

Program Catalog

2023 – 2024



Academy of Careers and Technology

"preparing students for their future"

390 Stanaford Road

Beckley, West Virginia 25801

304-256-4615

<http://wvact.net>

<http://facebook.com/wvact>

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105 Adair Street
Beckley, West Virginia 25801
(304) 256-4500

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ACADEMY OF CAREERS AND TECHNOGY

390 Stanaford Road
Beckley, West Virginia 25801
(304) 256-4615

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WEST VIRGINIA DEPARTMENT OF EDUCATION

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MISSION STATEMENT

“Preparing Students for Their Future”

CORE BELIEF

Students will acquire:

Academic Skills, Career Skills, and Technical Skills

The Academy of Careers and Technology (ACT) is a West Virginia School of Excellence. It is a Career and Technical Education Center that serves adults and secondary students in Raleigh County and southern West Virginia. ACT provides students with the academic and technical skills, knowledge, and training necessary to succeed in future careers and develop skills they will use throughout their lives. The programs at ACT represent eleven of the sixteen career clusters, based on the National Career Cluster Framework[®], which identifies the knowledge and skills students need as they follow a pathway to their goals. ACT prepares students for the world of work by introducing them to workplace competencies and makes academic content accessible to students by providing it in a hands-on context.

ACCREDITATION

The Academy of Careers and Technology is approved and operated in cooperation with the West Virginia Department of Education and the Raleigh County Board of Education. ACT is accredited by the Council on Occupational Education (COE). The Council on Occupational Education accredits post-secondary occupational institutions that offer certificate, diploma, or applied associate degree programs. These institutions include public technical colleges, private career colleges (both for-profit and not-for-profit), Army, Navy, and Department of Defense institutions, and Job Corps Centers. The Commission of the Council on Occupational Education (COE) is located at 7840 Roswell Road; Building 300, Suite 325; Atlanta GA 30350; (770) 396-3898; www.council.org.

EQUAL EDUCATION OPPORTUNITY

The Raleigh County Board of Education does not discriminate based on race, color, national origin, sex, disability, or age in its educational programs and activities. The following person has been designated to handle inquiries regarding the nondiscrimination policies:

Director of Pupil Services
Title IX and Title II Officer
105 Adair Street
Beckley, WV 25801
Telephone: (304) 256-4500 extension 3329

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The Program Catalog is a working document and subject to change. For the most updated version of the Handbook, visit <https://www.wvact.net/resources-links>.

Academy of Careers & Technology

390 STANAFORD ROAD
BECKLEY, WEST VIRGINIA 25801
(304) 256-4615

August 2023

Dear Students:

Welcome to the Academy of Careers and Technology, located in Beckley, West Virginia! Our center is a premier career and technical education institution serving secondary students from Raleigh County's four high schools and adult students from southern West Virginia. We offer a broad spectrum of innovative and challenging technical programs that provide the knowledge and skills necessary to excel in the ever-changing world of work and post-secondary education.

Opened in 1977, ACT has long been recognized as a primary work-force provider and a significant educational institution and recently received the West Virginia Department of Education's highest rating, the School of Excellence award. To attain and maintain such distinction, our administration, faculty, and staff work in close cooperation with our partnering secondary schools and through collaborative efforts involving students, parents, businesses, industry, labor, and higher education.

The curricula at ACT are diverse and challenging. Our students are encouraged to actively explore challenging technical studies that enable them to see the relationship between course content and future career plans. The career and technical instructional programs are rigorous and yet designed to adapt to the needs of diverse learners.

Our goal at ACT is to provide the citizens of Raleigh County, West Virginia, opportunities to find and attain a position in life which is personally productive, useful, and satisfying. I invite you to visit our website, accept our invitation to visit Academy of Careers and Technology, or contact us for additional information.

Sincerely,



Charles M. Pack, Jr.

Director of Career Technical Education/Principal

cmpack@k12.wv.us

****West Virginia residents only pay WV cost!!**

Program	Cost	ACE	WV Cost
Certified Welder	9,000.00	7,200.00	1,800.00
Commercial Driving	5,000.00	4,000.00	1,000.00
Cosmetology	13,600.00	10,880.00	2,720.00
HVAC Technician	9,000.00	7,200.00	1,800.00
Phlebotomy Technician	2,600.00	2,080.00	520.00
Plumber in Training	9,000.00	7,200.00	1,800.00
Practical Nursing	11,500.00	9,200.00	2,300.00

