruction in the largest speciality area of drafting. Topics include applications of previously developed skills in the organization and development of more complex working drawings, use of vendor catalogs and the Machinery's Handbook for developing specifications, and use of standardized abbreviations in working drawings.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104, DDT 111, DDT 124, DDT 131 or advisor approval.

DDT 225 : STRUCTURAL STEEL DRAFTING

This course covers the theory and practical applications necessary to understand the basic design and terminology of structural steel components used in light commercial buildings. Emphasis is placed on structural steel drafting techniques, bolted and welded connections, framing plans, sections, fabrication and connection details, and bills of material. Upon completion, students should be able to produce engineering and shop drawings incorporating standard shapes, sizes, and details using the A.I.S.C. Manual and incorporating safety practices.
Credits 3
Lecture Hours 1
Lab Hours 4

DDT 226 : TECHNICAL ILLUSTRATION

This course provides the student with various methods of illustrating structures and machine parts. Topics include axonometric drawings; exploded assembly drawings; one point, two point, and three point perspectives; surface textures; and renderings. Upon completion, students should be able to produce drawings and illustrations using the previously described methods.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 111, DDT 124

DDT 227 : STRENGTH OF MATERIALS

This course in statics and strength of materials includes the study of forces and how they act and react on bodies and structures. Topics include the effects of forces as found in structures and machines under conditions of equilibrium, how materials resist forces, strengths of common construction materials and structural components. Force systems such as parallel, concurrent, and nonconcurrent are studied in co-planar and non-coplanar situations. Upon completion, students should understand and be able to apply the principles of force in engineering drawings.
Credits 4
Lecture Hours 4
Lab Hours 0
Prerequisites
DDT 104, DDT 111, DDT 124

DDT 231 : ADVANCED CAD

This course allows the student to plan, execute, and present results of individual projects in Advanced CAD topics. Emphasis is placed on enhancing skill attainment in Advanced CAD skill sets. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
As required by College.

DDT 232 : CAD CUSTOMIZATION

This course introduces the various methods of customizing CAD software to meet individual or company needs. Topics include menu customizing, programming, custom command macros, script files, slides, and slide libraries. Upon completion, students should be able to customize and write menus, write programming routines, and write script files for the purpose of increasing the proficiency of the CAD operator.
Credits 4
Lecture Hours 2
Lab Hours 4
Prerequisites
DDT 104 and DDT 127 or DDT 231 or advisor approval.

DDT 233 : INTERMEDIATE 3D MODELING

This course emphasizes the more advanced techniques in 3D solid modeling. It covers advanced features of part creation, part editing, and analysis. Some techniques that will be discussed are: lofting, sweeping, sheet metal part creation, interference checking, and stress analysis. Upon completion of the course students should be able to create advanced 3D models and perform stress analysis/interference checking.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
As required by College.

DDT 235 : SPECIALIZED CAD

This course allows the student to plan, execute, and present results of individual projects in Specialized CAD topics. Emphasis is placed on enhancing skill attainment in Specialized CAD skill sets. The student will be able to demonstrate and apply competencies identified by the instructor.
Credits 3

Lecture Hours 1
Lab Hours 4
Prerequisites
As required by College.

DDT 236 : DESIGN PROJECTS

This course allows the student to plan, execute, and present results of an individual design project. Emphasis is placed on attainment of skills related to a project agreed upon by the instructor and student. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
As required by college.

DDT 237 : CURRENT TOPICS IN CAD

This course allows the student to plan, execute, and present results of individual projects relating to current topics in CAD. Emphasis is placed on attainment of skills related to changes in current CAD technology. The student will be able to demonstrate and apply competencies identified by the instructor.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
As required by College.

DDT 238 : SPECIAL TOPICS IN CAD

This course in special CAD and multimedia topics covers special capabilities possible with CAD software, especially in conjunction with other graphical software, such as virtual "walk-throughs" or multimedia presentations. Topics include but are not limited to combining CAD software, image editing software, authoring software, and 3D software into one harmonious relationship to produce multimedia presentations. Upon completion, students should be aware of and understand how to utilize several software packages to produce multimedia presentations.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
As required by College.

DDT 244 : ADVANCED 3D MODELING

This course is designed to challenge the imagination of the student in a three dimensional problem-solving environment using solids modeling software. The student will develop to scale computer generated parts in the 3D computer environment. They will apply modeling concepts as Constraints, Photorealistic rendering, motion activated views, introduction to 3D part libraries, add-in software components, plastic model technology and simulations. They will be introduced to the concepts of 3D design and animation, then apply those concepts to a design project. Upon completion, students should be able to create parts in 3D models, produce working drawing and understand basic simulations. Students will also print files to ".stl" format and create parts on a Direct Digital Manufacturing system or prototype.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
As required by college.

DDT 260 : PORTFOLIO

This course includes the preparation of technical and/or architectural drawings for a portfolio presentation and a resume for portfolio presentation. Hard copy drawings as well as electronic drawings will be discussed, finalized and developed for presentation. Upon completion, students should be able to prepare and produce a portfolio for presentation. This course includes the preparation of artwork and a resume for portfolio presentation. Topics include production of a resume and portfolio for presentation during the last semester of course work. Upon completion, students should be able to prepare and produce a resume and portfolio for presentation in both hard copy as well as electronic copy.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
As required by College.

Advanced Manufacturing Technology (ADM)

All Locations

The Manufacturing Skills Standards Council (MSSC) is an industry-led training assessment and certification system focused on the core skills and knowledge needed by the nation's front-line production and material handling workers. The nationwide MSSC system, based upon industry defined and federally-endorsed standards, offers both entry level and incumbent workers the opportunity to demonstrate that they have acquired the skills increasingly needed in the technology-intensive jobs of the 21st century.

Advanced Manufacturing Technology (ADM) Degrees and Certificates

Advanced Manufacturing Technology Program

Program
Advanced Manufacturing Technology (ADM)
Degree Type
AAS Degree
Location
All Locations

The Advanced Manufacturing Technology (ADM) Apprenticeship is a combination of cutting-edge curriculum with a paid technical co-op/internship with a reputable manufacturing industry. The advanced manufacturing technology courses along with the technical co-operative leads to a two-year Associate of Applied Science degree in Advanced Manufacturing Technology. At Bevill State Community College industry/students have four options of focus after completing the MSSC Advanced Manufacturing Core Requirements.

These options include: Option 1 – Advanced Manufacturing Automation, Option 2 - Advanced Manufacturing Industrial Maintenance, Option 3 - Advanced Manufacturing Machine Tool Technology and Option 4 - Advanced Manufacturing Welding Technology.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

General Education Core Requirements

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3

MSSC Advanced Manufacturing Core Requirements

Item #	Title	Credits
ADM 291	MSSC SAFETY COURSE	3
ADM 292	MSSC QUALITY PRACTICES AND MEASUREMENT COURSE	3
ADM 293	MSSC MANUFACTURING PROCESSES AND PRODUCTION COURSE	3
ADM 294	MSSC MAINTENANCE AWARENESS COURSE	3

Technial Co-Operative Education

Item #	Title	Credits
ADM 150	TECHNICAL COOPERATIVE EDUCATION	1
ADM 151	TECHNICAL COOPERATIVE EDUCATION	1
ADM 152	TECHNICAL COOPERATIVE EDUCATION	1
ADM 153	TECHNICAL COOPERATIVE EDUCATION	1
ADM 154	TECHNICAL COOPERATIVE EDUCATION	1

CHOOSE ONE OPTION

Advanced Manufacturing Automation Option

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 104	DIGITAL FUNDAMENTALS	3
ETC 108	MOTOR CONTROLS I	3
ELT 212	MOTOR CONTROL II	3
INT 184	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
ILT 196	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
AUT 139	INTRO TO ROBOTIC PROGRAMMING	3

Advanced Manufacturing Industrial Maintenance Option

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 108	MOTOR CONTROLS I	3
ELT 212	MOTOR CONTROL II	3
INT 184	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
ILT 196	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	3
ELT 118	COMMERCIAL/INDUSTRIAL WIRING	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
INT 118	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3

Advanced Manufacturing Machine Tool Technology Option

Item #	Title	Credits
MTT 100	MACHINING TECHNOLOGY I	6
MTT 103	MACHINING TECHNOLOGY II	6
MTT 121	BASIC PRINT READING FOR MACHINISTS	3
MTT 127	INTRODUCTION TO METROLOGY	3
MTT 136	MILLING OPERATIONS	6
CNC 139	BASIC COMPUTER NUMERICAL CONTROL	3

Advanced Manufacturing Welding Technology Option

Item #	Title	Credits
WDT 109	SMAW FILLET/PAC/CAC	3
WDT 110	INDUSTRIAL BLUE PRINT READING	3
WDT 123	SMAW FILLET/PAC/CAC LAB	3
WDT 119	GAS METAL ARC/FLUX CORED ARC WELDING	3
WDT 120	SHIELDED METAL ARC WELDING GROOVE	3
WDT 124	GAS METAL ARC/FLUX CORED ARC WELDING LAB	3
WDT 125	SHIELDED METAL ARC WELDING GROOVE LAB	3
WDT 218	CERTIFICATION	3
WDT 258	CERTIFICATION LAB	3
	Total Credits	**60**

Advanced Manufacturing Technology Apprenticeship Program (LTC)

Program
Advanced Manufacturing Technology (ADM)
Degree Type
Long-Term Certificate
Location
All Locations

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Genreal Education Core Requirements

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3

MSSC Advanced Manufacturing Core Requirements

Item #	Title	Credits
ADM 291	MSSC SAFETY COURSE	3
ADM 292	MSSC QUALITY PRACTICES AND MEASUREMENT COURSE	3
ADM 293	MSSC MANUFACTURING PROCESSES AND PRODUCTION COURSE	3
ADM 294	MSSC MAINTENANCE AWARENESS COURSE	3

Technical Co-Operative Education

Item #	Title	Credits
ADM 150	TECHNICAL COOPERATIVE EDUCATION	1
ADM 151	TECHNICAL COOPERATIVE EDUCATION	1
ADM 152	TECHNICAL COOPERATIVE EDUCATION	1
ADM 153	TECHNICAL COOPERATIVE EDUCATION	1
ADM 154	TECHNICAL COOPERATIVE EDUCATION	1

CHOOSE ONE OPTION

Advanced Manufacturing Automation Option

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 104	DIGITAL FUNDAMENTALS	3
ETC 108	MOTOR CONTROLS I	3
ELT 212	MOTOR CONTROL II	3
INT 184	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
ILT 196	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
AUT 139	INTRO TO ROBOTIC PROGRAMMING	3

Advanced Manufacturing Industrial Maintenance Option

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 108	MOTOR CONTROLS I	3
ELT 212	MOTOR CONTROL II	3
INT 184	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
ILT 196	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	3
ELT 118	COMMERCIAL/INDUSTRIAL WIRING	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
INT 118	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3

Advanced Manufacturing Tool Technology Option

Item #	Title	Credits
MTT 100	MACHINING TECHNOLOGY I	6
MTT 103	MACHINING TECHNOLOGY II	6
MTT 121	BASIC PRINT READING FOR MACHINISTS	3
MTT 127	INTRODUCTION TO METROLOGY	3
MTT 136	MILLING OPERATIONS	6
CNC 139	BASIC COMPUTER NUMERICAL CONTROL	3

Advanced Manufacturing Welding Technology Option

Item #	Title	Credits
WDT 109	SMAW FILLET/PAC/CAC	3
WDT 110	INDUSTRIAL BLUE PRINT READING	3
WDT 123	SMAW FILLET/PAC/CAC LAB	3
WDT 119	GAS METAL ARC/FLUX CORED ARC WELDING	3
WDT 120	SHIELDED METAL ARC WELDING GROOVE	3
WDT 124	GAS METAL ARC/FLUX CORED ARC WELDING LAB	3
WDT 125	SHIELDED METAL ARC WELDING GROOVE LAB	3
WDT 218	CERTIFICATION	3
WDT 258	CERTIFICATION LAB	3
	Total Credits	**51**

MODERN MANUFACTURING

Program
Advanced Manufacturing Technology (ADM)
Degree Type
Short-Term Certificate
Location
All Locations

The Manufacturing Skills Standards Council (MSSC) is an industry-led training assessment and certification system focused on the core skills and knowledge needed by the nation's front-line production and material handling workers. The

nationwide MSSC system, based upon industry defined and federally-endorsed standards, offers both entry level and incumbent workers the opportunity to demonstrate that they have acquired the skills increasingly needed in the technology-intensive jobs of the 21st century.

Core Requirements

Item #	Title	Credits
ADM 291	MSSC SAFETY COURSE	3
ADM 292	MSSC QUALITY PRACTICES AND MEASUREMENT COURSE	3
ADM 293	MSSC MANUFACTURING PROCESSES AND PRODUCTION COURSE	3
ADM 294	MSSC MAINTENANCE AWARENESS COURSE	3
	Total Credits	**12**

Advanced Manufacturing Technology (ADM) Classes

ADM 101 : PRECISION MEASUREMENT

This course covers the use of precision measurement instruments utilized in inspection. In addition, basic blueprint reading techniques, reverse engineering, and related industry standards required in advanced manufacturing disciplines are covered. Upon completion, students should be able to demonstrate correct use of precision measuring instruments, interpret basic prints, and apply reverse engineering techniques.
Credits 3
Lecture Hours 2
Lab Hours 2
Prerequisites
DDT 104 OR DDT 111

ADM 116 : INTRODUCTION TO CATIA

Introduction to parametric, three-dimensional modeling using CATIA (v5 or 6). Focus on how to navigate within this software, how to create three-dimensional solid models using industry best practices, and then how to create and manipulate assemblies made from these parts. Learn the processes of designing models with CATIA from conceptual sketching, through to solid modeling, assembly design, and drawing production. Upon completion of this course you will have acquired the skills to confidently work with CATIA. Gain an understanding of the parametric design philosophy of CATIA in this extensive hands-on course. It is expected that all new users of CATIA will require this course.
Credits 3
Lecture Hours 3
Lab Hours 0

ADM 162 : ADDITIVE MANUFACTURING PROCESS-POLYMERS

This course focuses on basic principles and methodology of different types of polymers and processes created with the Additive Manufacturing (AM) process. Comparison of selecting the best type of polymer for production will be discussed. Students receive proper instruction on safety operations, setup and routine maintenance and production on the AM systems. Students learn the various types of polymer AM systems; i.e. Fused Deposition Manufacturing (FDM), PolyJet, and SLA. Students also learn the software used for each AM system. Upon completion, students will be able to describe the different types of polymers available for the AM process including but not limited to ABS, PC, PC-ABS, ULT, PPSF, and Nylon and explain what the benefits are of basic AM. They should be able to demonstrate how to take a "part" from start to finish on the AM system and be able to select the best process for the type of product being produced.
Credits 3

Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 144 (or co-requisite)

ADM 212 : INTERMEDIATE CATIA

This course explores the techniques for using CATIA v5/6 to produce working level of engineering drawings. Detail and assembly drawings are created with attention focused on proper views, text, dimensions, tolerances, bills of material, borders, and title blocks. Weldments, flat patterns, and other special practices are also examined.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
ADM 116

ADM 261 : REVERSE ENGINEERING

During this course students learn the process of quality control inspection of parts and uses of reverse engineering processes employing 3-D printing, scanning, and Coordinate Measuring Machine (CMM technologies). Emphasis is on using applicable software to produce 3-D models or converting scanned images into 3-D models; using CMM for parts inspection and generating points cloud for 3-D modeling; interfacing generated models with reverse engineering methods.
Credits 3
Lecture Hours 1
Lab Hours 4
Prerequisites
DDT 104 OR DDT 111

Child Development (CHD)

Online

The Child Development program is designed to prepare students for employment as directors, teachers, or aides in preschools and day cares; aides in public schools; and teachers or aides in the Head Start Program. Courses in the program are designed to meet the State of Alabama minimum standards for Day Care Facilities and Preschools along with the national certification, Child Development Associate. All students enrolled in the Child Development program will require a criminal background check prior to designated practicum coursework (please see course descriptions for designated courses). The cost of the background check will be the responsibility of the student. Issues pertaining to or resulting in positive findings in the background check will result in the student being denied enrollment.

Child Development (CHD) Degrees and Certificates

Associate In Applied Science Degree (CHD)

Program
Child Development (CHD)
Degree Type
AAS Degree
Location
Online

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Current infant-child CPR and first aid certification may replace EMS 103

Item #	Title	Credits
CHD 100	INTRODUCTION TO EARLY CARE AND EDUCATION OF CHILDREN	3
CHD 201	CHILD GROWTH AND DEVELOPMENT PRINCIPLES	3
CHD 202	CHILDREN'S CREATIVE EXPERIENCES	3
CHD 203	CHILDREN'S LITERATURE AND LANGUAGE DEVELOPMENT	3
CHD 204	METHODS AND MATERIALS FOR TEACHING CHILDREN	3
CHD 205	PROGRAM PLANNING FOR EDUCATING YOUNG CHILDREN	3
CHD 206	CHILDREN'S HEALTH AND SAFETY	3
CHD 209	INFANT AND TODDLER EDUCATION PROGRAMS	3
CHD 210	EDUCATING EXCEPTIONAL YOUNG CHILDREN	3
CHD 214	FAMILIES AND COMMUNITIES IN EARLY CARE AND EDUCATION PROGRAMS	3
CHD 215	SUPERVISED PRACTICAL EXPERIENCE IN EARLY CHILDHOOD EDUCATION	3
EMS 103	FIRST AID-CPR and AED	1
CHD 208	ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS	3

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	Humanities/Fine Arts Elective	3
	SPH 106 or SPH 107	3
	MTH 116 or Higher	3
PSY 200	GENERAL PSYCHOLOGY	3
CIS 146	MICROCOMPUTER APPLICATIONS	3
	Natural Science Elective	4
	Total Credits	**60**

Long-Term Certificate (CHD)

Program
Child Development (CHD)
Degree Type
Long-Term Certificate
Location
Online

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Current infant-child CPR and first aid certification may replace EMS 103.