Academy of Careers and Technology

TUITION AND FEES PROGRAMS

Program	Tuition	Registration	Application	ATI	Lab	Books	Supplies	Background Check	Test	Admin Doc	Drug Test	Parking	CTSO	I.D.	Total
Certified Welder	5,400.00	40	125	0	3100	0	0	50	0	75	90	40	80	0	9,000.00
Commercial Driving	2,500.00	40	125	0	1720	0	0	50	450	75	0	40	0	0	5,000.00
Cosmetology	9,450.00	65	125	0	2060	400	700	50	200	75	90	40	305	40	13,600.00
HVAC Technician	5,400.00	40	125	0	2540	400	0	50	160	75	90	40	80	0	9,000.00
Phlebotomy Technician	1,125.00	40	125	0	700	165	0	50	150	75	90	40	0	40	2,600.00
Plumber in Training	5,400.00	40	125	0	2540	400	0	50	160	75	90	40	80	0	9,000.00
Practical Nursing	6,750.00	40	125	900	1690	1100	0	100	410	75	0	40	230	40	11,500.00

*Must apply for other aid

TR1620 AUTOMOTIVE TECHNOLOGY

The Automotive Technology Program of Study focuses on careers that will build a knowledge base and technical skills in all aspects of the automotive industry. Skill set standards for Career Preparation Skills, Safety, Leadership Development and Customer and Personal Service have been integrated throughout the Program of Study. Student skills sets will be acquired for Automotive Maintenance and Light Repair in the areas of Automotive Service Consultant, Tire Repair and Replacement, Maintenance Services, Electrical System Diagnosis and Repair, Engine and Engine Performance Diagnosis and Repair, Heating and Air Conditioning Diagnosis and Repair, Brake System Diagnosis and Repair, Suspension and Steering Diagnosis and Repair, and Driveline Diagnosis and Repair. Students will have the opportunity to acquire hours towards industry certification and be exposed to skills to develop positive work ethics.

Required Courses

1631 Automotive Technology MLR-1

This course introduces the student to the knowledge base and technical skills as they relate to the field of Automotive Technology. In the Automotive Technology MLR-1 class areas of study include Automotive Service Consultant, Career Opportunities and Practices, Shop and Personal Safety, Tools and Equipment, Preparing Vehicle for Service, Electrical-General Electrical System Diagnosis, Electrical-Diagnosis and Service of Batteries, and Engines-Lubrication and Cooling Systems Diagnosis and Repair.

1623 Automotive Technology MLR-2

Automotive Technology MLR-2 continues as students are exposed to skills sets in areas such as Steering and Suspension-Diagnosis and Repair of Wheels and Tires, Brakes-Diagnosis and Repair of Hydraulic Systems, Brakes-Diagnosis and Repair of Drum Brake Systems, Brakes-Diagnosis and Repair of Disk Brake Systems, Brakes-Diagnosis and Repair of Power Assist Units, Brakes-Diagnosis and Repair of Miscellaneous Automotive Items, Brakes-Diagnosis and Repair of Antilock Brake Systems and Steering and Suspension-Diagnosis of Steering & Suspension Systems.

1625 Automotive Technology MLR-3

Automotive Technology MLR-3 build student skill sets in the areas of Electrical-Demonstrate Starting System Diagnosis and Repair, Electrical-Demonstrate Charging System Diagnosis and Repair; Electrical-Demonstrate Lighting System Diagnosis and Repair, Electrical-Demonstrate Accessories System Diagnosis and Repair, Engines, General Engines, Engines-Diagnosis and Repair of Cylinder Head and Valve Train, and Engine Performance-General Engine Diagnosis.

1637 Automotive Technology MLR-4

Automotive Technology MLR-4 completes the Program of Study with skills sets in the areas of Engine Performance-Computerized Engine Controls; Engine Performance-Fuel, Air Induction, and Exhaust Systems Diagnosis and Repair; Engine Performance-Emissions Control Systems Diagnosis and Repair; Automatic Transmission and Transaxle-Diagnosis Maintenance, and Adjustment; Manual Drive Train and Axles-Diagnosis, Maintenance, and Adjustment; and Heating and Air Conditioning-Diagnosis, Maintenance, and Adjustment.

Specialization Courses

1629 Automotive Technology AST-1

The Skill Sets in Automotive Technology AST-1 will introduce students to the skills sets related to Electrical-Electrical/Electronic System Basics; and Alternative Fuels-Hybrid Vehicles; NAFTC Program or Additional electrical Tasks from NATEF MAST Program.

1633 Automotive Technology AST-2

The Skill Sets in Automotive Technology AST-2 will concentrate on the skills sets related to Steering and Suspension; and Brakes.

1635 Automotive Technology AST-3

The Skill Sets in Automotive Technology AST-3 will introduce students to Engines-General Engines: Engine Diagnosis; Removal and Re-installation (R&R); Engines-Diagnosis and Repair of Cooling and Lubrication Systems; and Engine Performance-General Engine Diagnosis.

1627 Automotive Technology AST-4

The Skill Sets in Automotive Technology AST-4 will introduce students to the skills, technology, and service of Automatic Transmission and Transaxle-Diagnosis, Maintenance, Repair and Adjustment; Manual Drive Train and Axles-Diagnosis, Maintenance, Repair and Adjustment; and Heating and Air Conditioning-Diagnosis, Maintenance, Repair and Adjustment.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: Automotive Service Excellence (ASE), OSHA 10, WV Motor Vehicle State Inspector, NOCTI

AR1800 BUILDING MAINTENANCE & OPERATIONS

The Building Maintenance and Operations Program of Study focuses on careers that maintain a safe and productive environment, follow codes and regulations, identify unsafe conditions, and take corrective actions to reinstate a proper working and safe environment. Students will have the opportunity to earn NCCER certification for each skill set mastered and be exposed to skills to develop positive work ethics.

Required Courses

1774 Building Maintenance and Operations I

This course introduces the student to the knowledge base and technical skills of the Building Maintenance and Operations industry. Building Maintenance and Operations I begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets related to the fundamentals of Building Maintenance and Operations such as Site Layout One: Distance Measurement and Leveling; and Introduction to Concrete, Reinforcing Materials and Forms.

1775 Building Maintenance and Operations II

Building Maintenance and Operations II will continue to build student skill sets in areas such as Handling and Placing Concrete; Introduction to Masonry; and Masonry Units and Installation Techniques.

1776 Building Maintenance and Operations III

Building Maintenance and Operations III will continue to build student skill sets in areas of Floor Systems; Wall and Ceiling Framing; Roof Framing; and Roofing Applications.

1777 Building Maintenance and Operations IV

Building Maintenance and Operations IV will continue to build student skill sets in areas of Exterior Finishing; Basic Stair Layout; Electrical Safety; and Residential Electrical Services.

Course Length: One year (540 hours)

Meeting Times: 7:25 AM - 10:15 AM or 11:15 AM - 2:23 PM

Articulation Agreements: Edge Credit

Certifications: NCCER (National Center for Construction Education and Research)
OSHA 10 Construction Industry, NOCTI, Custodial Certification, Fire Extinguisher Training, Forklift Training

AR1820 CARPENTRY

The Carpentry concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the carpentry industry. Learners will be exposed to a broad range of construction careers and foundation knowledge including basic safety; plan reading; use of tools and equipment; basic rigging; and how to employ positive work ethics in their careers. Students will have the opportunity to earn NCCER certification for each skill set mastered.

Required Courses

1842 Carpentry I

This course introduces the student to the knowledge base and technical skills of the carpentry industry. Carpentry I begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets related to the fundamentals of Carpentry such as Orientation to the Trade; Building Materials, Fasteners, and Adhesives; and Hand and Power Tools.

1843 Carpentry II

Carpentry II will continue to build student skill sets in areas such as Reading Plans and Elevations; Floor Systems, Wall and Ceiling Framing; Roof Framing; Introduction to Concrete, Reinforcing Materials, and Forms; Windows and Exterior Doors; Basic Stair Layout.

1844 Carpentry III

Carpentry III will continue to build student skill sets in areas of Commercial Drawings; Roofing Applications; Thermal and Moisture Protection; and Exterior Finishing.

1845 Carpentry IV

Carpentry IV will continue to build student skill sets in areas of Cold-Formed Steel Framing; Drywall Installation; Drywall Finishing; Doors and Door Hardware; Suspended Ceilings; Window, Door, Floor, and Ceiling Trim; Cabinet Installation; and Cabinet Fabrication.

Elective Courses

1829 Masonry and Plumbing

This course introduces the student to the knowledge base and technical skills for concepts in the Building Construction Concentration. Areas of study include estimation, masonry materials, rough-in plumbing systems and installation of finish plumbing.

1822 Blueprint Reading for Construction

Areas of study include identifying various blueprints, terms, symbols, components, dimensions, classifications and construction task objectives.

1803 Basic Plumbing and Electricity

Areas of study include basic plumbing skills, advanced plumbing repair and basic electrical skills.

1821 Concrete Finishing

This course introduces the student to the knowledge base and technical skills for concepts in the Building Construction Concentration. Areas of study include estimation, concrete construction, finishing concepts, properties of concrete, tools and equipment, concrete placement, work site preparation, finishing techniques, curing and protecting and troubleshooting concrete problems.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: OSHA 10 Construction Industry, NOCTI

IT1442 CODING, APP AND GAME DESIGN

The Coding, App and Game Design provides knowledge and skills necessary for a career in coding, game and app design, web page publishing, computer programming, and software development industries. Students receive training in both the graphic design and technical programming elements of the industry.