Item #	Title	Credits
EMS 103	FIRST AID-CPR and AED	1
CHD 100	INTRODUCTION TO EARLY CARE AND EDUCATION OF CHILDREN	3
CHD 201	CHILD GROWTH AND DEVELOPMENT PRINCIPLES	3
CHD 202	CHILDREN'S CREATIVE EXPERIENCES	3
CHD 203	CHILDREN'S LITERATURE AND LANGUAGE DEVELOPMENT	3
CHD 204	METHODS AND MATERIALS FOR TEACHING CHILDREN	3
CHD 205	PROGRAM PLANNING FOR EDUCATING YOUNG CHILDREN	3
CHD 206	CHILDREN'S HEALTH AND SAFETY	3
CHD 214	FAMILIES AND COMMUNITIES IN EARLY CARE AND EDUCATION PROGRAMS	3
CHD 215	SUPERVISED PRACTICAL EXPERIENCE IN EARLY CHILDHOOD EDUCATION	3
CHD 208	ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS	3

General Studies Courses Semester Hours

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	SPH 106 or SPH 107	3
	MTH 116 or Higher	3
CIS 146	MICROCOMPUTER APPLICATIONS	3
	Total Credits	**44**

Short-Term Certificate (CHD)

Program
Child Development (CHD)
Degree Type
Short-Term Certificate
Location
Online

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Select any three courses listed below.

Item #	Title	Credits
CHD 100	INTRODUCTION TO EARLY CARE AND EDUCATION OF CHILDREN	3
CHD 201	CHILD GROWTH AND DEVELOPMENT PRINCIPLES	3
CHD 203	CHILDREN'S LITERATURE AND LANGUAGE DEVELOPMENT	3
CHD 205	PROGRAM PLANNING FOR EDUCATING YOUNG CHILDREN	3
CHD 206	CHILDREN'S HEALTH AND SAFETY	3
CHD 208	ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS	3
CHD 209	INFANT AND TODDLER EDUCATION PROGRAMS	3
CHD 210	EDUCATING EXCEPTIONAL YOUNG CHILDREN	3
CHD 214	FAMILIES AND COMMUNITIES IN EARLY CARE AND EDUCATION PROGRAMS	3
	Total Credits	**10**

Child Development (CHD) Classes

CHD 100 : INTRODUCTION TO EARLY CARE AND EDUCATION OF CHILDREN

This course introduces students to the child education and care profession. It is designed to increase understanding of the basic concepts of child development and the developmental characteristics of children from birth through age 8/9 years, including infant and toddler and pre-school years. This course is the foundation for planning appropriate activities for children and establishing appropriate expectations of young children. This class also offers an opportunity to study the developmental domains (social, emotional, cognitive/language and physical).

Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE

CHD 201 : CHILD GROWTH AND DEVELOPMENT PRINCIPLES

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

Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE

CHD 202 : CHILDREN'S CREATIVE EXPERIENCES

This course focuses on fostering creativity in preschool children and developing a creative attitude in teachers. Topics include selecting and developing creative experiences in language arts, music, art, science, math and movement with observation and participation with young children required. On completion, student will be able to select and implement creative and age-appropriate experiences for young children.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
Students must have an active pediatric and adult CPR/First Aid/AED Certification and a DHR criminal background check.

CHD 203 : CHILDREN'S LITERATURE AND LANGUAGE DEVELOPMENT

This course surveys appropriate literature and language arts activities designed to enhance young children's speaking, listening, pre-reading, and writing skills. Emphasis is placed on developmental appropriateness as related to language. Upon completion, students should be able to create, evaluate and demonstrate activities which support a language-rich environment for young children.
Credits 3
Lecture Hours 3
Lab Hours 0

CHD 204 : METHODS AND MATERIALS FOR TEACHING CHILDREN

This course introduces basic methods and materials used in teaching young children. Emphasis is placed on students compiling a professional resource file of activities used for teaching math, language arts, science, and social studies concepts. Upon completion students will be able to demonstrate basic methods of creating learning experiences using developmentally appropriate techniques, materials, and realistic expectations, including infant and toddler and pre-school. Course requires observations of young children in a variety of childcare environments.
Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE
Prerequisites
Students must have an active pediatric and adult CPR/First Aid/AED Certification and a DHR criminal background check.

CHD 205 : PROGRAM PLANNING FOR EDUCATING YOUNG CHILDREN

This course provides students with knowledge to develop programs for early child development. Specific content includes a review of child development concepts and program contents. Upon completion students will be able to develop and evaluate effective programs for the education of young children.
Credits 3
Lecture Hours 3
Lab Hours 0

CHD 206 : CHILDREN'S HEALTH AND SAFETY

This course introduces basic health, nutrition, and safety management practices for young children. Emphasis is placed on how to set up and maintaining safe, healthy environments for young children including specific procedures for infants and toddlers and procedures regarding childhood illnesses and communicable diseases.
Credits 3
Lecture Hours 3
Lab Hours 0

CHD 208 : ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS

This course includes appropriate administrative policies and procedures relevant to preschool programs. Topics include local, state, and federal regulations, budget planning, record keeping, personnel policies and parent involvement. On completion, students should be able to identify elements of a sound business plan, develop familiarity basic record-keeping techniques, and identify elements of a developmentally appropriate program.
Credits 3
Lecture Hours 3
Lab Hours 0

CHD 209 : INFANT AND TODDLER EDUCATION PROGRAMS

This course focuses on child development from infancy through thirty-five months of age with emphasis on planning programs using developmentally appropriate materials. Emphasis is placed on positive ways to support an infant or toddler's social, emotional, physical, and intellectual development. Upon completion, the students should be able to plan an infant-toddler program and environment that is appropriate and supportive of the families and the children.
Credits 3
Lecture Hours 3
Lab Hours 0

CHD 210 : EDUCATING EXCEPTIONAL YOUNG CHILDREN

This course explores the many different types of exceptionalities found in young children. Topics include speech, language, hearing, and visual impairments, gifted and talented children, mental retardation, emotional, behavioral, and neurological handicaps. Upon completion, students should be able to identify appropriate strategies for working with children.
Credits 3
Lecture Hours 3
Lab Hours 0

CHD 214 : FAMILIES AND COMMUNITIES IN EARLY CARE AND EDUCATION PROGRAMS

This course provides students with information about working with diverse families and communities. Students will be introduced to family and community settings, the importance of relationships with children, and the pressing needs of today's society. Students will study and practice techniques for developing these important relationships and effective communication skills.
Credits 3
Lecture Hours 3
Lab Hours 0

CHD 215 : SUPERVISED PRACTICAL EXPERIENCE IN EARLY CHILDHOOD EDUCATION

This course provides a minimum of 90 hours of hands-on, supervised experience in an approved program for young children. Students will develop a portfolio documenting experiences gained during this course.
Credits 3
Lecture Hours 0
Lab Hours 6
Prerequisites
Students must have an active pediatric and adult CPR/First Aid/AED Certification and a DHR criminal background check.

Electrical Systems Technology (ELT)

Fayette, Hamilton, & Sumiton Campuses

Electrical Technicians install and maintain all of the electrical and power systems for homes, businesses, and manufacturers. They install and maintain the wiring and control equipment through which electricity flows. Technicians also install, calibrate, and maintain electrical equipment in a wide range of fields. Imagine an automated manufacturing line: a large conveyor system moves unfinished products down the line, robotic welding arms bond the different parts together, and hydraulic lifts move the finished products. All these complex machines need technicians to install and service them to make sure they function properly. Job opportunities for electrical technicians may include residential and commercial wiring, industrial plant operations, automated manufacturing, renewable energy resources, manufacturing engineering, and industrial electronics.

(Occupational Outlook Handbook)

NOTE: Check with an advisor for program option and course location by campus.

Electrical Systems Technology (ELT) Degrees and Certificates

Associate In Applied Science Degree (ELT)

Program
Electrical Systems Technology (ELT)
Degree Type
AAS Degree
Location
Fayette, Hamilton, & Sumiton Campuses

Core Requirements

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 108	MOTOR CONTROLS I	3
INT 184	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
WKO 110	NCCER CORE	3
ELT 118	COMMERCIAL/INDUSTRIAL WIRING	3
ELT 241	NATIONAL ELECTRIC CODE	3
ILT 139	INTRODUCTION TO ROBOTIC PROGRAMMING	3
INT 118	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3
ELT 212	MOTOR CONTROL II	3
ILT 196	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
ELT 110	WIRING METHODS	3

CHOOSE TWO

Item #	Title	Credits
INT 134	PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING AND METAL CUTTING TECHNIQUES	3
AUT 219	PLC Applications	3
ETC 103	SOLID STATE FUNDAMENTALS	3
ETC 104	DIGITAL FUNDAMENTALS	3

General Studies/ORI Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3
ORI 107	STUDENT SURVIVAL SKILLS	1
	Total Credits	**61-62**

Long-Term Certificate (ELT)

Program
Electrical Systems Technology (ELT)
Degree Type
Long-Term Certificate
Location
Fayette, Hamilton, & Sumiton Campuses

Core Courses

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 108	MOTOR CONTROLS I	3
ELT 212	MOTOR CONTROL II	3
WKO 110	NCCER CORE	3
INT 184	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
ILT 196	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
ELT 110	WIRING METHODS	3
ELT 241	NATIONAL ELECTRIC CODE	3
ELT 118	COMMERCIAL/INDUSTRIAL WIRING	3
INT 118	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3

General Studies/ORI Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
ORI 107	STUDENT SURVIVAL SKILLS	1
	Total Credits	**43**

Automated Manufacturing Short-Term Certificate (AUT)

Program
Electrical Systems Technology (ELT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Sumiton Campuses

Core Requirements

Item #	Title	Credits
AUT 110	DC FUNDAMENTALS	3
AUT 111	AC FUNDAMENTALS	3
AUT 130	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3
AUT 114	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
AUT 139	INTRO TO ROBOTIC PROGRAMMING	3
AUT 221	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	3
WKO 110	NCCER CORE	3
ORI 107	STUDENT SURVIVAL SKILLS	1
	Total Credits	**22**

Electrical Short-Term Certificate (ELT)

Program
Electrical Systems Technology (ELT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Sumiton Campuses

Core Requirements

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ELT 241	NATIONAL ELECTRIC CODE	3
ELT 110	WIRING METHODS	3
ELT 118	COMMERCIAL/INDUSTRIAL WIRING	3
WKO 110	NCCER CORE	3
ORI 107	STUDENT SURVIVAL SKILLS	1
	Total Credits	**19**

Electronics Short-Term Certificate (ILT)

Program
Electrical Systems Technology (ELT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Sumiton Campuses

Core Requirements

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 104	DIGITAL FUNDAMENTALS	3
ETC 103	SOLID STATE FUNDAMENTALS	3
WKO 110	NCCER CORE	3
ORI 107	STUDENT SURVIVAL SKILLS	1
	Total Credits	**16**

Industrial Plant Technician Short-Term Certificate (IPT)

Program
Electrical Systems Technology (ELT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Sumiton Campuses

Core Requirements

Item #	Title	Credits
ELT 212	MOTOR CONTROL II	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
INT 118	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3
WKO 110	NCCER CORE	3
ORI 107	STUDENT SURVIVAL SKILLS	1
	Total Credits	**22**

Electrical Systems Technology (ELT) Classes

AUT 219 : PLC Applications

This course introduces advanced PLC programming techniques. Topics include tags, parallel processing, program optimization, and advanced math instructions. Emphasis is placed on optimizing PLC functions. Upon completion students will be able utilize advanced instructions to control PLC functions.
Credits 3
Lecture Hours 2
Lab Hours 3

AUT 219 : PLC Applicatoins

This course introduces advanced PLC programming techniques. Topics include tags, parallel processing, program customization, and advanced math instructions. Emphasis is placed on optimizing PLC functions. Upon completion students will be able to utilize advanced instructions to control PLC functions.
Credits 3
Lecture Hours 2
Lab Hours 3

Industrial Mechanical Maintenance Technology (INT)

Hamilton & Sumiton Campuses

Industrial Mechanical Maintenance Technology (INT) Degrees and Certificates

Associate In Applied Science Degree (INT)

Program
Industrial Mechanical Maintenance Technology (INT)
Degree Type
AAS Degree
Location

Hamilton & Sumiton Campuses

Industrial Plant Technicians install and maintain manufacturing equipment. Technicians must be able to detect minor problems and correct them before they become larger problems. Industrial Plant Technicians use technical manuals, their understanding of the equipment, and careful observation to discover the cause of the problem. For example, after hearing a vibration from a machine, the technician must decide whether it is due to worn belts, weak motor bearings, or some other problem. Technicians are prepared to use computerized diagnostic systems and vibration analysis equipment to determine the nature of a problem. Increasingly, Industrial Plant Technicians have the electrical, electronics, and computer programming skills to repair sophisticated equipment on their own.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Concentration Courses

Item #	Title	Credits
	MTT 100 or MTT 147 & 148	6
	MTT 103 or MTT 149 & 150	6
MTT 121	BASIC PRINT READING FOR MACHINISTS	3
WKO 110	NCCER CORE	3
MTT 127	INTRODUCTION TO METROLOGY	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
INT 134	PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING AND METAL CUTTING TECHNIQUES	3
INT 118	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3
MTT 292	COOPERATIVE EDUCATION IN MACHINE TOOL TECHNOLOGY	3
ELM 214	PUMPS AND PIPING SYSTEMS	3
WDT 108	SMAW FILLET/OFC	3
WDT 122	SMAW FILLET/OFC LAB	3
WDT 119	GAS METAL ARC/FLUX CORED ARC WELDING	3
MTT 181	SPECIAL TOPICS IN MACHINE TOOL TECHNOLOGY	3

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3
	Total Credits	**64-65**

Long-Term Certificate (INT)

Program
Industrial Mechanical Maintenance Technology (INT)
Degree Type

Long-Term Certificate
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Core Courses

Item #	Title	Credits
	MTH 116 or Higher	3
	MTT 100 or MTT 147 & 148	6
	MTT 103 or MTT 149 & 150	6
MTT 121	BASIC PRINT READING FOR MACHINISTS	3
WKO 110	NCCER CORE	3
MTT 127	INTRODUCTION TO METROLOGY	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
INT 134	PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING AND METAL CUTTING TECHNIQUES	3
INT 118	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3
MTT 292	COOPERATIVE EDUCATION IN MACHINE TOOL TECHNOLOGY	3
ENG 101	ENGLISH COMPOSITION I	3
ELM 214	PUMPS AND PIPING SYSTEMS	3
WDT 108	SMAW FILLET/OFC	3
WDT 122	SMAW FILLET/OFC LAB	3
	Total Credits	**49**

Short-Term Certificate #1 (IN1)

Program
Industrial Mechanical Maintenance Technology (INT)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Core Courses

Item #	Title	Credits
	MTT 100 or MTT 147 & 148	6
	MTT 103 or MTT 149 & 150	6
MTT 121	BASIC PRINT READING FOR MACHINISTS	3
WKO 110	NCCER CORE	3
	Total Credits	**19**

Short-Term Certificate #2 (IN2)

Program
Industrial Mechanical Maintenance Technology (INT)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Core Requirements

Item #	Title	Credits
MTT 127	INTRODUCTION TO METROLOGY	3
INT 117	PRINCIPLES OF INDUSTRIAL MECHANICS	3
INT 134	PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING AND METAL CUTTING TECHNIQUES	3
INT 118	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	3
MTT 292	COOPERATIVE EDUCATION IN MACHINE TOOL TECHNOLOGY	3
	Total Credits	**15**

Industrial Mechanical Maintenance Technology (INT) Classes

INT 117 : PRINCIPLES OF INDUSTRIAL MECHANICS

This course provides instruction in basic physics concepts applicable to mechanics of industrial production equipment. Topics include the basic application of mechanical principles with emphasis on power transmission, specific mechanical components, alignment, and tension. Upon completion, students will be able to perform basic troubleshooting, repair and maintenance functions on industrial production equipment.
Credits 3
Lecture Hours 2
Lab Hours 2

INT 118 : FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS

This course includes the fundamental concepts and theories for the safe operation of hydraulic and pneumatic systems used with industrial production equipment. Topics include the physical concepts, theories, laws, air flow characteristics, actuators, valves, accumulators, symbols, circuitry, filters, servicing safety, and preventive maintenance functions on hydraulic and pneumatic systems.

Credits 3
Lecture Hours 2
Lab Hours 3
Course Tags
CORE

INT 126 : PREVENTIVE MAINTENANCE

This course focuses on the concepts and applications of preventive maintenance. Topics include the introduction of alignment equipment, job safety, tool safety, preventive maintenance concepts, procedures, tasks, and predictive maintenance concepts. Upon course completion, students will demonstrate the ability to apply proper preventive maintenance and explain predictive maintenance concepts.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

INT 134 : PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING AND METAL CUTTING TECHNIQUES

This course provides instruction in the fundamentals of acetylene cutting and the basics of welding needed for the maintenance and repair of industrial production equipment. Topics include oxy-fuel safety, choice of cutting equipment, proper cutting angles, equipment setup, cutting plate and pipe, hand tools, types of metal welding machines, rod and welding joints, and common welding passes and beads. Upon course completion, students will demonstrate the ability to perform metal welding and cutting techniques necessary for repairing and maintaining industrial equipment.
Credits 3
Lecture Hours 2
Lab Hours 2
Course Tags
CORE

INT 184 : INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS

This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.
Credits 3
Lecture Hours 2
Lab Hours 3

Machine Tool Technology (MTT)

Hamilton & Jasper Campuses

Machinists use machine tools, such as lathes, milling machines, and grinders, to produce precision metal parts. Although they may produce large quantities of one part, precision machinists often produce small batches or one-of-a-kind items. They use their knowledge of the working properties of metals and their skill with machine tools to plan and carry out the operations needed to make machined products that meet precise specifications. Machinists first review electronic or written blueprints or specifications for a job before they machine a part. Next, they calculate where to cut or bore into the workpiece—the piece of steel, aluminum, titanium, plastic, silicon, or any other material that is being shaped.