Required Courses

1431 Digital Imaging/Multimedia I

This course is designed to develop student knowledge and skills in such areas as producing images, operating a digital camera, using imaging software, using drawing software, creating simple animations and manipulating video images.

1432 Digital Imaging/Multimedia II (prerequisite Digital Imaging/Multimedia I)

This course is designed to develop student understanding and skills in such areas as imaging, drawing, animation, and video software which will be used to create advanced projects.

1456 Coding, App and Game Design I

This course is designed to develop student knowledge and skills in programming and designing game and app ideas paper prototyping and other planning techniques. Using various design platforms, programming languages, drawing and animation techniques, students create an interactive demonstration of the games and apps.

1457 Coding, App and Game Design II

This course is designed to develop student knowledge and skills in developing apps and games using more advanced coding and graphic design including both 2D and 3D elements.

Course Length: One year (540 hours)

Meeting Times: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: Python, HTML/CSS, JavaScript, NOCTI

TR1670 COLLISION REPAIR TECHNOLOGY

The Collision Repair Technology concentration focuses on careers that will build a knowledgebase and technical skills in all aspects of the Collision Repair industry. Students will have the opportunity to acquire hours towards NATEF certification and be exposed to skills to develop positive work ethics.

Required Courses

1671 Fundamentals of Collision Repair Technology

Areas of study include career opportunities and practices, integrated academics, knowledge of tools and equipment, panel straightening techniques, and introduction to vehicle preparation. Safety instruction is integrated into all activities.

1675 Non-Structural Analysis and Damage Repair

Student will continue to build student skill sets in non-structural analysis and repair of metal and composite parts.

1677 Structural Analysis and Damage Repair

Students will continue to build student skill sets in frame and unibody type vehicles using welding techniques, measuring equipment, and frame machines.

1679 Surface Preparation and Refinishing

Students will continue to build student skill sets in preparing a surface for refinishing; inspect, clean and operate spraying equipment; detail a vehicle; and diagnose finish defects.

Elective Courses

1672 Detailing and Interior Parts

Incorporated into this course are elements of introductory knowledge and skills necessary in detailing and maintaining interior parts as they apply to Collision Repair Technology.

1673 Mechanical and Electrical Components

Incorporated into this course are elements of introductory knowledge and skills necessary for mechanical and electrical repairs as they apply to Collision Repair Technology.

1674 Refinishing Techniques

Incorporated into this course are elements of advanced refinishing skills necessary for a career in the collision repair industry.

1676 Custom Finishing Processes

Incorporated into this course are elements of advanced custom finishing processes and skills necessary for a career in the collision repair industry.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: Automotive Service Excellence (ASE), OSHA 10, WV Motor Vehicle State Inspector, NOCTI

AR1720 COMPUTER AIDED DRAFTING AND DESIGN

The Computer Aided Drafting and Design concentration focuses a broad range of architecture and construction careers and foundation knowledge including basic safety, plan reading, use of tools and equipment as well as how to employ positive work ethics in a drafting career.

Required Courses

1729 Fundamentals of Drafting

This course introduces the student to the knowledge base and technical skills for all courses in the Drafting concentration. Areas of study include tools and equipment, measurement, basic drafting techniques, freehand technical sketching, orthographic projection, dimensioning, basic computer skills, and drawing techniques. Emphasis will be placed on personal and professional ethics, and students will explore a variety of career opportunities.

1727 Drafting Techniques

This course introduces the student to techniques used in advanced orthographic projection. Areas of study include sectioning, pictorial views, auxiliary views, patterns and developments, dimensioning, advanced 2D CAD techniques, and basic 3D modeling in CAD. Students will demonstrate knowledge and technical expertise in various fundamental drafting techniques.

1725 Mechanical Drafting

This course introduces the student to the knowledge base and technical skills necessary for mechanical drafting. Areas of study include advanced dimensioning techniques, assembly drawings, threads and fasteners, gears and cams, welding, and basic solid modeling.

1721 Architectural Drafting

This course introduces students to the specialization of architectural drawing and design. Areas of study include architectural styles, floor plans, dimensioning and annotation, site and foundation plans, elevations and section layouts, and residential utilities.

Course Length: One year (540 hours)

Meeting Times: 7:25 AM – 10:15 AM

Articulation Agreements: EDGE Credit

Certifications: Autodesk Certified User AutoCAD Certification, Autodesk Certified User Inventor Certification, OSHA 10, NOCTI

IT1680 COMPUTER SYSTEMS REPAIR TECHNOLOGY

The Computer Systems Repair Technology concentration validates foundation-level knowledge and skills necessary for a career in PC support. It is the starting point for a career. The CompTIA A+ and Network+ certifications are both international and vendor-neutral and prove competence in areas such as installation, preventative maintenance, networking, security and troubleshooting.