(Occupational Outlook Handbook)

NOTE: Check with an advisor for program and course location by campus.

Machine Tool Technology (MTT) Degrees and Certificates

Associate In Applied Science Degree (MTT)

Program
Machine Tool Technology (MTT)
Degree Type
AAS Degree
Location
Hamilton & Jasper Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Concentration Courses

Item #	Title	Credits
	MTT 100 or MTT 147 & 148	6
	MTT 103 or MTT 149 & 150	6
MTT 121	BASIC PRINT READING FOR MACHINISTS	3
MTT 127	INTRODUCTION TO METROLOGY	3
MTT 270	MACHINING SKILLS APPLICATION	3
	Specialization Electives (Advisor Approved)	27

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3
	Total Credits	**64-65**

Long-Term Certificate (MTT)

Program
Machine Tool Technology (MTT)
Degree Type
Long-Term Certificate
Location

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Concentration Courses

Item #	Title	Credits
	MTT 100 or MTT 147 & 148	6
	MTT 103 or MTT 149 & 150	6
MTT 121	BASIC PRINT READING FOR MACHINISTS	3
MTT 127	INTRODUCTION TO METROLOGY	3
MTT 270	MACHINING SKILLS APPLICATION	3
	Specialization Electives (Advisor Approved)	24

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Total Credits	**52**

Basic Machining Technology Short-Term Certificate (MTT)

Program
Machine Tool Technology (MTT)
Degree Type
Short-Term Certificate
Location
Hamilton & Jasper Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Concentration Courses

Item #	Title	Credits
MTT 121	BASIC PRINT READING FOR MACHINISTS	3
MTT 127	INTRODUCTION TO METROLOGY	3
	MTT 100 or MTT 147 & 148	6
	Specialization Electives (Advisor Approved)	12
	Total Credits	**25**

Computer Numerical Control Short-Term Certificate (CNC)

Program
Machine Tool Technology (MTT)
Degree Type
Short-Term Certificate
Location
Hamilton & Jasper Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Concentration Courses

Item #	Title	Credits
MTT 109	ORIENTATION TO COMPUTER ASSISTED MANUFACTURING	3
MTT 139	BASIC COMPUTER NUMERICAL CONTROL	3
MTT 270	MACHINING SKILLS APPLICATION	3
	CNC Specialization Electives (Advisor Approved)	15
	Total Credits	**25**

Machine Tool Technology (MTT) Classes

CNC 101 : INTRODUCTION TO CNC

This is an introductory course with emphasis placed in the basic concepts and terminology of numerical control. Topics include Cartesian coordinate system, CNC principles and machine capabilities. Student will gain an understanding of CNC machine tools and their usage.
Credits 6
Lecture Hours 2
Lab Hours 8

CNC 103 : MANUAL PROGRAMMING

This course will emphasize calculations for CNC machine tools. Topics will include G & M codes, radius programming and cutter compensations. Students will learn to write a variety of CNC programs which can be used on the job as reference programs.
Credits 6
Lecture Hours 2
Lab Hours 8

CNC 104 : CNC MILLING OPERATIONS

This is a course in programming and operations of the CNC Milling Machines. Applications include maintenance, safety, and production of machine parts through programming, set-up and operation. Students will learn to produce finished parts on the CNC milling machines.
Credits 6

Lecture Hours 3
Lab Hours 6

CNC 112 : COMPUTER NUMERICAL CONTROL TURNING

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using the CNC turning center.
Credits 3
Lecture Hours 1
Lab Hours 4

CNC 113 : COMPUTER NUMERIC CONTROL MILLING

This course introduces the manual programming, setup, and operation of CNC machining centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers.
Credits 3
Lecture Hours 1
Lab Hours 4

CNC 181 : SPECIAL TOPICS IN COMPUTERIZED NUMERICAL CONTROL I

This course provides specialized instruction in selected areas related to CNC.
Credits 3
Lecture Hours 1
Lab Hours 4

CNC 222 : COMPUTER NUMERICAL CONTROL GRAPHICS: TURNING

This course introduces Computer Numerical Control graphics programming and concepts for turning center applications. Emphasis is placed on the interaction of menus to develop a shape file in a graphics CAM system and to develop tool path geometry and part geometry. Upon completion, students should be able to develop a job plan using CAM software, include machine selection, tool selection, operational sequence, speed, feed and cutting depth.
Credits 3
Lecture Hours 1
Lab Hours 4

CNC 223 : COMPUTER NUMERICAL CONTROL GRAPHICS PROGRAMMING: MILLING

This course introduces Computer Numerical Control graphics programming and concepts for machining center applications. Emphasis is placed on developing a shape file in a graphics CAM system and transferring coded information from CAM graphics to the CNC milling center. Upon completion, students should be able to develop a complete job plan using CAMM software to create a multi-axis CNC program.
Credits 3
Lecture Hours 1
Lab Hours 4

CNC 229 : TOTAL QUALITY MANAGEMENT

This is an introductory course designed to cover Total Quality Management (TQM) concepts. Topics include common direction, team building, statistical analysis, and problem solving skills and techniques. Upon completion, students will acquire a knowledge in TQM as it relates to the industrial setting.
Credits 3
Lecture Hours 3
Lab Hours 0

CNC 230 : COMPUTER NUMERICAL CONTROL SPECIAL PROJECTS

This course is designed to allow students to work in the lab with limited supervision. The student is to enhance their proficiency levels on various CNC machine tools. Upon completion, students are expected to plan, execute, and present results of advanced CNC products.
Credits 3
Lecture Hours 1
Lab Hours 4

CNC 241 : CNC MILLING LAB

This course covers basic (3-axis) computer numeric control (CNC) milling machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and setup and operate a 3-axis CNC milling machine to produce a specified part. Related safety, inspection, and process adjustment are also covered.
Credits 3
Lecture Hours 0
Lab Hours 6

CNC 242 : CNC MILLING LAB II

This course covers advanced (including 4-axis) computer numeric control (CNC) milling machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and set up and operate a CNC milling machine (including 40-axis) to produce a specified part. Related safety and inspection and process adjustment are also covered.
Credits 3
Lecture Hours 0
Lab Hours 6

CNC 243 : CNC TURNING LAB

This course covers basic computer numeric control (CNC) turning machine setup and operating procedures (inner diameter and outer diameter). Upon completion, the student should be able to load a CNC program and setup and operate a CNC turning machine to produce a simple part. Related safety and inspection and process adjustment are also covered.
Credits 3
Lecture Hours 0
Lab Hours 6

CNC 281 : SPECIAL TOPICS IN CNC II

This course provides specialized instruction in various areas related to CNC. Emphasis is placed on individualized student needs.
Credits 3
Lecture Hours 1
Lab Hours 4

MTT 100 : MACHINING TECHNOLOGY I

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, grinding machines, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, grinding, drilling, sawing, turning, and milling. This course is aligned with NIMS certification standards. MTT 147/148 are suitable substitutes for this course.

Credits 6
Lecture Hours 2
Lab Hours 8
Course Tags
CORE

MTT 103 : MACHINING TECHNOLOGY II

This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on set-up and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform intermediate level procedures of precision grinding, measuring, layout, drilling, sawing, turning and milling. This course is aligned with NIMS certification standards. MTT 149/150 are suitable substitutes for MTT 103.

Credits 6
Lecture Hours 2
Lab Hours 8
Course Tags
CORE

MTT 107 : MACHINING CALCULATIONS

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

Credits 3
Lecture Hours 3
Lab Hours 0

MTT 109 : ORIENTATION TO COMPUTER ASSISTED MANUFACTURING

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

Credits 3
Lecture Hours 3
Lab Hours 0

MTT 121 : BASIC PRINT READING FOR MACHINISTS

This course covers the basic principles of print reading and sketching. Topics include multi-view drawings; interpretation of conventional lines; and dimensions, notes, and thread notations. Upon completion, students should be able to interpret basic drawings, visualize parts, and make pictorial sketches. This is a core course and is aligned with NIMS certification standards. This course is also taught as CNC 121.

Credits 3
Lecture Hours 3
Lab Hours 0

MTT 123 : ENGINE LATHE LAB I

The student learns to safely operate an engine lathe in calculating feeds and speeds and shaping a variety of cutting tools by grinding. The student will also safely operate an engine lathe in straight turning, facing, turning to the shoulder and tapers. This is an additional lab for MTT 100.
Credits 3
Lecture Hours 0
Lab Hours 6

MTT 124 : ENGINE LATHE LAB II

The student learns advanced operation of an engine lathe in calculating feeds and speeds and shaping a variety of cutting tools by grinding. The student will also safely operate an engine lathe in advanced straight turning, facing, turning to the shoulder and tapers. This is an additional lab for MTT 103.
Credits 3
Lecture Hours 0
Lab Hours 6

MTT 127 : INTRODUCTION TO METROLOGY

This course covers the use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion students should be able to demonstrate correct use of measuring instruments. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 2
Lab Hours 2
Course Tags
CORE

MTT 128 : GEOMETRIC DIMENSIONING ABD TOLERANCING

This course is designed to teach students how to interpret engineering drawings using modern conventions, symbols, datums, datum targets, and projected tolerance zones. Special emphasis is placed upon print reading skills, and industry specifications and standards. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 3
Lab Hours 0

MTT 129 : LATHE OPERATIONS

This course includes more advanced lathe practices such as set-up procedures, work planning, inner-and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques. This course is aligned with NIMS standards.
Credits 6
Lecture Hours 2
Lab Hours 8

MTT 130 : MACHINING CALCULATIONS II

This course emphasizes advanced calculations common to machining operations. Students use these calculations for advanced applications for machine setup and planning. Specific topics include positive and negative numbers, symbolism, and algebraic expressions and operations. At the conclusion of this course students will be able to apply advanced machine calculations to equipment setup and planning.
Credits 3
Lecture Hours 3
Lab Hours 0

MTT 135 : LATHE OPERATIONS I LAB

This course includes more advanced lathe practices such as set-up procedures, work planning, inner-and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques. This course is aligned with NIMS standards.
Credits 3
Lecture Hours 0
Lab Hours 6

MTT 136 : MILLING OPERATIONS

This course covers manual milling operations. Emphasis is placed on related safety, types of milling machines and their uses, cutting speed, feed calculations, and set-up and operation procedures. Upon completion, students should be able to apply manual milling techniques (vertical and horizontal/universal) to produce machine tool projects. MTT 137/138 are suitable substitutes for this course. This course is aligned with NIMS certification standards.
Credits 6
Lecture Hours 2
Lab Hours 8

MTT 137 : MILLING I

This course covers manual milling operations. Emphasis is placed on related safety, types of milling machines and their uses, cutting speed, feed calculations, and set-up and operation procedures. Upon completion, students should be able to apply manual vertical milling techniques to produce machine tool projects. MTT 137/138 are suitable to substitute for MTT 136. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 2
Lab Hours 2

MTT 138 : MILLING I LAB

This course provides basic knowledge of milling machines. Emphasis is placed on types of milling machines and their uses, cutting speed, feed calculations, and set-up procedures. Upon completion, students should be able to apply milling techniques to produce machine tool projects. MTT 137/138 are suitable substitutes for MTT 136. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 0
Lab Hours 6

MTT 139 : BASIC COMPUTER NUMERICAL CONTROL

This course introduces the concepts and capabilities of computer numeric control (CNC) machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to develop a basic CNC program to safely operate a lathe and milling machine. This course is aligned with NIMS certification standards. This course is also taught as CNC 139.
Credits 3
Lecture Hours 2
Lab Hours 2

MTT 140 : BASIC COMPUTER NUMERICAL CONTROL TURNING PROGRAMMING I

This course covers concepts associated with basic programming of a computer numerical control (CNC) turning center. Topics include basic programming characteristics, motion types, tooling, workholding devices, setup documentation, tool compensations, and formatting. Upon completion, students should be able to write a basic CNC turning program that will be used to produce a part. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 1
Lab Hours 4

MTT 141 : BASIC COMPUTER NUMERIC CONTROL MILLING PROGRAMMING I

This course covers concepts associated with basic programming of a computer numerical control (CNC) milling center. Topics include basic programming characteristics, motion types, tooling, workholding devices, setup documentation, tool compensations, and formatting. Upon completion, students should be able to write a basic CNC milling program that will be used to produce a part. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 1
Lab Hours 4

MTT 142 : ADVANCED MACHINING CALCULATIONS

This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.
Credits 3
Lecture Hours 2
Lab Hours 2

MTT 144 : ELECTRICAL DISCHARGE MACHINING I

This course introduces the student to the concepts of Electrical Discharge Machining (EDM) and the importance of EDM is an industrial setting. Emphasis is placed on safety procedures and machinist responsibility in the setup and operation of EDM machines and electrode selection. Upon completion, students should be able to produce basic machine products using both the wire-type and plunge-type EDM machines. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 1
Lab Hours 4

MTT 147 : INTRODUCTION TO MACHINE SHOP I

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. MTT 100 is a suitable substitute for MTT 147/148.
Credits 3
Lecture Hours 2
Lab Hours 2
Course Tags
CORE

MTT 148 : INTRODUCTION TO MACHINE SHOP I LAB

This course provides practical application of the concepts and principles of machining operations learned in MTT 147. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. MTT 100 is a suitable substitute for MTT 147/148. This course is aligned with NIMS standards.
Credits 3
Lecture Hours 0
Lab Hours 6
Course Tags
CORE

MTT 149 : INTRODUCTION TO MACHINE SHOP II

This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform intermediate level procedures of precision grinding, measuring, layouts, drilling, sawing, turning, and milling. MTT 149/150 are suitable substitutes for MTT 103. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 2
Lab Hours 2

MTT 150 : INTRODUCTION TO MACHINE SHOP II LAB

This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform intermediate level procedures of precision grinding, measuring, layouts, drilling, sawing, turning, and milling. MTT 149/150 are suitable substitutes for MTT 103. This course is aligned with NIMS certification standards.
Credits 3
Lecture Hours 0
Lab Hours 6
Course Tags
CORE

MTT 181 : SPECIAL TOPICS IN MACHINE TOOL TECHNOLOGY

This course is a guided study of special projects in machine tool technology. Emphasis is placed on student needs. Upon completion, students should be able to demonstrate skills developed to meet specific needs.
Credits 3

Lecture Hours 1
Lab Hours 4

MTT 182 : SPECIAL TOPICS IN MACHINE TOOL TECHNOLOGY

This course is a guided study of special projects in machine tool technology. Emphasis is placed on student needs. Upon completion, students should be able to demonstrate skills developed to meet specific needs.
Credits 3
Lecture Hours 1
Lab Hours 4

MTT 183 : SPECIAL TOPICS IN MACHINE TOOL TECHNOLOGY

This course is a guided study of special projects in machine tool technology. Emphasis is placed on student needs. Upon completion, students should be able to demonstrate skills developed to meet specific needs.
Credits 3
Lecture Hours 1
Lab Hours 4

MTT 221 : ADVANCED BLUEPRINT READING FOR MACHINISTS

This course introduces complex industrial blueprints. Emphasis is placed on auxiliary views, section views, violations of true projection, special views, and interpretation of complex parts and assemblies. Upon completion, students should be able to read and interpret complex industrial blueprints. This course is also taught as CNC 221 and MSP 221.
Credits 3
Lecture Hours 3
Lab Hours 0

MTT 241 : CNC MILLING LAB I

This course covers basic (3-axis) computer numeric control (CNC) milling machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and setup and operate a 3-axis CNC milling machine to produce a specified part. Related safety, inspection, and process adjustment are also covered.
Credits 3
Lecture Hours 0
Lab Hours 6

MTT 270 : MACHINING SKILLS APPLICATION

This course is designed to provide students with a capstone experience incorporating the knowledge and skills learned in the Machine Tool program. Special emphasis is given to student skill attainment.
Credits 3
Lecture Hours 0
Lab Hours 3
Prerequisites
As determined by college.
Corequisites
As determined by college

MTT 281 : SPECIAL TOPICS IN MACHINE TOOL TECHNOLOGY

This course is a guided study of special projects in machine tool technology. Emphasis is placed on student needs. Upon completion, students should be able to demonstrate skills developed to meet specific needs.
Credits 3
Lecture Hours 1
Lab Hours 4

MTT 282 : SPECIAL TOPICS IN MACHINE TOOL TECHNOLOGY

This course is a guided study of special projects in machine tool technology. Emphasis is placed on student needs. Upon completion, students should be able to demonstrate skills developed to meet specific needs.
Credits 3
Lecture Hours 1
Lab Hours 4

MTT 292 : COOPERATIVE EDUCATION IN MACHINE TOOL TECHNOLOGY

Students work on a part-time basis in a job directly related to machine tool technology. The employer and supervising instructor evaluate students' progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.
Credits 3
Lecture Hours 0
Lab Hours 15

Management and Entrepreneurship (ETP)

All Locations

The study of management focuses on how organizations develop and use strategies to compete. The Management and Entrepreneurship associate in applied science degree program enables students to acquire a foundation in the basics of management, marketing, accounting, entrepreneurship, business communication, business law, and customer service. Students learn to apply diverse skills such as critical thinking, organization, problem- solving and professionalism to the business world.

NOTE: Check with an advisor for program and course location by campus.

Management and Entrepreneurship (ETP) Degrees and Certificates

Associate In Applied Science Degree (ETP)

Program
Management and Entrepreneurship (ETP)

Degree Type
AAS Degree
Location
All Locations

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	Humanities/Fine Arts Elective	3
	SPH 106 or SPH 107	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
ECO 231	PRINCIPLES OF MACROECONOMICS	3
ECO 232	PRINCIPLES OF MICROECONOMICS	3

Field of Study Courses

Item #	Title	Credits
BUS 263	THE LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS	3
CIS 286	COMPUTERIZED MANAGEMENT INFO SYSTEMS (EXCEL)	3
ETP 266	ENTREPRENEURIAL FINANCE	3
ETP 267	INNOVATIONS AND CREATIVITY	3
	BUS Elective	3

Choose One of the Following Certificates

Accounting Certificate

Item #	Title	Credits
BUS 241	PRINCIPLES OF ACCOUNTING I	3
BUS 242	PRINCIPLES OF ACCOUNTING II	3
BUS 275	PRINCIPLES OF MANAGEMENT	3
BUS 215/OAD 133	BUSINESS COMMUNICATION	3
OAD 246	OFFICE GRAPHICS AND PRESENTATIONS	3
ACT 246	MICROCOMPUTER ACCOUNTING	3
ACT 249	PAYROLL ACCOUNTING	3
ACT 253	INDIVIDUAL INCOME TAX	3

Retail Management Certificate

Item #	Title	Credits
BUS 175	RETAILING	3
BUS 189	HUMAN RELATIONSHIPS	3
BUS 215/OAD 133	BUSINESS COMMUNICATION	3
BUS 241	PRINCIPLES OF ACCOUNTING I	3
OAD 246	OFFICE GRAPHICS AND PRESENTATIONS	3
BUS 275	PRINCIPLES OF MANAGEMENT	3
BUS 276	HUMAN RESOURCE MANAGEMENT	3
BUS 285	PRINCIPLES OF MARKETING	3
	Total Credits	**60-61**

Accounting Certificate (ACT)

Program
Management and Entrepreneurship (ETP)
Degree Type
Short-Term Certificate
Location
All Locations

The Accounting Certificate provides students with a thorough survey of the Principles of Accounting, a technical knowledge of payroll, microcomputer, and income tax accounting and is particularly beneficial for individuals who are looking to enhance their employability. Upon successful completion of the curriculum and a certification exam administered by the Certiport, the student will receive industry certification in QuickBooks.

Required Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
BUS 241	PRINCIPLES OF ACCOUNTING I	3
BUS 242	PRINCIPLES OF ACCOUNTING II	3
BUS 275	PRINCIPLES OF MANAGEMENT	3
BUS 215/OAD 133	BUSINESS COMMUNICATION	3
OAD 246	OFFICE GRAPHICS AND PRESENTATIONS	3
ACT 246	MICROCOMPUTER ACCOUNTING	3
ACT 249	PAYROLL ACCOUNTING	3
ACT 253	INDIVIDUAL INCOME TAX	3
	Total Credits	**25**

Retail Management Certificate (RMC)

Program
Management and Entrepreneurship (ETP)
Degree Type
Short-Term Certificate
Location
All Locations

The Retail Management Certificate provides students with the skills needed to get started or advance their career in the retail industry. Upon successful completion of the program, students will receive a nationally-recognized industry certification from the WAFC.

Required Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
BUS 175	RETAILING	3
BUS 189	HUMAN RELATIONSHIPS	3
BUS 215/OAD 133	BUSINESS COMMUNICATION	3
BUS 241	PRINCIPLES OF ACCOUNTING I	3
BUS 275	PRINCIPLES OF MANAGEMENT	3
BUS 276	HUMAN RESOURCE MANAGEMENT	3
BUS 285	PRINCIPLES OF MARKETING	3
OAD 246	OFFICE GRAPHICS AND PRESENTATIONS	3
	Total Credits	**25**

Management and Entrepreneurship (ETP) Classes

ETP 266 : ENTREPRENEURIAL FINANCE

This course is designed to teach students the financial issues that are important to the business owner, not the accounting practitioner. Topics include start-up funding, sources of financing, identifying and preventing fraud, buying and valuing ventures, and harvesting the value created in business ventures. This course also covers the creation of personal financial statements and pro forma financial statements which are crucial components of a business plan.
Credits 3
Lecture Hours 3
Lab Hours 0

ETP 267 : INNOVATIONS AND CREATIVITY

This course is designed to develop in students a mindset for thinking creatively and prepare them to create their own businesses or revitalize a business that has lost its direction by learning to observe things from different perspectives and to reason from different viewpoints in order to develop effective solutions to problems.
Credits 3
Lecture Hours 3
Lab Hours 0

Industrial Systems Technology (IST)

Hamilton & Sumiton Campuses

Manufacturing Engineering Technicians maintain, adjust, calibrate, and repair a wide variety of electronic, electromechanical, and hydraulic equipment used in manufacturing environments. Technicians use a wide variety of tools to conduct their work, including multi-meters, specialized software, and computers designed to communicate with specific pieces of hardware. If a machine is not functioning to its potential, the technician may have to adjust the mechanical or hydraulic components, or adjust the software to bring the equipment back into calibration.

Industrial Systems Technology (IST) Degrees and Certificates

Associate In Applied Science Degree (IST)

Program
Industrial Systems Technology (IST)
Degree Type
AAS Degree
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Concentration Courses

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 107	ELECTRICAL BLUEPRINT READING I	3
ETC 104	DIGITAL FUNDAMENTALS	3
WKO 110	NCCER CORE	3
ETC 108	MOTOR CONTROLS I	3
INT 184	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
ELT 118	COMMERCIAL/INDUSTRIAL WIRING	3
AUT 117	AC/DC MACHINES	3
ELT 192	PRACTICUM/INTERNSHIP/CO-OP	1
	ILT 108/IST 120	3
ELM 214	PUMPS AND PIPING SYSTEMS	3
ILT 214	CONTROL AND TROUBLESHOOTING FLOW, LEVEL, TEMPERATURE, PRESSURE AND LEVEL PROCESSES	3
ELT 212	MOTOR CONTROL II	3
ILT 196	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	3
ELT 241	NATIONAL ELECTRIC CODE	3
ILT 110	ADVANCED INDUSTRIAL PROCESS CONTROL TECHNOLOGY	3

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
MTH 116	MATHEMATICAL APPLICATIONS	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3
	Total Credits	**68-69**

Long-Term Certificate (IST)

Program
Industrial Systems Technology (IST)
Degree Type
Long-Term Certificate
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Core Courses

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 107	ELECTRICAL BLUEPRINT READING I	3
ETC 104	DIGITAL FUNDAMENTALS	3
MTH 116	MATHEMATICAL APPLICATIONS	3
WKO 110	NCCER CORE	3
ETC 108	MOTOR CONTROLS I	3
INT 184	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	3
AUT 117	AC/DC MACHINES	3
ELT 118	COMMERCIAL/INDUSTRIAL WIRING	3
ELT 192	PRACTICUM/INTERNSHIP/CO-OP	1
ENG 101	ENGLISH COMPOSITION I	3
ELM 214	PUMPS AND PIPING SYSTEMS	3
	ILT 108/IST 120	3
ILT 214	CONTROL AND TROUBLESHOOTING FLOW, LEVEL, TEMPERATURE, PRESSURE AND LEVEL PROCESSES	3
	Total Credits	**47**

Short-Term Certificate #1 (IS1)

Program

Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Core Courses

Item #	Title	Credits
ETC 101	DC FUNDAMENTALS	3
ETC 102	AC FUNDAMENTALS	3
ETC 107	ELECTRICAL BLUEPRINT READING I	3
ETC 104	DIGITAL FUNDAMENTALS	3
WKO 110	NCCER CORE	3
	Total Credits	**16**

Office Administration and Technology (OAT)

Sumiton Campus & Online

The purpose of this program is to prepare students with the knowledge and skills for entry into a variety of positions in today's fastpaced, business office environment. Office and Administrative Support Supervisors and Managers plan or supervise support staff to ensure that they can work efficiently. After allocating work assignments and issuing deadlines, office and administrative support supervisors and managers oversee the work to ensure that it is proceeding on schedule and meeting established quality standards. (Occupational Outlook Handbook).

Office Administration and Technology (OAT) Degrees and Certificates

Associate In Applied Science Degree (OAT)

Program
Office Administration and Technology (OAT)
Degree Type
AAS Degree
Location
Sumiton Campus & Online

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	Humanities/Fine Arts Elective	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3

Core Concentration Courses

OAD 101 will be required for students who do not have keyboarding fundamentals.

Item #	Title	Credits
BUS 241	PRINCIPLES OF ACCOUNTING I	3
ETP 266	ENTREPRENEURIAL FINANCE	3
CIS 286	COMPUTERIZED MANAGEMENT INFO SYSTEMS (EXCEL)	3
OAD 103	INTERMEDIATE KEYBOARDING	3
OAD 125	WORD PROCESSING	3
OAD 126	Advanced Word Processing (Word)	3
	OAD 131 or ENG 102	3
OAD 133	BUSINESS COMMUNICATIONS	3
OAD 138	RECORDS/INFORMATION MANAGEMENT	3
OAD 232	THE COMPUTERIZED OFFICE	3

SELECT ONE OF THESE THREE OPTIONS

Office Administration Option (OFF)

Item #	Title	Credits
ACT 246	MICROCOMPUTER ACCOUNTING	3
ACT 249	PAYROLL ACCOUNTING	3
BUS 263	THE LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS	3
BUS 189	HUMAN RELATIONSHIPS	3
OAD 246	OFFICE GRAPHICS AND PRESENTATIONS	3
SPH 106	FUNDAMENTALS OF ORAL COMMUNICATION	3

Medical Office Administration Option (MOA)

Item #	Title	Credits
	ACT 246 or ACT 249	3
BUS 263	THE LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS	3
OAD 211	MEDICAL TERMINOLOGY	3
OAD 214	MEDICAL OFFICE PROCEDURES	3
HIT 230	Medical Coding Systems I	3
HIT 231	Medical Coding Systems I Lab	1
HIT 232	Medical Coding Systems II	3
HIT 236	Medical Coding Systems II Lab	1

Legal Office Administration Option (LOA)

Item #	Title	Credits
	ACT 246 or ACT 249	3
BUS 263	THE LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS	3
OAD 201	Legal Terminology	3
OAD 203	LEGAL OFFICE PROCEDURES	3
BUS 189	HUMAN RELATIONSHIPS	3
BUS 276	HUMAN RESOURCE MANAGEMENT	3
	Total Credits	**67-70**

Long-Term Certificate (OAT)

Program
Office Administration and Technology (OAT)
Degree Type
Long-Term Certificate
Location
Sumiton Campus & Online

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

General Studies Courses

Item #	Title	Credits
CIS 146	MICROCOMPUTER APPLICATIONS	3
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	SPH 106 or SPH 107	3

Field of Study Courses

ACT 141 Fundamentals of Accounting Principles is recommended for students who do not have a basic knowledge of accounting.

OAD 101 will be required for students who do not have keyboarding fundamentals.

Item #	Title	Credits
	ACT 141 or BUS 241	3
CIS 286	COMPUTERIZED MANAGEMENT INFO SYSTEMS (EXCEL)	3
OAD 103	INTERMEDIATE KEYBOARDING	3
OAD 125	WORD PROCESSING	3
BUS 215/OAD 133	BUSINESS COMMUNICATION	3
OAD 138	RECORDS/INFORMATION MANAGEMENT	3
OAD 232	THE COMPUTERIZED OFFICE	3

Field of Study Electives

Select 9 credit hours from the following offerings.

Item #	Title	Credits
ACT 246	MICROCOMPUTER ACCOUNTING	3
ACT 249	PAYROLL ACCOUNTING	3
BUS 189	HUMAN RELATIONSHIPS	3
BUS 263	THE LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS	3
BUS 276	HUMAN RESOURCE MANAGEMENT	3
ETP 266	ENTREPRENEURIAL FINANCE	3
	OAD 131 or ENG 102	3
OAD 200	MACHINE TRANSCRIPTION	3
OAD 202	LEGAL TRANSCRIPTION	3
OAD 203	LEGAL OFFICE PROCEDURES	3
OAD 211	MEDICAL TERMINOLOGY	3
OAD 212	MEDICAL TRANSCRIPTION	3
OAD 214	MEDICAL OFFICE PROCEDURES	3
OAD 246	OFFICE GRAPHICS AND PRESENTATIONS	3
	Total Credits	**46**

Office Administration Essentials

Program
Office Administration and Technology (OAT)
Degree Type
Short-Term Certificate
Location
Sumiton Campus & Online

This short-term certificate is being offered to be in alignment with other OAD Programs in the state of Alabama. This short-term certificate will allow students who want to specialize in Legal Office Administration the option to learn more about legal terminology and legal office procedures. Upon review of the short-term certificate curriculum, the following modifications will help ensure that students are best prepared to obtain employment in a legal office. Modifications: OAD 200 Machine Transcription and OAD 202 Legal Transcription courses were deleted at the state level. OAD 201 Legal Terminology, OAD 203

Legal Office Procedures, and BUS 276 Human Resource Management are added to the Certificate. CIS 146 Microcomputer Applications is deleted from the certificate, (as many of the same computer concepts are covered in OAD 125). OAD 133 Business Communication or OAD 131 Business English replaces English 101-102. Total number of credit hours is 28 hours.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
CIS 286	COMPUTERIZED MANAGEMENT INFO SYSTEMS (EXCEL)	3
BUS 189	HUMAN RELATIONSHIPS	3
OAD 103	INTERMEDIATE KEYBOARDING	3
OAD 125	WORD PROCESSING	3
OAD 126	Advanced Word Processing (Word)	3
OAD 138	RECORDS/INFORMATION MANAGEMENT	3
OAD 232	THE COMPUTERIZED OFFICE	3
OAD 246	OFFICE GRAPHICS AND PRESENTATIONS	3
OAD 133	BUSINESS COMMUNICATIONS	3
	Total Credits	**28**

Short-Term Legal Certificate (LOA)

Program
Office Administration and Technology (OAT)
Degree Type
Short-Term Certificate
Location
Sumiton Campus & Online

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

OAD 101 will be required for students who do not have keyboarding fundamentals.

Item #	Title	Credits
OAD 103	INTERMEDIATE KEYBOARDING	3
OAD 125	WORD PROCESSING	3
	OAD 131 or OAD 133	3
OAD 138	RECORDS/INFORMATION MANAGEMENT	3
BUS 189	HUMAN RELATIONSHIPS	3
BUS 263	THE LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS	3
OAD 201	Legal Terminology	3
OAD 203	LEGAL OFFICE PROCEDURES	3
BUS 276	HUMAN RESOURCE MANAGEMENT	3
	Total Credits	**28**

Short-Term Medical Certificate (MOA)

Program
Office Administration and Technology (OAT)
Degree Type
Short-Term Certificate
Location
Sumiton Campus & Online

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

OAD 101 will be required for students who do not have keyboarding fundamentals

Choose either OAD 131 OR ENG 101

Item #	Title	Credits
OAD 103	INTERMEDIATE KEYBOARDING	3
OAD 125	WORD PROCESSING	3
OAD 138	RECORDS/INFORMATION MANAGEMENT	3
OAD 211	MEDICAL TERMINOLOGY	3
CIS 146	MICROCOMPUTER APPLICATIONS	3
HIT 230	Medical Coding Systems I	3
HIT 231	Medical Coding Systems I Lab	1
HIT 232	Medical Coding Systems II	3
HIT 236	Medical Coding Systems II Lab	1
BUS 189	HUMAN RELATIONSHIPS	3
	Total Credits	**27**

Office Administration and Technology (OAT) Classes

HIT 230 : Medical Coding Systems I

This course is intended to develop an understanding of coding and classification systems in order to assign valid medical codes. Instruction includes description of classification and nomenclature systems; coding diagnoses and/or procedures; sequencing codes; analyzing actual medical records to identify data elements to be coded; and validating coded clinical information. Student competency includes demonstration of coding principles and applications (manual and/or computer assisted).

Credits 3
Lecture Hours 3
Prerequisite Courses
OAD 211

HIT 231 : Medical Coding Systems I Lab

Lab to accompany the Medical Coding Systems I - intended to develop an understanding of coding and classifications systems in order to assign valid medical codes. Instruction includes description of classification and nomenclature systems; coding diagnoses and/or procedures; sequencing codes; analyzing actual medical records to identify data elements to be coded; and validating coded clinical information. Student competency includes demonstration of coding principles and applications (manual and/or computer assisted).

Credits 1
Lecture Hours 1
Prerequisite Courses
OAD 211

HIT 232 : Medical Coding Systems II

This course is a continuation of Medical Coding Systems I which is intended to develop an understanding of coding and classification systems in order to assign valid medical codes. Instruction includes coding diagnoses and/or procedures; sequencing codes; analyzing actual medical records to identify data elements to be coded; validating coded clinical information. Student competency includes demonstration of coding principles and applications (manual and/or computer assisted).

Credits 3
Lecture Hours 3
Prerequisite Courses
OAD 211

HIT 236 : Medical Coding Systems II Lab

Lab to accompany Medical Coding Systems II - a continuation of Medical Coding Systems I Lab which is intended to develop an understanding of coding and classification systems in order to assign valid medical codes. Instruction includes coding diagnoses and/or procedures; sequencing codes; analyzing actual medical records to identify data elements to be coded; validating coded clinical information. Student competency includes demonstration of coding principles and applications (manual and/or computer assisted).