Required Courses

1664 CompTIA A+ Core 1

This course covers PC hardware and peripherals, mobile device hardware, networking and troubleshooting hardware and network connectivity issues. Content Skill Sets are based on testing objectives for the CompTIA A+ Core 1 certification.

1665 CompTIA A+ Core 2

This course covers installing and configuring operating systems including Windows, iOS, Android, Apple OS X and Linux. It also addresses security, the fundamentals of cloud computing and operational procedures. Content Skill Sets are based on testing objectives for the CompTIA A+ Core 2 certification.

1694 Networking+

This course introduces the student to the knowledge base and technical skills related to networking. Areas of study include media and topologies, protocols and standards, network implementation and network support. Content Skill Sets are based on testing objectives for the CompTIA Network+ certification.

Specialization Course

1696 Security+

This course introduces the students to the knowledge base and technical skills related to working with network security. Areas of study include Network Security, Compliance and Operational Security, Threats and Vulnerabilities, Application, Data and Host Security, Access Control and Identity Management and Cryptography. Courses are aligned with CompTIA standards. Emphasis will be placed on personal and professional ethics and students will explore a variety of career opportunities.

Course Length: One year (540 hours)

Meeting Times: 7:25 AM - 10:15 AM

Articulation Agreements: EDGE Credit

Certifications: CompTIA A+ Core 1/CompTIA A+ Core 2/CompTIA Network +/PC Pro TestOut, NOCTI

HE0700 DENTAL ASSISTING

The Allied Health Concentration allows the student to explore careers focused primarily on changing the health status of the patient over time. Health professionals in this concentration work directly with patients; they may provide care, treatment and health education information.

Required Courses

0740 Dental Assisting I

This course provides introduction to the dental assisting profession while preparing the student with foundational dental assisting knowledge and entry level skill. Students will obtain knowledge in communication, safety, legal and ethics, and teamwork skills to prepare for employment as dental assistants.

0748 Dental Assisting II

This course contains the dental concepts needed for entry-level employment as a Dental Assistant within both clinical and administrative areas. The course includes an overview of the role, function and utilization of dental assisting. Major instructional components include the use of dental terminology and concepts in the following areas: odontology and anatomical landmarks, infection control, chair side assisting, radiography, dental laboratory, pharmacology and emergency care, business office procedures and dental specialties.

0746 Dental Science

This course provides an introduction to dental laboratory techniques and procedures while preparing the student for entry-level employment as a dental laboratory assistant. Students will obtain the knowledge and skills necessary to assist and/or perform basic laboratory and diagnostic procedures.

0743 Dental Assisting Clinical Science

The student completing this course will be able to use knowledge from previously Required Courses to perform and practice all aspects of Dental Laboratory Assisting in a clinical setting. Students will obtain the knowledge and skills necessary to assist and/or perform basic laboratory and diagnostic procedures.

Elective Courses

0742 Dental Assistant Clinical Practice

The student within the Dental Assistant Clinical Practices course will focus on knowledge and skills required for the Dental Assistant to function within the areas of radiography and emergency medical care.

0747 Dental Specialties

This course contains the beginning concepts and skills students will need for entry-level employment as a dental assistant in a specialty office. Major instructional concepts include orientation to specialty areas, instrumentation and procedures. Students are required to complete a work-based clinical experience in each of the specialty areas within this course.

0749 Supervised Dental Clinical Experience

The student within the Supervised Dental Assistant Experience course will focus on instructional components that will enable him/her to work as an effective member of the dental team. Students will be introduced to the specialties of dentistry and the requirements necessary to function as an administrative and chair side assistant in a dental office.

0730 Health Science Clinical Experience

This course is designed to be used in conjunction with a Health Science Education course that includes a clinical specialization experience.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: Certificate in Dental Assisting, CPR, Dean Vaughn Dental Terminology, NOCTI, Nitrous Oxide Monitoring Certification

TR1740 DIESEL EQUIPMENT TECHNOLOGY

The Diesel Equipment Technology concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Diesel Equipment Technology industry. Students will have the opportunity to acquire hours towards industry ASE/NATEF certification and be exposed to skills to develop positive work ethics.

Required Courses

1751 Fundamentals of Diesel Equipment Technology

This course introduces the student to the knowledge base and technical skills as they relate to the field of Fundamentals of Diesel Equipment Technology. Areas of study include personal and shop safety, career opportunities in the diesel technology industry, the proper use of hand and power tools, basic oxyacetylene cutting, electric welding, and basic shop etiquette. Safety instruction is integrated into all activities.

1747 Diesel Support Systems

This course introduces the student to the knowledge base and technical skills as they relate to Diesel Support Systems. Areas of study include lubricating and cooling systems, air intake and exhaust systems, starting and charging systems, engine retarders, fuel systems, and governor operation. Safety instruction is integrated into all activities.

1744 Electronic Engine Control

This course introduces the student to the knowledge base and technical skills for concepts in diesel electronic engine controls. Areas of study include electronic control modules, electronic fuel injection, and electronic control test equipment. Emphasis will be placed on career exploration, job seeking skills, and personal and professional ethics.

1741 Diesel Engine Components

This course introduces the student to the knowledge base and technical skills as they relate to the field of Diesel Equipment Technology. In the Diesel Engine Components class areas of study include basic engine components, primary functions, service, inspection, and assembly procedures.

Elective Courses

1745 Diesel Preventative Maintenance and Inspection

Incorporated into this course include engine system maintenance, under hood and cab maintenance, electrical/electronic systems, frame and chassis maintenance.

1749 Diesel Truck Chassis Concepts

Incorporated into this course are elements of transmissions, clutches, suspension, steering, and air brakes. Emphasis will be placed on operating theory, removal and installation of major components, and service and inspection procedures for a career in diesel equipment technology.

1743 Diesel Engine Tune Up and Troubleshooting

Incorporated into this course are elements of introductory knowledge and skills necessary for a career in diesel mechanics.

1742 Diesel Equipment Electrical Systems

Incorporated into this course are heavy-truck electrical theory, engine and truck wiring circuits, storage batteries and diesel electrical system testing.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: OSHA, Forklift License, WV Motor Vehicle State Inspector, NOCTI

AR1760 ELECTRICAL TECHNICIAN

The Electrical Technician concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Electrical Trades industry. Students will have the opportunity to earn NCCER certification for each skill set mastered and be exposed to skills to develop positive work ethics.

Required Courses

1756 Electrical Trades I

The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets related to the fundamentals of Electricity such as Orientation to the Electrical Trade; and Electrical Safety.

1757 Electrical Trades II

Electrical Trades II will continue to build student skill sets in areas such as Introduction to Electrical Circuits; Electrical Theory; Introduction to the National Electrical Code®; Device Boxes; Hand Bending; Raceways and Fittings; Conductors and Cables; Basic Electrical Construction Drawings; Residential Electrical Services; and Electrical Test Equipment.

1758 Electrical Trades III

Electrical Trades III will continue to build student skill sets in areas of Alternating Current; Motors: Theory and Application; Electric Lighting; and Conduit Bending.

1759 Electrical Trades IV

Electrical Trades IV will continue to build student skill sets in areas of Pull and Junction Boxes; Conductor Installations; Cable Tray; Conductor Terminations and Splices; Grounding and Bonding; Circuit Breakers and Fuses; and Control Systems and Fundamental Concepts.

Elective Courses

1762 Blueprint Reading for Electricians

Areas of study include building plans and specifications and blueprint and schematic reading.

1765 Industrial and Commercial Wiring

Areas of study include conduit and raceways and commercial load calculations and configurations.

1769 Residential Wiring

Area of study include wiring data, service entrance equipment, luminary and receptacle outlets, protective devices, appliance and special circuits and low-voltage systems.

1767 National Electrical Code

This course introduces the student to the knowledge base and technical skills for the NEC. Areas of study include demonstrating skills in the use of the NEC, applying calculations to assure NEC standards are met.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: National Center for Construction Education and Research (NCCER),
Journeyman/Electrician License, OSHA 10, Forklift and Scissor Lift Certifications,
NOCTI Written and Performance

WVDE requirements to sit for the Electrical Journeyman License for secondary students:

- 1) Attain an overall grade of "B" or better in the four required state-approved CTE Electrical Technician Program of Study required courses **AND** the four specializations courses used to meet the 1080 hours needed to sit for the Journeyman License as stated in the Electrician Licensing Rules from the West Virginia State Fire Marshall's office;
- 2) Attain a verified school attendance record of no more than 6 days absent in a 1 year-1080 hour program or 12 days absent in a two year-1080 hour program;
- 3) Earn the OSHA 10 certification;
- 4) Pass a minimum of TWO (2) documented drug screenings; and
- 5) Score at or above the Workforce Entry-Level cut score on the industry-recognized written **AND** satisfactorily pass a performance assessment.

LA2200 EMERGENCY AND FIREFIGHTING MANGEMENT SERVICES

The emergency and fire management services pathway includes workers involved in public safety and rapid responses to fires and emergency situation, including providing medical services after or during traffic accidents, natural disasters and other medical emergencies.