Credits 1
Lecture Hours 1
Prerequisite Courses
OAD 211

OAD 101 : BEGINNING KEYBOARDING

This course is designed to be able to use the touch method of keyboarding through classroom instruction and outside lab. Emphasis is on speed and accuracy in keying alphabetic, symbol, and numeric information using a keyboard. Upon completion, the student should be able to demonstrate proper technique and an acceptable rate of speed and accuracy as defined by the course syllabus, in the production of basic business documents such as memoranda, letters, reports, etc.
Credits 3
Lecture Hours 3
Lab Hours 0

OAD 103 : INTERMEDIATE KEYBOARDING

This course is designed to assist the student in increasing speed and accuracy using the touch method of keyboarding through classroom instruction and lab exercises. Emphasis is on the production of business documents such as memoranda, letters, reports, tables, and outlines from unarranged rough draft to acceptable format. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of business documents.
Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE
Prerequisites
OAD 101 or test above 30 words per minute

OAD 125 : WORD PROCESSING

This course is designed to provide the student with basic word processing skills through classroom instruction and outside lab. Emphasis is on the utilization of software features to create, edit, and print common office documents. Upon completion, the student should be able to demonstrate the ability to use industry-standard software to generate appropriately formatted, accurate, and attractive business documents such as memoranda, letters, and reports.
Credits 3
Lecture Hours 3
Lab Hours 0

OAD 126 : Advanced Word Processing (Word)

This course is designed to increase student proficiency in using the advanced word processing functions through classroom instruction and lab exercises. Emphasis is on the use of industry-standard software to maximize productivity. Upon completion, the student should be able to demonstrate the ability to generate advanced business documents. Students have the opportunity to become certified in MOS Word Expert in this course.
Credits 3
Lecture Hours 3

OAD 131 : BUSINESS ENGLISH

This course is designed to develop the student's ability to use proper English. Emphasis is on grammar, spelling, vocabulary, punctuation, word usage, word division, and proofreading. Upon completion, the student should be able to communicate effectively.
Credits 3
Lecture Hours 3
Lab Hours 0

OAD 133 : BUSINESS COMMUNICATIONS

This course is designed to provide the student with skills necessary to communicate effectively. Emphasis is on the application of communication principles to produce clear, correct, logically-organized business communications. Upon completion, the student should be able to demonstrate effective communication techniques in written, oral, and nonverbal communications.
Credits 3
Lecture Hours 3
Lab Hours 0

OAD 138 : RECORDS/INFORMATION MANAGEMENT

This course is designed to give the student knowledge about managing office records and information. Emphasis is on basic filing procedures, methods, systems, supplies, equipment, and modern technology used in the creation, protection, and disposition of records stored in a variety of forms. Upon completion, the student should be able to perform basic filing procedures.
Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE

OAD 200 : MACHINE TRANSCRIPTION

This course is designed to develop marketable skills in transcribing various forms of dictated material through classroom instruction. Emphasis is on the use of microcomputers and a commercial word processing package. Upon completion, the student should be able to accurately transcribe documents from dictated recordings.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
OAD 103 or advisor approval.

OAD 201 : Legal Terminology

This course is designed to familiarize the student with legal terms. Emphasis is on the word root building system combining prefixes, suffixes, word roots, and forms taht make terms easy to use. Upon completion, the student should be able to understand and use legal terminology.
Credits 3
Lecture Hours 3

OAD 202 : LEGAL TRANSCRIPTION

This course is designed to familiarize students with legal terms and provide transcription skill development in the production of legal correspondence, forms, and court documents through classroom instruction and lab exercises. Emphasis is on transcribing error-free legal documents using transcription equipment. Upon completion, students should be able to demonstrate the ability to accurately transcribe legal documents that are appropriately formatted.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
OAD 200 with grade of "C" or higher or advisor approval.

OAD 203 : LEGAL OFFICE PROCEDURES

This course is designed to provide an awareness of the responsibilities and opportunities of professional support personnel in a legal environment through classroom instruction and lab exercises. Emphasis is on legal terminology, the production of appropriate forms and reports, and the importance of office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a legal environment.
Credits 3
Lecture Hours 3
Lab Hours 0

OAD 211 : MEDICAL TERMINOLOGY

This course is designed to familiarize the student with medical terminology. Emphasis is on the spelling, definition, pronunciation, and usage of medical terms. Upon completion, the student should be able to communicate effectively using medical terminology.
Credits 3
Lecture Hours 3
Lab Hours 0

OAD 212 : MEDICAL TRANSCRIPTION

This course is designed to orient students to standard medical reports, correspondence, and related documents transcribed in a medical environment through classroom instruction. Emphasis is on transcribing medical records from dictated recordings. Learn/maintain standards of ethical/professional conduct. Upon completion, the student should be able to accurately transcribe medical documents from dictated recordings.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
OAD 200 with grade of "C" or higher or advisor approval.

OAD 214 : MEDICAL OFFICE PROCEDURES

This course focuses on the responsibilities of professional support personnel in a medical environment. Emphasis is on medical terms, the production of appropriate forms and reports, and office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a medical environment.
Credits 3
Lecture Hours 3
Lab Hours 0

OAD 218 : OFFICE PROCEDURES

This course is designed to develop an awareness of the responsibilities and opportunities of the office professional through classroom instruction. Emphasis is on current operating functions, practices, and procedures, work habits, attitudes, oral and written communications and professionalism. Upon completion, the student should be able to demonstrate the ability to effectively function in an office support role. This course supports CIP code 52.0401.
Credits 3
Lecture Hours 3
Lab Hours 0

OAD 232 : THE COMPUTERIZED OFFICE

This course is designed to enable the student to develop skill in the use of integrated software through classroom instruction and lab exercises. Emphasis is on the use of computerized equipment, software, and communications technology. Upon completion, the student should be able to satisfactorily perform a variety of office tasks using current technology.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
OAD 133

OAD 246 : OFFICE GRAPHICS AND PRESENTATIONS

This course is designed to provide the student with a foundation in the use of the computer and appropriate application software in the production of business slides and presentations through classroom instruction and lab exercises. Emphasis is on available software tools, presentation options and design, as well as such presentation considerations as the make-up of the target audience. Upon completion, the student should be able to demonstrate the ability to design and produce a business presentation.
Credits 3
Lecture Hours 3
Lab Hours 0

Salon and Spa Management (SAS)

Hamilton & Sumiton Campuses

The Salon and Spa Management program prepares cosmetologists, hairstylists, and other personal grooming specialists to manage beauty parlors, shops, and full-service or specialized salons and prepares for licensure as professional salon owners and operators. Includes instruction in cosmetic services marketing and retailing; advertising and promotion; salon management; the cosmetic and salon supply industries; hiring, supervision, and labor relations; applicable business and professional laws and regulations; professional standards and image; and customer service.

Salon and Spa Management (SAS) Degrees and Certificates

Associate In Applied Science Degree (CIT) - INSTRUCTOR TRAINING OPTION

Program
Salon and Spa Management (SAS)
Degree Type
AAS Degree
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

General Education Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	Humanities/Fine Arts Elective	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	SPH 106/107 or CIS 146	3

Field of Study Courses

Item #	Title	Credits
SAL 133	SALON MANAGEMENT TECHNOLOGY	3
SAL 201	ENTREPRENEURSHIP FOR SALON AND SPA MANAGEMENT	3
CIT 211	TEACHING AND CURRICULUM DEVELOPMENT	3
CIT 212	TEACHER MENTORSHIP	3
CIT 213	COSMETOLOGY INSTRUCTOR CO-OP	3
CIT 214	LESSON PLAN METHODS AND DEVELOPMENT	3
CIT 221	LESSON PLAN IMPLEMENTATION	3
CIT 222	AUDIO VISUAL MATERIALS AND METHODS	3
CIT 223	AUDIO VISUAL MATERIALS AND METHODS APPLICATIONS	3
COS 125	CAREER AND PERSONAL DEVELOPMENT	3
COS 133	Salon Management Technology	3
COS 158	EMPLOYABILITY SKILLS	3
EMS 103	FIRST AID-CPR and AED	1
	Total Credits	**56-57**

Salon & Spa Management - Barbering (BAR)

Program
Salon and Spa Management (SAS)
Degree Type
AAS Degree
Location
Hamilton & Sumiton Campuses

The Salon and Spa Management program prepares Cosmetologists, Cosmetology Instructors, Barbers, Estheticians, Nail Technicians, and other personal grooming specialists to manage, operate, and if desired become entrepreneurs of their own full-service salons and spas. Prepares students for the Alabama Board of Cosmetology and Barbering State Board licensure for each discipline area. Includes instruction in cosmetic services, marketing, advertisement, retail, salon management/ operation such as hiring, supervision, labor relations, professional laws and regulations, professional standards and image, and customer services, the cosmetic and salon supply industries.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Core Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	Humanities/Fine Arts Elective	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3

Field of Study Courses

Item #	Title	Credits
SAL 133	SALON MANAGEMENT TECHNOLOGY	3
SAL 201	ENTREPRENEURSHIP FOR SALON AND SPA MANAGEMENT	3
BAR 108	INTRODUCTION TO BARBERING	3
BAR 111	INTRODUCTION TO BARBERING LAB	3
BAR 112	SCIENCE OF BARBERING	3
BAR 113	FUNDAMENTALS OF BARBERING APPLICATIONS	3
BAR 143	STATE BOARD REVIEW	3

Electives - Choose 9 Courses (27 Credit Hours)

Item #	Title	Credits
BAR 109	BACTERIOLOGY AND SANITATION	3
BAR 110	ORIENTATION TO BARBERING	3
BAR 114	BARBER-STYLING LAB	3
BAR 115	CUTTING AND STYLING TECHNIQUES	3
BAR 120	PROPERTIES OF CHEMISTRY	3
BAR 121	CHEMICAL HAIR PROCESSING	3
BAR 122	HAIR COLORING CHEMISTRY	3
BAR 124	HAIR COLORING METHODOLOGY LAB	3
BAR 130	MARKETING AND BUSINESS MANAGEMENT	3
BAR 132	STYLING AND DESIGN	3
BAR 133	STYLING AND MANAGEMENT LAB	3
BAR 140	PRACTICUM I	2
	Total Credits	**62-63**

Salon and Spa Management

Program
Salon and Spa Management (SAS)
Degree Type
AAS Degree
Location
Hamilton & Sumiton Campuses

The Salon and Spa Management program prepares Cosmetologists, Cosmetology Instructors, Barbers, Estheticians, Nail Technicians, and other personal grooming specialists to manage, operate, and if desired become entrepreneurs of their own full-service salons and spas. Prepares students for the Alabama Board of Cosmetology and Barbering State Board licensure

for each discipline area. Includes instruction in cosmetic services, marketing, advertisement, retail, salon management/operation such as hiring, supervision, labor relations, professional laws and regulations, professional standards, and image, and customer services, the cosmetic and salon supply industries.

These options include: Option 1 - Cosmetology, Option 2 - Esthetics, Option 3 - Nail Technology

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

General Education

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	Humanities/Fine Arts Elective	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3

Field of Study Courses

Item #	Title	Credits
SAL 133	SALON MANAGEMENT TECHNOLOGY	3
SAL 201	ENTREPRENEURSHIP FOR SALON AND SPA MANAGEMENT	3
COS 111	INTRODUCTION TO COSMETOLOGY	3
COS 117	BASIC SPA TECHNIQUES	3
COS 118	BASIC SPA TECHNIQUES LAB	3
COS 119	BUSINESS OF COSMETOLOGY	3
COS 125	CAREER AND PERSONAL DEVELOPMENT	3

CHOOSE ONE OPTION

Cosmetology Option (COS)

Item #	Title	Credits
COS 112	INTRODUCTION TO COSMETOLOGY LAB	3
COS 113	THEORY OF CHEMICAL SERVICES	3
COS 114	CHEMICAL SERVICES LAB	3
COS 115	HAIR COLORING THEORY	3
COS 116	HAIR COLORING LAB	3
COS 123	COSMETOLOGY SALON PRACTICES	3
COS 137	HAIR SHAPING AND DESIGN THEORY	3
COS 145/COS 190/COS 191	COS 145/COS 190/COS 191	3
COS 167/C	State Board Review - Cosmetology	3

Esthetics Option (EST)

Item #	Title	Credits
COS 127	ESTHETICS THEORY	3
COS 134	ADVANCED ESTHETICS	3
COS 135	ADVANCED ESTHETICS APPLICATION	3
COS 163	FACIAL TREATMENTS	3
COS 164	FACIAL MACHINE	3
COS 166	SKIN CARE BACTERIOLOGY AND SANITATION	3
COS 169	SKIN FUNCTIONS	3
COS 167/E	State Board Review - Esthetics	3

Nail Technology Option (NLT)

Item #	Title	Credits
COS 150	Manicuring	3
COS 148	NAIL CARE THEORY	3
COS 149	NAIL ART THEORY	3
COS 152	NAIL CARE APPLICATIONS	3
COS 153	NAIL ART	3
COS 154	NAIL ART APPLICATIONS	3
COS 158	EMPLOYABILITY SKILLS	3
COS 151/COS 190/COS 191	COS 151/COS 190/COS 191	3
COS 167/N	State Board Review - Nail Technology	3
	Total Credits	**64-65**

Cosmetology Short Term Certificate

Program
Salon and Spa Management (SAS)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Cosmetology is a program that generally prepares individuals to cut, trim, and style scalp, facial, and body hair; apply cosmetic preparations; perform manicures and pedicures; massage the head and extremities; and prepare for practice as licensed cosmetologists in specialized or full-service salons. Includes instruction in hair cutting and styling, manicuring, pedicuring, facial treatments, shampooing, chemical applications esthetics, shop management, sanitation and safety, customer service, and applicable professional and labor laws and regulations.

Item #	Title	Credits
COS 112	INTRODUCTION TO COSMETOLOGY LAB	3
COS 113	THEORY OF CHEMICAL SERVICES	3
COS 114	CHEMICAL SERVICES LAB	3
COS 115	HAIR COLORING THEORY	3
COS 116	HAIR COLORING LAB	3
COS 123	COSMETOLOGY SALON PRACTICES	3
COS 137	HAIR SHAPING AND DESIGN THEORY	3
COS 145	HAIR SHAPING LAB	3

CHOOSE ONE

Item #	Title	Credits
COS 190	INTERNSHIP IN COSMETOLOGY	3
COS 191	CO-OP	3
	Total Credits	**27**

Nail Technology Short Term Certificate

Program
Salon and Spa Management (SAS)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Nail Technology focuses on all aspects of nail care. Topics include salon conduct, professional ethics, sanitation, nail structure, manicuring, pedicuring, nail disorders, and anatomy and physiology of the arm and hand. Upon completion, the student should be able to demonstrate professional conduct, recognize nail disorders and diseases, and identify the procedures for sanitation and nail care services.

Item #	Title	Credits
COS 150	Manicuring	3
COS 148	NAIL CARE THEORY	3
COS 149	NAIL ART THEORY	3
COS 152	NAIL CARE APPLICATIONS	3
COS 153	NAIL ART	3
COS 154	NAIL ART APPLICATIONS	3
COS 158	EMPLOYABILITY SKILLS	3
COS 151	Nail Care	3

CHOOSE ONE

Item #	Title	Credits
COS 166	SKIN CARE BACTERIOLOGY AND SANITATION	3
COS 190	INTERNSHIP IN COSMETOLOGY	3
COS 191	CO-OP	3
	Total Credits	**27**

Salon and Spa Management (SAS) Classes

COS 133 : Salon Management Technology

This course is designed to develop entry-level management skills for the beauty industry. Topics include job-seeking, leader and entrepreneurship development, business principles, business laws, insurance, marketing, and technology issues in the workplace. Upon completion, the student should be able to list job-seeking and management skills and the technology that is available for use in the salon.
Credits 3
Lecture Hours 1

Lab Hours 2

COS 150 : Manicuring

This course focuses on the theory and practice of nail care. Topics include nail structure, nail disorders and diseases, manicuring, pedicuring, nail wrapping, sculpted nails and acrylic overlays.
Credits 3
Lab Hours 7

COS 151 : Nail Care

This course focuses on all aspects of nail care. Topics include salon conduct, professional ethics, sanitation, nail structure, manicuring, pedicuring, nail disorders, and anatomy and physiology of the arm and hand. Upon completion, the student should be able to demonstrate professional conduct, recognize nail disorders and diseases, and identify the procedures for sanitation and nail care.
Credits 3

COS 167/C : State Board Review - Cosmetology

Students are provided a complete review of all procedures and practical skills to their training in the program. Upon completion, the students should be able to demonstrate the practical skills necessary to complete successfully the required State Board of Cosmetology and Barbering examination, and entry-level employment.
Credits 3
Lecture Hours 1
Lab Hours 6

COS 167/E : State Board Review - Esthetics

Students are provided a complete review of all procedures and practical skills pertaining to their training in the program. Upon completion, the student should be able to demonstrate the practical skills necessary to complete successfully the required State Board of Cosmetology and Barbering examination, and entry-level employment.
Credits 3
Lecture Hours 1
Lab Hours 6

COS 167/I : State Board Review - Instructor Training

Students are provided a complete review of all procedures and practical skills pertaining to their training in the program. Upon completion, the student should be able to demonstrate the practical skills necessary to complete successfully the required State Board of Cosmetology and Barbering examination, and entry level employment.
Credits 3
Lecture Hours 1
Lab Hours 6

COS 167/N : State Board Review - Nail Technology

Students are provided a complete review of all procedures and practical skills pertaining to their training in the program. Upon completion, the student should be able demonstrate the practical skills necessary to complete successfully the required State Board of Cosmetology and Barbering examination, and entry-level employment.
Credits 3
Lecture Hours 1
Lab Hours 6

SAL 133 : SALON MANAGEMENT TECHNOLOGY

This course is designed to develop entry-level management skills for the beauty industry. Topics include job-seeking, leader and entrepreneurship development, business principles, business laws, insurance, marketing, and technology issues in the workplace. Upon completion, the student should be able to list job-seeking and management skills and the technology that is available for use in the salon.
Credits 3
Lecture Hours 1
Lab Hours 2

SAL 201 : ENTREPRENEURSHIP FOR SALON AND SPA MANAGEMENT

This course covers the important issues and critical steps involved in starting a new business from scratch. Topics covered include developing a business plan, creating a successful marketing strategy, setting up the legal basis for business, raising start-up funds, attracting and managing human resources, managing costs, and developing a customer base.
Credits 3
Lecture Hours 3
Lab Hours 0

Systems Information Technology

Fayette, Hamilton, & Sumiton Campuses

Information Technology has become an integral part of modern life. Among its most important functions is the efficient transmission of information and the storage and analysis of information. Computer user support specialists provide help and advice to computer users and organizations. Cyber security analysts plan and carry out security measures to protect an organization's computer networks and systems. Data scientists use specialized software to store, organize, and interpret data. Network administrators design and build data communications networks, including local area networks (LANs), wide area networks (WANs), and Intranets. Computer programmers write and test code that allows computer applications and software programs to function properly. Software developers are the creative minds behind computer programs who develop applications that allow users to complete tasks on their devices. Web developers design and create websites. *(Occupational Outlook Handbook)*

NOTE: Check with an advisor for program and course location by campus.