Required Courses

2203 Fire Fighting I

This course is designed to provide knowledge and skills needed in the fire service field including the basic fundamentals of firefighting. Students will demonstrate: proper procedures used in responding to a structure fire; safety procedures, lifting and carrying of equipment; forcible entry; rescue; use of radio equipment; working in hazardous environments; fire attack; advancement of hose lines and ventilation; disabling utilities; set-up of supply lines and fire apparatus; and hazardous materials awareness.

2205 Fire Fighting II

This course is designed to provide knowledge and skills needed in the fire service field including: proper procedures for incident response involving automobile rescue, extrication, and fires; the role of emergency medical care in fire service; and basic emergency medical care.

2250 Industrial Incident Command

This course is designed to provide the foundations of a successful response to an industrial emergency. Topics include: components of incident command; span of control; giving and receiving of orders; setting up a command post; and communications.

2251 Industrial Hazardous Material

This course is designed to provide knowledge and skills related to the use of hazardous materials in an industrial setting. Topics include: OSHA General Industry Standards and other consensus and proprietary standards relating to the use of hazardous materials; flammable and combustible liquids; compressed gases; LP-gases; cryogenic liquids; processes such as spraying and dipping; and use of electrical equipment in hazardous locations.

Course Length: One year (540 hours)

Meeting Times: 7:25 AM - 10:15 AM or 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: Fire Fighter I - National Fire Protection Association Standard 1001, Hazardous Materials Operations, Fire Fighter II - National Fire Protection Association Standard 1001, National Incident Management System, Healthcare Provider CPR, First Aid, OSHA 10, Stop The Bleed, NOCTI

HE0715 ALLIED HEALTH SCIENCES: EMT-B

The Allied Health Concentration allows the student to explore careers focused primarily on changing the health status of the patient over time. Health professionals in this concentration work directly with patients; they may provide care, treatment and health education information.

Required Courses

0711 Foundations of Health Science

This course is designed to allow instructional content to focus on basic medical terminology, growth and development, nutrition, health maintenance practices and healthcare delivery systems. It is designed to provide the student with knowledge and technical skills required for infection control and the prevention of disease transmission, CPR and First Aid. Students will be provided with the opportunity to acquire certification in these areas.

0715 Advanced Principles of Health Science

Instructional content will focus on healthcare safety, environmental safety processes and procedures, ethical and legal responsibilities and mathematical computations. Medical terminology and the reinforcement, expansion and enhancement of biology content specific to diseases and disorders are an integral part of the course. Instruction will incorporate project and problem based healthcare practices and procedures to demonstrate the importance of these skills. Students will develop basic technical skills required for all health career specialties including patient privacy, communication, teamwork and occupational safety and be provided with opportunities to obtain certifications in HIPPA/Data Privacy and health care safety.

Specialization Courses

0792 Emergency Services 1

This course introduces students to the role of an emergency medical technician in the health care system. Students will focus on relevant medical terminology, anatomy and physiology, and pharmacology. Students learn to recognize, assess and manage medical and trauma emergencies in any pre-hospital setting.

0732 Emergency Services 2

Students will continue to learn and practice techniques to manage medical and trauma emergencies, IV fluids, cardiac and respiratory emergencies, gynecological and obstetrics emergencies, musculoskeletal emergencies, and head, spinal, and neck injuries. Procedures to manage trauma will be studied in detail. Students will complete a clinical experience.

Course Length: One year (540 hours)

Meeting Times: 7:25 AM - 10:15 AM or 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: Healthcare Provider CPR/HAZMAT Awareness/Mass Casualty Incident Awareness and Operations Training/National Registry of Emergency Medical Technicians (NREMT) Certification, OSHA 10 Healthcare, Stop The Bleed, NOCTI

AR1600 HVAC TECHNICIAN

HVAC Technicians are skilled tradesman in charge of installing, inspecting and repairing various air quality systems. Their main duties include locating and diagnosing maintenance problems on equipment, conducting warranty services and quickly performing emergency repairs.

Required Courses

1752 HVAC I

This course introduces the student to the knowledge base and technical skills of the HVAC industry. HVAC I begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets related to the fundamentals of HVAC such as Introduction to HVAC; and Trade Mathematics.

1753 HVAC II

HVAC II will continue to build student skill sets in areas such as Copper and Plastic Piping Practices; Soldering and Brazing; Ferrous Metal Piping Practices; Basic Electricity; Introduction to Cooling; Introduction to Heating; and Air Distribution Systems.

1754 HVAC III

HVAC III will continue to build student skill sets in areas of Commercial Airside Systems; Chimneys, Vents, and Flues; Introduction to the Hydronic Systems; Air Quality Equipment; Leak Detection, Evacuation, Recovery, and Charging; Alternating Current; Basic Electronics; and Introduction to Control Circuit Troubleshooting.