Systems Information Technology Degrees and Certificates

Computer User Support (SIT1) STC

Program
Systems Information Technology
Degree Type
Short-Term Certificate

Information Systems Technology program is an Associate in Applied Science (AAS) degree including five, stackable Short Term or Micro-credentials to prepare students with the knowledge and skills that will offer pathways into a variety of positions in modern Information Technology. Systems Information Technology degree includes training in these FIVE critical industry areas.

General Education Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
CIS 134	IT Fundamentals	3-0
CIS 268	SOFTWARE SUPPORT	3
CIS 269	HARDWARE SUPPORT	3
	Total Credits	**10**

Cyber Security (SIT 2) STC

Program
Systems Information Technology
Degree Type
Short-Term Certificate

Information Systems Technology program is an Associate in Applied Science (AAS) degree including five, stackable Short Term or Micro-credentials to prepare students with the knowledge and skills that will offer pathways into a variety of positions in modern Information Technology. Systems Information Technology degree includes training in these FIVE critical industry areas.

General Education Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
Item #	**Title**	**Credits**
CIS 245	CYBER DEFENSE	3
CIS 246	ETHICAL HACKING	3

Choose one of the following electives:

Item #	Title	Credits
CIS 280	Network Security	3
CIS 282	COMPUTER FORENSICS	3
	Total Credits	**13**

Network Support (SIT 3) STC

Program
Systems Information Technology
Degree Type
Short-Term Certificate

Information Systems Technology program is an Associate in Applied Science (AAS) degree including five, stackable Short Term or Micro-credentials to prepare students with the knowledge and skills that will offer pathways into a variety of positions in modern Information Technology. Systems Information Technology degree includes training in these FIVE critical industry areas.

General Education Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
CIS 161	INTRODUCTION TO NETWORK COMMUNICATION	3
CIS 182	Help Desk Applications	3
CIS 199	Network Communications	3
	Total Credits	**10**

Programming Support (SIT 4) STC

Program
Systems Information Technology
Degree Type
Short-Term Certificate

Information Systems Technology program is an Associate in Applied Science (AAS) degree including five, stackable Short Term or Micro-credentials to prepare students with the knowledge and skills that will offer pathways into a variety of positions in modern Information Technology. Systems Information Technology degree includes training in these FIVE critical industry areas.

General Education Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
CIS 150	INTRODUCTION TO COMPUTER LOGIC AND PROGRAMMING	3
CIS 207	INTRODUCTION TO WEB DEVELOPMENT	3
CIS 251	C++ PROGRAMMING	3
	Total Credits	**10**

Systems Information Technology (SIT) AAS

Program
Systems Information Technology

Degree Type
AAS Degree
Location
Fayette, Hamilton, & Sumiton Campuses

General Education Requirements

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
ENG 101	ENGLISH COMPOSITION I	3
	SPH 106 or SPH 107	3
	MTH 116 or Higher	3
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3
	Natural Science/Math Elective	3-4

Field of Study Requirements

Item #	Title	Credits
CIS 134	IT Fundamentals	3-0
CIS 146	MICROCOMPUTER APPLICATIONS	3
CIS 147	ADVANCED MICRO APPLICATIONS	3
CIS 150	INTRODUCTION TO COMPUTER LOGIC AND PROGRAMMING	3
CIS 161	INTRODUCTION TO NETWORK COMMUNICATION	3
CIS 182	Help Desk Applications	3
CIS 199	Network Communications	3
CIS 207	INTRODUCTION TO WEB DEVELOPMENT	3
CIS 245	CYBER DEFENSE	3
CIS 246	ETHICAL HACKING	3
CIS 251	C++ PROGRAMMING	3
CIS 268	SOFTWARE SUPPORT	3
CIS 269	HARDWARE SUPPORT	3

Field of Study Electives

Choose TWO classes from the electives list below. It is recommended that students choose at least ONE security course and ONE Microsoft course. Students may also take an optional third class if desired.

Item #	Title	Credits
CIS 280	Network Security	3
CIS 282	COMPUTER FORENSICS	3
CIS 222	DATABASE MANAGEMENT SYSTEMS	3
CIS 286	COMPUTERIZED MANAGEMENT INFO SYSTEMS (EXCEL)	3
CIS 284	CIS INTERNSHIP	3
	Total Credits	**64-68**

Windows Support (SIT 5) STC

Program

Information Systems Technology program is an Associate in Applied Science (AAS) degree including five, stackable Short Term or Micro-credentials to prepare students with the knowledge and skills that will offer pathways into a variety of positions in modern Information Technology. Systems Information Technology degree includes training in these FIVE critical industry areas.

General Education Courses

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
CIS 146	MICROCOMPUTER APPLICATIONS	3
CIS 147	ADVANCED MICRO APPLICATIONS	3

Choose one of the following electives:

Item #	Title	Credits
CIS 222	DATABASE MANAGEMENT SYSTEMS	3
CIS 286	COMPUTERIZED MANAGEMENT INFO SYSTEMS (EXCEL)	3
	Total Credits	**13**

Systems Information Technology Classes

CIS 134 : IT Fundamentals

This is an introductory level course that covers the fundamentals of software, hardware, security, and networking, as well as basic IT skills such as workstation set-up, operating system navigation, simple support services, backup protocols, and safety. Upon completion of the course, students will understand the essential functions of IT professionals and be better positioned to make decisions about a career in information technology. This course prepares students to earn the CompTIA certification in IT Fundamentals.
Credits 3-0
Lecture Hours 2
Lab Hours 1

CIS 146 : MICROCOMPUTER APPLICATIONS

This course is an introduction to the most common microcomputer software applications. These software packages should include typical features of applications, such as word processing, spreadsheets, database.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 147 : ADVANCED MICRO APPLICATIONS

This course is a continuation of CIS 146 in which students utilize the advanced features of topics covered in CIS 146. Advanced functions and integration of word processing, spreadsheets, database, and presentation packages among other topics are generally incorporated into the course and are to be applied to situations found in society and business. Upon completion, the student should be able to apply the advanced features of selected software appropriately to typical problems found in society and business. This course will help prepare students for the MOS certification.

Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
Grade "C" or better in CIS 146.

CIS 150 : INTRODUCTION TO COMPUTER LOGIC AND PROGRAMMING

This course includes logic, design, and problem solving techniques used by programmers and analysts in addressing and solving common programming and computing problems. The most commonly used techniques of flowcharts, structure charts, and pseudocode will be covered and students will be expected to apply the techniques to designated situations and problems.

Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE

CIS 155 : INTRODUCTION TO MOBILE APP DEVELOPMENT

The purpose of this course is to introduce students to various app development tools for various mobile platforms. Specific topics include: app distribution sources, mobile device operating systems, survey of app development software, process for design, build, deploying, and optimizing apps. At the conclusion of this course, students will be able to design, build, deploy, and optimize a basic app.

Credits 3
Lecture Hours 3
Lab Hours 0

CIS 157 : Introduction to App Development with Swift

This introductory one-semester course is designed to help students build a solid foundation in programming fundamentals using Swift as the language. Students get practical experience with the tools, techniques, and concepts needed to build a basic iOS system.

Credits 3
Lecture Hours 1
Lab Hours 2
Prerequisites
As required by college.

CIS 159 : Introduction to Graphic Design for Apps

This introductory one-semester course is designed to enable students to integrate graphics for mobile app development. Students receive practical experience with tools, techniques, and concepts needed to build or incorporate basic graphics.

Credits 3
Lecture Hours 1
Lab Hours 2

Prerequisites
As required by College.

CIS 161 : INTRODUCTION TO NETWORK COMMUNICATION

This course is designed to introduce students to basic concepts of computer networks. Emphasis is placed on terminology and technology involved in implementing selected networked systems. The course covers various network models, topologies, communications protocols, transmission media, networking hardware and software, and network troubleshooting. Students gain hands-on experience in basic networking. This course further helps prepare students for certification. NOTE: This course is a suitable substitute for CIS 199. Additionally, CISCO I may be used as a suitable substitute for this course. However, CIS 273 will not substitute for CISCOI.
Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE

CIS 171 : LINUX I

This course presents fundamental applications in Linux. Included in this course are skills development for the OS installation and setup, recompile techniques, system configuration settings, file/folder structures and types, run levels, basic network applications, and scripting. Additionally, the course presents security from an administrative and user consideration.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 182 : Help Desk Applications

The main purpose of this course is to provide students with a comprehensive understanding of the helpdesk environment and the knowledge, skills, and abilities necessary to work in the user support industry. Students will learn problem-solving and communication skills that are very valuable when providing user support. through hands-on exercises and case projects students will learn how to apply their knowledge and develop their ideas and skills.
Credits 3
Lecture Hours 3

CIS 199 : Network Communications

The course will cover advanced networking concepts such as the OSI and TCP/IP network models, communications protocols, transmission media, networking hardware and software, LANs (Local Area Networks) and WANs (Wide Area Networks), Client/Server technology, the Internet, Intranets and network troubleshooting. Upon completion of the course, students will understand advanced concepts and functions of network communications and be better positioned to make decisions about a career in computer networking. This course prepares students to earn the CompTIA certification in Network+.
Credits 3
Lecture Hours 3

CIS 207 : INTRODUCTION TO WEB DEVELOPMENT

At the conclusion of this course, students will be able to use specified markup languages to develop basic Web pages.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 208 : WEB AUTHORING SOFTWARE

Students utilize various Web authoring tools to construct and edit websites for a variety of applications. Upon completion students will be able to use these tools to develop or enhance websites.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 209 : ADVANCED WEB DEVELOPMENT

This is an advanced Web design course emphasizing the use of scripting languages to develop interactive Web sites. Upon completion students will be able to create data driven Web sites. This course helps prepare students for the Certified Internet Webmaster (CIW) Foundations certification.
Credits 3
Lecture Hours 3
Lab Hours 0
Prerequisites
Grade "C" or better in a programming language or CIS 207 or CIS 208 or instructor approval.

CIS 220 : App Development with Swift I

This is the first of two courses designed to teach specific skills related to app development using Swift language.
Credits 3
Lecture Hours 1
Lab Hours 2
Prerequisites
CIS 157

CIS 222 : DATABASE MANAGEMENT SYSTEMS

This course will discuss database system architectures, concentrating on Structured Query Language (SQL). It will teach students how to design, normalize and use databases with SQL, and to link those to the Web.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 227 : App Development with Swift II

This course focuses on building specific features for iOS apps. Students apply their knowledge and skills to developing new apps.
Credits 3
Lecture Hours 1
Lab Hours 2
Prerequisites
As required by College.

CIS 245 : CYBER DEFENSE

The course provides students with information on the concept of cyber defense. Topics include information relative to legal aspects of cyber attacks, threats to various levels of national and local social infrastructure, financial systems, personal data, and other direct and indirect threats. As part of this course, students explore current and historical cyber threats and U.S. policy regarding infrastructure protection.
Credits 3
Lecture Hours 3

Lab Hours 0

CIS 246 : ETHICAL HACKING

The course emphasizes scanning, testing, and securing computer systems. The lab-intensive environment provides opportunities to understand how perimeter defenses work and how hackers are able to compromise information systems. With awareness of hacking strategies, students learn to counteract those attempts in an ethical manner.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 249 : MICROCOMPUTER OPERATING SYSTEMS

This course provides an introduction to microcomputer operating systems. Topics include a description of the operating system, system commands, and effective and efficient use of the microcomputer with the aid of its system programs. Upon completion, students should understand the function and role of the operating system, its operational characteristics, its configuration, how to execute programs, and efficient disk and file management.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 251 : C++ PROGRAMMING

This course is an introduction to the C++ programming language including object oriented programming. Topics include: problem solving and design; control structures; objects and events; user interface construction; and document and program testing.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 268 : SOFTWARE SUPPORT

This course provides students with hands-on practical experience in installing computer software, operating systems, and trouble-shooting. The class will help to prepare participants for the A+ Certification sponsored by CompTIA. This course is a suitable substitute for CIS 239, Networking Software.
Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE

CIS 269 : HARDWARE SUPPORT

This course provides students with hands-on practical experience in installation and troubleshooting computer hardware. The class will help to prepare participants for the A+ Certification sponsored by CompTIA. This is a suitable substitute for CIS 240, Networking Hardware.
Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
CORE

CIS 277 : Network Services Administration

This course provides an introduction to the administration of fundamental networking services and protocols. Topics included in this course are implementing, and maintaining essential network operating system services such as those for client address management, name resolution, security, routing, and remote access. Students gain hands-on experience performing common network infrastructure administrative tasks.
Credits 3
Lecture Hours 3
Prerequisite Courses
CIS 161

CIS 280 : Network Security

This course provides a study of threats to network security and methods of securing a computer network from such threats. Topics included in this course are security risks, intrusion detection, and methods of securing authentication, network access, remote access, Web access, and wired and wireless network communications. Upon completion of the course, students will understand advanced concepts of security in an IT networking environment and be better positioned to make decisions about a career in cybersecurity.
Credits 3
Lecture Hours 3

CIS 281 : SYSTEM ANALYSIS AND DESIGN

This course is a study of contemporary theory and systems analysis and design. Emphasis is placed on investigating, analyzing, designing, implementing, and documenting computer systems. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 282 : COMPUTER FORENSICS

This course introduces students to methods of computer forensics and investigations. This course helps prepare students for industry specific certification.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 284 : CIS INTERNSHIP

This course is designed to provide the student with an opportunity to work in a degree/program related environment. Emphasis is placed on the student's "real world" work experience as it integrates academics with practical applications that relate meaningfully to careers in the computer discipline. Significance is also placed on the efficient and accurate performance of job tasks as provided by the "real world" work experience. Grades for this course will be based on a combination for the employer's evaluation of the student, and the contents of a report submitted by the student. Upon completion of this course, the student should be able to demonstrate the ability to apply knowledge and skills gained in the classroom to a "real world" work experience.
Credits 3
Lecture Hours 0
Lab Hours 15

CIS 285 : OBJECT ORIENTED PROGRAMMING

This course is an advanced object-oriented programming course and covers advanced program development techniques and concepts in the context of an object-oriented language. Subject matter includes object-oriented analysis and design, encapsulation, inheritance, polymorphism (operator and function overloading), information hiding, abstract data types, reuse, dynamic memory allocation, and file manipulation. Upon completion, students should be able to develop a hierarchical class structure necessary to the implementation of an object-oriented software system.
Credits 3
Lecture Hours 3
Lab Hours 0

CIS 286 : COMPUTERIZED MANAGEMENT INFO SYSTEMS (EXCEL)

This course teaches the nature of computerized management information systems, problems created by the computer relative to personnel, components of computer systems, programming, and application of computers to business problems.
Credits 3
Lecture Hours 3
Lab Hours 0

DPT 103 : INTRODUCTORY COMPUTER SKILLS II

This course is designed to focus on the development of computer skills suited to the needs of students in non-degree occupational programs. The course will generally use software packages appropriate to occupational programs and may include such topics as word processing, database, basic graphics, spreadsheet or other features typically needed in the field. Upon completion, the student will be able to demonstrate proficiency by the completion of appropriate assignments and occupation-specific applications.
Credits 3
Lecture Hours 3
Lab Hours 0
Course Tags
NDC

Truck Driver Training (TRK)

Sumiton Campus

The truck driver training program provides basic entry-level driving skills relating to the safe operation techniques of commercial motor vehicles and other related regulations. Upon successful completion of the program, the student may be able to obtain a Commercial Driver's License (CDL) necessary to operate a tractor-trailer unit. Students should also be conversant with the rules and regulations pertaining to the trucking industry once the program is completed.

(Occupational Outlook Handbook)

NOTE: Check with an advisor for program and course location by campus.

Truck Driver Training (TRK) Degrees and Certificates

Short-Term Certificate (TRK)

Program
Truck Driver Training (TRK)
Degree Type
Short-Term Certificate
Location
Sumiton Campus

Field of Study Courses

Item #	Title	Credits
TRK 111	BASIC VEHICLE OPERATION	4
TRK 112	SAFE OPERATING PRACTICES	3
TRK 113	NON-VEHICLE ACTIVITIES	2
	Total Credits	**9**

Truck Driver Training (TRK) Classes

TRK 111 : BASIC VEHICLE OPERATION

This course introduces students to the fundamentals of becoming a professional commercial motor vehicle driver. Topics include orientation, control systems, vehicle inspections and reporting, basic control, shifting, backing, coupling and uncoupling, proficiency development, and special rigs. Upon completion, the student should demonstrate proficiency in skill field tasks and pre-trip inspections to Commercial Drivers License standards.
Credits 4
Lecture Hours 3
Lab Hours 2
Course Tags
CORE
Corequisites
TRK 112, TRK 113.

TRK 112 : SAFE OPERATING PRACTICES

This course offers proper defensive driving techniques applicable to the commercial motor vehicle driver and involves the interaction between the student/vehicle and the highway traffic environment. Topics include visual search, communication, speed and space management, night operation, extreme driving conditions, and proficiency development. Upon completion, the student should demonstrate basic operating skills that ensure safety of the driver and other vehicle operators to Commercial Drivers License standards.
Credits 3
Lecture Hours 2
Lab Hours 2
Course Tags
CORE
Corequisites
TRK 111, TRK 113.

TRK 113 : NON-VEHICLE ACTIVITIES

This course focuses on activities not directly related to the vehicle itself, but that are related to the potential job performance of the commercial motor vehicle driver. Topics include handling cargo, cargo documentation, hours of service requirements, accident procedures, personal health and safety, trip planning, employability skills, and public and employer relations. Upon completion, the student will demonstrate performance of these activities to Commercial Drivers License standards to ensure safety to the driver, vehicle, cargo, and other motorists.

Credits 2
Lecture Hours 1
Lab Hours 2
Course Tags
CORE
Corequisites
TRK 111, TRK 112.

Urban Forestry Technician

Urban Forestry Technician Degrees and Certificates

Urban Forestry Technician

Program
Urban Forestry Technician
Degree Type
Short-Term Certificate

The Urban Forestry Technician Short term Certificate trains students for the position of forest technician offering multiple certifications to work in the forestry industry. The technician is an employee who works under the direction of a professional forester and will undertake the fieldwork that is necessary to manage the forest. The students will learn learn key priniciples and strategies for managing vegetation in all utility Right of Ways and special attention will be placed on the electrical line clearance industry. Students will learn basic concepts, such as, permits, licenses and insurance, how to identify types of pests, the method to manage pest, and the ability to identify proper pesticide used in pest management. This program offers an overview of equipment use and protocols to safely perform job duties in careers with Urban Forestry, including, safety laws and regulations (OSHA), personal protective equipment (PPE), communication, first aid, electrical hazards, tree removal, equipment safety.

Upon successful completion of this program student should be prepared to sit for the following certifications: Integrated Pest Management, Ornamental and Turf Pest Control, Right of Way Pest Management, Urban Forestry, OSHA 10, CPR.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
FOR 195	Utility Vegetation Management	3
FOR 197	Urban Forestry	3
FOR 198	Integrated Pest Management	3
FOR 199	Equipment Use and Safety	3
	Total Credits	**13**

Urban Forestry Technician Classes

FOR 195 : Utility Vegetation Management

The purpose of this course is to provide foundational knowledge and basic skills enabling the student to enter Utility Vegetation Management industries. The course will include topics, such as, integrated vegetation management, tree identification, pruning methods, pesticides, CDL introduction. Students will learn key principles and strategies for managing vegetation in all utility Right of Ways and special attention will be placed on the electrical line clearance industry. After completing this course students will be prepared to sit for the Utility Vegetation Management Certification.
Credits 3
Lecture Hours 2
Lab Hours 2

FOR 197 : Urban Forestry

This course introduces students to basic concepts of tree and plant physiology, and management of trees and related vegetation. Topics may include soil preparation, basic pruning, turf and landscape management, and herbicides. Business concepts, such as permits, licenses, and insurance will also be covered. At the end of this course students will be prepared for the Urban Forestry Certification Exam.
Credits 3
Lecture Hours 2
Lab Hours 2

FOR 198 : Integrated Pest Management

Examination of planning, policy, and management strategies used in pest control management. This course will introduce how to identify types of pests, the method to manage pests, and the ability to identify proper pesticide used in pest management. This course introduces the governing law which regulated pesticide for sale and availability. This course introduces the fundamentals for developing and implementing effective pest management plans, maximize the economic, environmental, and social values and benefits of urban forest landscapes. At the end of this course a person should be prepared to sit for the Integrated Pest Management Certification, Ornamental and Turf Pest Control License, Right of Way Pest Control State License, Alabama Pesticide Applicator Certification, Certified Grounds Technician Certification.
Credits 3
Lecture Hours 2
Lab Hours 2

FOR 199 : Equipment Use and Safety

This course is designed to provide an overview of equipment use and protocols to safely perform job duties in careers with Urban Forestry. Topics to include, safety laws and regulations (OSHA), personal protective equipment (PPE), communication, first aid, electrical hazards, tree removal, equipment safety, and CPR Certification.
Credits 3
Lecture Hours 3

Vehicle Technology and Repair (VTR)

Hamilton & Sumiton Campuses (Auto Body Repair & Diesel Technician Options Sumiton Campus)

The Vehicle Technology and Repair Program (VTR) will prepare technicians for employment in new vehicle dealerships, independent repair establishments, auto body repair shops, fleet service centers, and rental organizations. Students will be educated to work on current model vehicles in this comprehensive, ASE Education Foundation accredited, Automotive Service Excellence (ASE) based training program. Through classroom and lab activities, students will gain the knowledge and experience necessary to obtain an Associate in Applied Science degree and to pursue employment in vehicle repair industries.

Vehicle Technology and Repair (VTR) Degrees and Certificates

Associate in Applied Science Degree (VTR)

Program
Vehicle Technology and Repair (VTR)
Degree Type
AAS Degree
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
VTR 112	ELECTRICAL FUNDAMENTALS	3
VTR 133	HEATING AND AIR CONDITIONING	3

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Natural Science/Math Elective	3-4
	History or Social/Behavioral Science Elective	3
	Humanities/Fine Arts Elective	3

AUTOMOTIVE SERVICE EXCELLENCE OPTION (VT1)

Select one of VT1, VT2, VT3, or VT 4 options.

Item #	Title	Credits
ASE/AUM 101	FUNDAMENTALS OF AUTOMOTIVE TECHNOLOGY	3
ASE/AUM 121	BRAKING SYSTEMS	3
ASE/AUM 122	SUSPENSION AND STEERING	3
ASE/AUM 124	AUTOMOTIVE ENGINES	3
ASE/AUM 130	DRIVE TRAIN & AXLES	3
ASE/AUM 162	ELECTRICAL AND ELECTRONIC SYSTEMS	3
ASE/AUM 212	ADVANCED ELECTRICAL & ELECTRONIC SYSTEMS	3
ASE/AUM 220	ADVANCED AUTOMOTIVE ENGINES	3
ASE/AUM 224	MANUAL TRANSMISSION & TRANSAXLE	3
ASE/AUM 230	AUTO TRANSMISSION & TRANSAXLE	3
ASE/AUM 239	ENGINE PERFORMANCE	3
ASE/AUM 244	ENGINE PERFORMANCE AND DIAGNOSTICS	3
ASE/AUM 221	Light Diesel	3
ASE/AUM 263	Hybrid & Electric Vehicles	3

AUTO BODY REPAIR OPTION (VT2)

Sumiton Campus
Select one of VT1, VT2, VT3, or VT 4 options.

Item #	Title	Credits
ABR 111	NON-STRUCTURAL REPAIR	3
ABR 114	NON-STRUCTURAL PANEL REPLACEMENT	3
ABR 122	SURFACE PREPARATION	3
ABR 123	PAINT APPLICATION & EQUIPMENT	3
ABR 151	SAFETY & ENVIRONMENTAL PRACTICES	3
ABR 154	AUTOMOTIVE GLASS & TRIM	3
ABR 156	AUTOMOTIVE CUTTING & WELDING	3
ABR 157	AUTOMOTIVE PLASTIC REPAIRS	3
ABR 213	AUTOMOTIVE STRUCTURAL ANALYSIS	3
ABR 214	AUTOMOTIVE STRUCTURAL REPAIR	3
ABR 223	AUTOMOTIVE MECHANICAL COMPONENTS	3
ABR 255	STEERING AND SUSPENSION	3
ABR 265	PAINT DEFECTS & FINAL DETAIL	3
ABR 267	SHOP MANAGEMENT	3
ABR 281	SPECIAL TOPICS IN AUTO BODY	3

DIESEL TECHNICIAN OPTION (VT3)

Sumiton Campus
Select one of VT1, VT2, VT3, or VT 4 options.

Item #	Title	Credits
DEM 104	BASIC ENGINES	3
DEM 105	PREVENTIVE MAINTENANCE	3
DEM 111	EQUIPMENT SAFETY AND MECHANICAL FUNDAMENTALS	3
DEM 117	DIESEL AND GAS TUNE-UP	3
DEM 122	HEAVY VEHICLE BRAKES	3
DEM 123	PNEUMATIC AND HYDRAULICS	3
DEM 124	ELECTRONIC ENGINE SYSTEMS	3
DEM 125	HEAVY VEHICLE DRIVE TRAINS	3
DEM 126	ADVANCED ENGINE ANALYSIS	3
DEM 127	FUEL SYSTEMS	3
DEM 134	COMPUTER CONTROLLED ENGINE AND POWER TRAIN SYSTEMS	3
DEM 135	HEAVY VEHICLE STEERING AND SUSPENSION	3
DEM 180	SPECIAL PROJECTS IN COMMERCIAL VEHICLES	3
DEM 191	Special Projects in Diesel Mechanics	3
	Total Credits	**61-68**

Long-Term Certificate (VTR)

Program
Vehicle Technology and Repair (VTR)
Degree Type
Long-Term Certificate
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
VTR 112	ELECTRICAL FUNDAMENTALS	3
VTR 133	HEATING AND AIR CONDITIONING	3

Choose one of the following options (VT1, VT2, or VT3)

AUTOMOTIVE SERVICE EXCELLENCE OPTION (VT1)

Choose nine courses (27 credits required)

Item #	Title	Credits
ASE/AUM 101	FUNDAMENTALS OF AUTOMOTIVE TECHNOLOGY	3
ASE/AUM 121	BRAKING SYSTEMS	3
ASE/AUM 122	SUSPENSION AND STEERING	3
ASE/AUM 124	AUTOMOTIVE ENGINES	3
ASE/AUM 130	DRIVE TRAIN & AXLES	3
ASE/AUM 162	ELECTRICAL AND ELECTRONIC SYSTEMS	3
ASE/AUM 212	ADVANCED ELECTRICAL & ELECTRONIC SYSTEMS	3
ASE/AUM 220	ADVANCED AUTOMOTIVE ENGINES	3
ASE/AUM 224	MANUAL TRANSMISSION & TRANSAXLE	3
ASE/AUM 230	AUTO TRANSMISSION & TRANSAXLE	3
ASE/AUM 239	ENGINE PERFORMANCE	3
ASE/AUM 244	ENGINE PERFORMANCE AND DIAGNOSTICS	3
ASE/AUM 246	AUTOMOTIVE EMISSIONS	3
ASE/AUM 221	Light Diesel	3
ASE/AUM 263	Hybrid & Electric Vehicles	3

AUTO BODY REPAIR OPTION (VT2)

Choose nine courses (27 credits required)

Item #	Title	Credits
ABR 111	NON-STRUCTURAL REPAIR	3
ABR 114	NON-STRUCTURAL PANEL REPLACEMENT	3
ABR 122	SURFACE PREPARATION	3
ABR 123	PAINT APPLICATION & EQUIPMENT	3
ABR 151	SAFETY & ENVIRONMENTAL PRACTICES	3
ABR 154	AUTOMOTIVE GLASS & TRIM	3
ABR 156	AUTOMOTIVE CUTTING & WELDING	3
ABR 157	AUTOMOTIVE PLASTIC REPAIRS	3
ABR 213	AUTOMOTIVE STRUCTURAL ANALYSIS	3
ABR 214	AUTOMOTIVE STRUCTURAL REPAIR	3
ABR 223	AUTOMOTIVE MECHANICAL COMPONENTS	3
ABR 255	STEERING AND SUSPENSION	3
ABR 265	PAINT DEFECTS & FINAL DETAIL	3
ABR 267	SHOP MANAGEMENT	3
ABR 281	SPECIAL TOPICS IN AUTO BODY	3

DIESEL TECHNICIAN OPTION (VT3)

Choose nine courses (27 credits required)

Item #	Title	Credits
DEM 104	BASIC ENGINES	3
DEM 105	PREVENTIVE MAINTENANCE	3
DEM 111	EQUIPMENT SAFETY AND MECHANICAL FUNDAMENTALS	3
DEM 117	DIESEL AND GAS TUNE-UP	3
DEM 122	HEAVY VEHICLE BRAKES	3
DEM 123	PNEUMATIC AND HYDRAULICS	3
DEM 124	ELECTRONIC ENGINE SYSTEMS	3
DEM 125	HEAVY VEHICLE DRIVE TRAINS	3
DEM 126	ADVANCED ENGINE ANALYSIS	3
DEM 127	FUEL SYSTEMS	3
DEM 134	COMPUTER CONTROLLED ENGINE AND POWER TRAIN SYSTEMS	3
DEM 180	SPECIAL PROJECTS IN COMMERCIAL VEHICLES	3
DEM 191	Special Projects in Diesel Mechanics	3

General Studies Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
	Total Credits	**40**

Short-Term Certificate (VTR)

Program
Vehicle Technology and Repair (VTR)
Degree Type
Short-Term Certificate
Location
Hamilton & Sumiton Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

AUTOMOTIVE SERVICE EXCELLENCE OPTION (V12)

Select one of these options.

Item #	Title	Credits
VTR 112	ELECTRICAL FUNDAMENTALS	3
	ASE Elective	3
	ASE Elective	3
VTR 133	HEATING AND AIR CONDITIONING	3

AUTO BODY REPAIR OPTION (V2A) -PAINT AND REFINISHING

Select one of these options.

Item #	Title	Credits
ABR 122	SURFACE PREPARATION	3
ABR 123	PAINT APPLICATION & EQUIPMENT	3
ABR 265	PAINT DEFECTS & FINAL DETAIL	3
ABR 267	SHOP MANAGEMENT	3

AUTO BODY REPAIR OPTION (V2B) - NON-STRUCTURAL REPAIR

Select one of these options.

Item #	Title	Credits
ABR 111	NON-STRUCTURAL REPAIR	3
ABR 114	NON-STRUCTURAL PANEL REPLACEMENT	3
ABR 154	AUTOMOTIVE GLASS & TRIM	3
ABR 157	AUTOMOTIVE PLASTIC REPAIRS	3

AUTO BODY REPAIR OPTION (V2C) - STRUCTURAL REPAIRS

Select one of these options.

Item #	Title	Credits
ABR 156	AUTOMOTIVE CUTTING & WELDING	3
ABR 213	AUTOMOTIVE STRUCTURAL ANALYSIS	3
ABR 214	AUTOMOTIVE STRUCTURAL REPAIR	3
ABR 281	SPECIAL TOPICS IN AUTO BODY	3

AUTOBODY REPAIR OPTION (V2D) - MECHANICAL REPAIR

Select one of these options.

Item #	Title	Credits
VTR 112	ELECTRICAL FUNDAMENTALS	3
VTR 133	HEATING AND AIR CONDITIONING	3
ABR 223	AUTOMOTIVE MECHANICAL COMPONENTS	3
ABR 255	STEERING AND SUSPENSION	3

DIESEL TECHNICIAN OPTION (V3D)

Select one of these options.

Item #	Title	Credits
VTR 112	ELECTRICAL FUNDAMENTALS	3
	DEM Elective	3
	DEM Elective	3
VTR 133	HEATING AND AIR CONDITIONING	3
	Total Credits	**13**

Vehicle Technology and Repair (VTR) Classes

VTR 112 : ELECTRICAL FUNDAMENTALS

This course introduces the principles of basic Electrical/Electronic concepts and fundamentals. Topics include basic DC theory, types of diagnostic equipment, circuit protection, wire repair, use of wiring diagrams, airbag modules, and impact sensors. Upon completion, student should be able to identify components, test systems, and repair minor electrical problems according to manufacturer's literature.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

VTR 133 : HEATING AND AIR CONDITIONING

This course provides basic instruction in theory, operation, and repair of heating and air conditioning/refrigeration systems. Topics include operation theory, safety, maintenance, recycling and recovery procedures, recharging procedures, troubleshooting procedures, refrigerant leaks, and system repairs. Emphasis is placed on the understanding and repair air conditioning and heating systems, including but not limited to air management, electrical and vacuum controls, refrigerant recovery, and component replacement.
Credits 3
Lecture Hours 1
Lab Hours 4
Course Tags
CORE

Welding Technology (WDT)

Fayette, Hamilton, & Jasper Campuses

Welding is a fabrication process that joins materials. The process occurs by melting work pieces and adding a filler to form a pool of molten material that cools to become a strong joint. Bevill State's welding curriculum provides students with the opportunity to acquire the skills, knowledge, and experience necessary for a career in this rapidly growing field. Emphasis on the technical aspects of welding are included in the course and specialized classes include blueprint reading, fabrication, welding inspection and testing, and cutting. Students may become AWS certified welders upon program completion.

NOTE: *Check with an advisor for program and course location by campus.*

Welding Technology (WDT) Degrees and Certificates

Welding Technology

Program
Welding Technology (WDT)
Degree Type
AAS Degree
Location
Fayette, Hamilton, & Jasper Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
WDT 108	SMAW FILLET/OFC	3
WDT 109	SMAW FILLET/PAC/CAC	3
WDT 119	GAS METAL ARC/FLUX CORED ARC WELDING	3
WDT 120	SHIELDED METAL ARC WELDING GROOVE	3
WDT 122	SMAW FILLET/OFC LAB	3
WDT 123	SMAW FILLET/PAC/CAC LAB	3
WDT 124	GAS METAL ARC/FLUX CORED ARC WELDING LAB	3
WDT 125	SHIELDED METAL ARC WELDING GROOVE LAB	3
WDT 157	CONSUMABLE WELDING PROCESSES	3
WDT 218	CERTIFICATION	3
WDT 229	BOILER TUBE	3
WDT 257	SMAW CARBON PIPE LAB	3
WDT 258	CERTIFICATION LAB	3
WDT 110	INDUSTRIAL BLUE PRINT READING	3

Field of Study Electives

Choose one of the following.

Item #	Title	Credits
DDT 104	BASIC COMPUTER AIDED DRAFTING AND DESIGN	3
WKO 110	NCCER CORE	3
WDT 221	PIPEFITTING AND FABRICATION	3
WDT 160	ROBOTICS LAB I	3
ILT 139	INTRODUCTION TO ROBOTIC PROGRAMMING	3

General Education Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	Humanities/Fine Arts Elective	3
	MTH 116 or Higher	3
	History or Social/Behavioral Science Elective	3
	Natural Science/Math Elective	3-4
	Total Credits	**61-62**

Welding Technology (WDT) Long-Term Certificate

Program
Welding Technology (WDT)
Degree Type
Long-Term Certificate
Location
Fayette, Hamilton, & Jasper Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
WDT 108	SMAW FILLET/OFC	3
WDT 109	SMAW FILLET/PAC/CAC	3
WDT 119	GAS METAL ARC/FLUX CORED ARC WELDING	3
WDT 120	SHIELDED METAL ARC WELDING GROOVE	3
WDT 122	SMAW FILLET/OFC LAB	3
WDT 123	SMAW FILLET/PAC/CAC LAB	3
WDT 124	GAS METAL ARC/FLUX CORED ARC WELDING LAB	3
WDT 125	SHIELDED METAL ARC WELDING GROOVE LAB	3
WDT 157	CONSUMABLE WELDING PROCESSES	3
WDT 218	CERTIFICATION	3
WDT 229	BOILER TUBE	3
WDT 257	SMAW CARBON PIPE LAB	3
WDT 258	CERTIFICATION LAB	3

Additional Courses

Item #	Title	Credits
ENG 101	ENGLISH COMPOSITION I	3
	MTH 116 or Higher	3
WDT 110	INDUSTRIAL BLUE PRINT READING	3
	Total Credits	**49**

GMAW/FCAW Welding Certificate (WD2)

Program
Welding Technology (WDT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Jasper Campuses

Visit the Welding Technology (WDT) homepage for program description.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
WDT 119	GAS METAL ARC/FLUX CORED ARC WELDING	3
WDT 120	SHIELDED METAL ARC WELDING GROOVE	3
WDT 124	GAS METAL ARC/FLUX CORED ARC WELDING LAB	3
WDT 125	SHIELDED METAL ARC WELDING GROOVE LAB	3
WDT 157	CONSUMABLE WELDING PROCESSES	3
	Total Credits	**16**

Pipe Welding Certificate (WD3)

Program
Welding Technology (WDT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Jasper Campuses

Visit the Welding Technology (WDT) homepage for program description.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
WDT 218	CERTIFICATION	3
WDT 229	BOILER TUBE	3
WDT 257	SMAW CARBON PIPE LAB	3
WDT 258	CERTIFICATION LAB	3
	Total Credits	**13**

SMAW Welding Technology (WDT) Short-Term Certificate (WD1)

Program
Welding Technology (WDT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Jasper Campuses

Visit the Welding Technology (WDT) homepage for program description.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
WDT 108	SMAW FILLET/OFC	3
WDT 109	SMAW FILLET/PAC/CAC	3
WDT 122	SMAW FILLET/OFC LAB	3
WDT 123	SMAW FILLET/PAC/CAC LAB	3
	Total Credits	**13**

Short-Term Certificate in Fitting

Program
Welding Technology (WDT)
Degree Type
Short-Term Certificate
Location
Fayette & Jasper

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
PFT 101	Introduction to Pipefitting	3
PFT 105	Introduction to Pipefitting Blueprints	3
PFT 107	Threaded Pipe and Socket Weld Pipe Fabrication	3
PFT 109	Butt Weld Pipe Fitting and Pipe Rigging	3
	Total Credits	**13**

Short-Term Certificate in Fitting (WD5)

Program
Welding Technology (WDT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Jasper Campuses

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1
	Total Credits	**1**

Welding for Fitting (WD4)

Program
Welding Technology (WDT)
Degree Type
Short-Term Certificate
Location
Fayette, Hamilton, & Jasper Campuses

Welding is the most common way of permanently joining metal parts and elders learn the characteristics and properties, such as melting points of steel, aluminum, and other commonly used metals. Persons interested in becoming welding technicians should possess basic skills in vocational math and reading. Good hand-eye coordination and a desire to learn are also important in this field.

The majority of graduates from the Bevill State Welding Technology Program move into the field as technicians with particular areas of expertise. Among the various occupations our graduates are qualified to seek are welders in various occupational fields, welder's helpers, flame cutters, and pipe welders.

Orientation

Item #	Title	Credits
ORI 107	STUDENT SURVIVAL SKILLS	1

Field of Study Courses

Item #	Title	Credits
WDT 108	SMAW FILLET/OFC	3
WDT 109	SMAW FILLET/PAC/CAC	3
WDT 119	GAS METAL ARC/FLUX CORED ARC WELDING	3
WDT 110	INDUSTRIAL BLUE PRINT READING	3
	Total Credits	**13**

Welding Technology (WDT) Classes

PFT 101 : Introduction to Pipefitting

This course is designed to introduce students to an overview of the pipefitting trade, pipefitting safety, pipefitting hand tools and pipefitting power tools. Students will also be instructed in the proper ad safe way to set up oxyfuel cutting equipment.
Credits 3
Lecture Hours 2
Lab Hours 2

PFT 105 : Introduction to Pipefitting Blueprints

This course is designed to introduce students to piping systems, drawings and details. It also places emphasis on math skills needed for entry-level pipefitting craft.
Credits 3
Lecture Hours 2
Lab Hours 2

PFT 107 : Threaded Pipe and Socket Weld Pipe Fabrication

This course is designed to introduce students to ladder and scaffold safety. Students will also be introduced to materials used for threaded and socket weld piping systems. Students will also be instructed on how to determine cut lengths of pipe for threaded and socket weld pipe fittings.
Credits 3
Lecture Hours 2
Lab Hours 2

PFT 109 : Butt Weld Pipe Fitting and Pipe Rigging

This course is designed to introduce students to the materials used in butt weld piping systems, students will also be instructed on how to determine cut lengths for pipe using various butt weld fitting. Students will also be introduced to basic rigging hardware
Credits 3
Lecture Hours 2
Lab Hours 2

WDT 108 : SMAW FILLET/OFC

This course provides the student with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of oxy-fuel cutting.
Credits 3
Lecture Hours 2
Lab Hours 2
Course Tags
CORE

WDT 109 : SMAW FILLET/PAC/CAC

This course provides the student with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of carbon arc cutting and plasma arc cutting.
Credits 3
Lecture Hours 2
Lab Hours 2
Course Tags
CORE

WDT 110 : INDUSTRIAL BLUE PRINT READING

Credits 3

WDT 119 : GAS METAL ARC/FLUX CORED ARC WELDING

This course introduces the student to the gas metal arc and flux cored arc welding process. Emphasis is placed on safe operation practices, handling and storage of compressed gasses, process principles, component identification, various welding techniques and base and filler metal identification.

Credits 3
Lecture Hours 2
Lab Hours 2
Course Tags
CORE
Prerequisites
Or advisor approval
Prerequisite Courses
WDT 109

WDT 120 : SHIELDED METAL ARC WELDING GROOVE

This course provides the student with instruction on joint design, joint preparation, and fit-up of groove welds in accordance with applicable welding codes. Emphasis is placed on safe operation, joint design, joint preparation, and fit-up. Upon completion, students should be able to identify the proper joint design, joint preparation and fit-up of groove welds in accordance with applicable welding codes.

Credits 3
Lecture Hours 2
Lab Hours 2
Course Tags
CORE

WDT 122 : SMAW FILLET/OFC LAB

This course is designed to introduce the student to the proper set-up and operation of the shielded metal arc welding equipment. Emphasis is placed on striking and controlling the arc, and proper fit-up of fillet joints. This course is also designed to instruct students in the safe operation of oxy-fuel cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-3 groups in accordance with applicable welding code and be able to safely operate oxy-fuel equipment and perform those operations as per the applicable welding code.

Credits 3
Lecture Hours 0
Lab Hours 6
Course Tags
CORE

WDT 123 : SMAW FILLET/PAC/CAC LAB

This course is designed to introduce the student to the proper set-up and operation of the shielded metal arc welding equipment. Emphasis is placed on striking and controlling the arc, and proper fit-up of fillet joints. This course is also designed to instruct students in the safe operation of plasma arc and carbon arc cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-4 groups in accordance with applicable welding code and be able to safely operate plasma arc and carbon arc equipment and perform those operations as per the applicable welding code.

Credits 3
Lecture Hours 0
Lab Hours 6
Course Tags
CORE

WDT 124 : GAS METAL ARC/FLUX CORED ARC WELDING LAB

This course provides instruction and demonstration using the various transfer methods and techniques to gas metal arc and flux cored arc welds. Topics included are safety, equipment set-up, joint design and preparation, and gases.
Credits 3
Lecture Hours 0
Lab Hours 6
Course Tags
CORE
Co-Requisite Courses
WDT 119

WDT 125 : SHIELDED METAL ARC WELDING GROOVE LAB

This course provides instruction and demonstrations in the shielded metal arc welding process on carbon steel plate with various size F-3 and F-4 group electrodes in all positions. Emphasis is placed on welding groove joints and using various F-3 and F-4 group electrodes in all positions. Upon completion, the student should be able to make visually acceptable groove weld joints in accordance with applicable welding codes.
Credits 3
Lecture Hours 0
Lab Hours 6
Course Tags
CORE
Prerequisites
or advisor approval
Prerequisite Courses
WDT 109
Co-Requisite Courses
WDT 120

WDT 155 : GTAW CARBON PIPE LAB

This course is designed to provide the student with the skills in welding carbon steel pipe with gas tungsten arc welding techniques in various pipe weld positions. Upon completion, students should be able to perform gas tungsten arc welding on carbon steel pipe with the prescribed filler metals in various positions in accordance with the applicable code.
Credits 3
Lecture Hours 0
Lab Hours 6

WDT 156 : GTAW STAINLESS PIPE LAB

This course is designed to provide the student with the skills in welding stainless steel pipe with gas tungsten arc welding techniques in various pipe weld positions. Upon completion, students should be able to perform gas tungsten arc welding on stainless steel pipe with the prescribed filler metals in various positions in accordance with the applicable code.
Credits 3
Lecture Hours 0
Lab Hours 6

WDT 157 : CONSUMABLE WELDING PROCESSES

This course provides instruction and demonstration with the consumable welding processes to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of electrode, current/polarity, shielding gas and base metals.
Credits 3

Lecture Hours 1
Lab Hours 4

WDT 158 : CONSUMABLE WELDING PROCESSES LAB

This course provides instruction and demonstration with the consumable welding processes to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of electrode, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using consumable welding processes according to AWS Codes and standards. This course supports CIP code 48.0508.
Credits 3
Lecture Hours 0
Lab Hours 6

WDT 160 : ROBOTICS LAB I

This course is the practical application of robotics theory. Students will complete machine origins, robotic programming, robotic welding parameters, link programs to create jobs, and allocate a weave start.
Credits 3
Lecture Hours 1
Lab Hours 4

WDT 166 : FLUX CORE ARC WELDING (FCAW)

This course provides instruction and demonstration with the flux core arc welding process to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of filler metals, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using the FCAW welding process, according to AWS Codes and Standards. This course supports CIP code 48.0508.
Credits 3
Lecture Hours 2
Lab Hours 3

WDT 167 : FLUX CORE ARC WELDING LAB

This course provides instruction and demonstration with the flux core arc welding process to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of filler metals, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using the FCAW welding process, according to AWS Codes and Standards.
Credits 3
Lecture Hours 0
Lab Hours 6

WDT 180 : SPECIAL TOPICS

This course allows the student to plan, execute, and present results of individual projects in welding. Emphasis is placed on enhancing skill attainment in the welding field. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.
Credits 3
Lecture Hours 1
Lab Hours 4

WDT 181 : SPECIAL TOPICS LAB

This course provides specialized instruction in various areas related to the welding industry. Emphasis is placed on meeting students needs.
Credits 3
Lecture Hours 0
Lab Hours 6

WDT 182 : SPECIAL TOPICS

This course allows the student to plan, execute, and present results of individual projects in welding. Emphasis is placed on enhancing skill attainment in the welding field. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.
Credits 3
Lecture Hours 1
Lab Hours 4

WDT 183 : SPECIAL TOPICS

This course allows the student to plan, execute, and present results of individual projects in welding. Emphasis is placed on enhancing skill attainment in the welding field. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.
Credits 2
Lecture Hours 1
Lab Hours 2

WDT 184 : SPECIAL TOPICS

This course allows the student to plan, execute, and present results of individual projects in welding. Emphasis is placed on enhancing skill attainment in the welding field. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.
Credits 1
Lecture Hours 0
Lab Hours 2

WDT 193 : CO-OP

These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.
Credits 3
Lecture Hours 0
Lab Hours 15

WDT 217 : SMAW CARBON PIPE

This course introduces the student to the practices and procedures of welding carbon steel pipe using the shielded metal arc weld (SMAW) process. Emphasis is placed on pipe positions, electrode selection, joint geometry, joint preparation and fit-up. Upon completion, students should be able to identify pipe positions, electrodes, proper joint geometry, joint preparation, and fit-up in accordance with applicable codes.
Credits 3
Lecture Hours 1
Lab Hours 4

WDT 218 : CERTIFICATION

This course is designed to provide the student with the knowledge needed to perform welds using the prescribed welding process. Emphasis is placed on the welding test joints in accordance with the prescribed welding code. Upon completion, students should be able to pass and industry standard welding test in accordance with various applicable welding code requirements.

Credits 3
Lecture Hours 1
Lab Hours 4

WDT 219 : WELDING INSPECTION & TESTING

This course provides the student with inspection skills and knowledge necessary to evaluate welded joints and apply quality control measures as needed. Emphasis is placed on interpreting welding codes, welding procedures, and visual inspection methods. Upon completion, students should be able to visually identify visual acceptable weldments as prescribed by the code or welding specification report.

Credits 3
Lecture Hours 3
Lab Hours 0

WDT 221 : PIPEFITTING AND FABRICATION

This course provides the student with skills and practices necessary for fabricating pipe plans using pipe and fittings. Emphasis is placed on various pipe fittings to include various degree angles. Upon completion, students should be able to fit various pipe fittings, and cut and fabricate tees, and assorted angles.

Credits 3
Lecture Hours 1
Lab Hours 4

WDT 223 : BLUEPRINT READING FOR FABRICATION

This course provides a student with advanced skills in identifying and interpreting lines, views, dimensions, notes, bill of materials, and the use of tools of the trade. Emphasis is placed on figuring dimensional tolerances, layout and fitting of different component parts. Upon course completion, a student should be able to interpret, layout, and fabricate from blueprints to given tolerances.

Credits 3
Lecture Hours 1
Lab Hours 4

WDT 229 : BOILER TUBE

This course is designed to provide the student with the practices and procedures of welding boiler tubes using the gas tungsten arc and shielded metal arc welding process to the applicable code. Emphasis is placed on tube fit-up, tube welding technique, and code requirements. Upon completion, students should be able to identify code requirements and tube welding technique.

Credits 3
Lecture Hours 1
Lab Hours 4

WDT 251 : SMAW Carbon Pipe Lab

Credits 3

WDT 257 : SMAW CARBON PIPE LAB

This course is designed to provide the student with the skills in welding carbon steel pipe with shielded metal arc welding techniques in various pipe welding positions. Upon completion, students should be able to perform shielded metal arc welding on carbon steel pipe with the prescribed electrodes in various positions in accordance with the applicable codes.
Credits 3
Lecture Hours 0
Lab Hours 6

WDT 258 : CERTIFICATION LAB

This course is designed to provide the student with the skills needed to perform welds using the prescribed welding process. Emphasis is placed on the welding test joints in accordance with the prescribed welding code. Upon completion, students should be able to pass and industry standard welding test in accordance with various welding code requirements.
Credits 3
Lecture Hours 0
Lab Hours 6
Prerequisites
or advisor approval. Can also be taken as a co-requisite.
Prerequisite Courses
WDT 218

WDT 269 : BOILER TUBE LAB

This course is designed to provide the student with the skills in welding boiler tubes using the gas tungsten arc and shielded metal arc welding process using filler metals in the F6 and F4 groups to applicable code. Emphasis is placed on welding boiler tubes using the gas tungsten arc and shielded metal arc welding process in the 2G and 6G positions in accordance with the applicable code. Upon completion, students should be able to perform gas tungsten arc and shielded metal arc welding on boiler tubes with the prescribed filler metals in the 2G and 6G positions to the applicable code.
Credits 3
Lecture Hours 0
Lab Hours 6

WDT 280 : SPECIAL TOPICS

This course provides specialized instruction in various areas related to the welding industry. Emphasis is placed on meeting students' needs.
Credits 3
Lecture Hours 0
Lab Hours 9

WDT 281 : SPECIAL TOPICS IN WELDING TECHNOLOGY

This course provides specialized instruction in various areas related to the welding industry. Emphasis is placed on meeting students' needs.
Credits 3
Lecture Hours 0
Lab Hours 9

WDT 282 : SPECIAL TOPICS

This course provides specialized instruction in various areas related to the welding industry. Emphasis is placed on meeting students' needs.
Credits 3

Lecture Hours 0
Lab Hours 9

WDT 291 : CO-OP

These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.
Credits 3
Lecture Hours 0
Lab Hours 15

WDT 292 : CO-OP

These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.
Credits 3
Lecture Hours 0
Lab Hours 15

WDT 293 : CO-OP

These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.
Credits 1
Lecture Hours 0
Lab Hours 5

WDT 294 : CO-OP

These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.
Credits 2
Lecture Hours 0
Lab Hours 10