1755 HVAC IV

HVAC IV will continue to build student skill sets in areas of Troubleshooting Gas Heating; Troubleshooting Cooling; Heat Pumps; Basic Installation and Maintenance Practices; Sheet Metal Duct Systems; and Fiberglass and Flexible Duct Systems.

Course Length: One year (540 hours)

Meeting Times: 11:15 AM - 2:23 PM

Articulation Agreements: Edge Credit

Certifications: EPA 608 Universal Certification, OSHA 10, NOCTI, WV HVAC Technician in Training

LA1020 LAW AND PUBLIC SAFETY

The Law and Public Safety concentration focuses on methods used by public safety leaders to protect a democratic society. The history and organization of the criminal justice system and issues relating to the administration and p and practice of law and public safety in a culturally diverse society are explored.

Required Courses

1035 Seminar in Law Enforcement

This course is designed to provide students with fundamental principles of the law enforcement field such as the history of policing in the US, the characteristics of law enforcement agencies and types of police activities including criminal investigation. Current issues and trends in law enforcement will be investigated. Aspects of criminal investigation will be presented.

1226 Ethical Issues in Public Safety

This course is designed to examine the philosophical issues and applications of the objectives and processes of Public Safety Leadership including; Constitutional limitations; accountability; civil liability; criminal investigation; criminal procedure; and forensics. Students will examine a variety of serious offenses and apply concepts of profiling, behavioral analysis and threat assessment within an ethical paradigm. Students will analyze and critique the system of dealing with convicted persons and the long-term implications of corrections policy.

1039 Practical Applications of Public Safety

This course is designed to give students the opportunity to connect theory and practice by interacting with Public Safety professionals. Students will study various requirements for employability in the Public Safety field including ethics, teamwork, and professionalism. Students may participate in activities associated with Public Safety agencies for hands-on or work-based experiences.

1225 Fundamentals of Public Safety Leadership

This course is designed to present foundational principles of Public Safety Leadership including: how public safety leaders protect a democratic society; public policy issues such as crime and justice; history, organization and functions of components of public safety including the criminal justice system; and the issues and challenges relating to the administration of justice in a culturally diverse society.

Elective Courses

1034 Seminar in Corrections

This course is designed to provide students with fundamental principles in the corrections field including: the evolution of correctional practices and philosophies including treatment models; correctional law; the relationship of correctional activities to other aspects of the criminal justice system; detention facilities; and probation and parole programs.

1031 Seminar in Courts and Legal System

This course is designed to provide students with the knowledge and skills needed to assist the legal industry with court preparation, legal interventions, research, and office management.

1037 Strategic Security and Protection

This course is designed to provide students with the knowledge and skills needed for the development and implementation of protective security operations including: the protective security law and management; procedures for basic instant response; methods of collecting intelligence and security related investigations; chemical, biological, radiological and nuclear weapons use; and aspects of domestic and international terrorism.

1055 Public Safety and Wellness

This course focuses on knowledge necessary for improved capability to perform specific tasks, mobilize the body efficiently, reduced risk during physical tasks, psychological preparation, reduce stress and associated health risk.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit; Bluefield State College (14 credit hours)

Certifications: Certified Criminal Justice Professional - courses plus work experience (WV credential with international reciprocity), CPR, HAZMAT Awareness, Mass Casualty Incident Awareness and Operations Training, Stop The Bleed, NOCTI, Fire Extinguisher Training

HE0715 ALLIED HEALTH SCIENCES: MEDICAL ASSISTING/HE1010 ADVANCED MEDICAL PREPAREDNESS

The Allied Health Concentration allows the student to explore careers focused primarily on changing the health status of the patient over time. Health professionals in this concentration work directly with patients; they may provide care, treatment and health education information.

Required Courses

0711 Foundations of Health Science

This course is designed to allow instructional content to focus on basic medical terminology, growth and development, nutrition, health maintenance practices and healthcare delivery systems. It is designed to provide the student with knowledge and technical skills required for infection control and the prevention of disease transmission, CPR and First Aid. Students will be provided with the opportunity to acquire certification in these areas.

0715 Advanced Principles of Health Science

Instructional content will focus on healthcare safety, environmental safety processes and procedures, ethical and legal responsibilities and mathematical computations. Medical terminology and the reinforcement, expansion and enhancement of biology content specific to diseases and disorders are an integral part of the course. Instruction will incorporate project and problem based healthcare practices and procedures to demonstrate the importance of these skills. Students will develop basic technical skills required for all health career specialties including patient privacy, communication, teamwork and occupational safety and be provided with opportunities to obtain certifications in HIPPA/Data Privacy and health care safety.

Specialization Courses

0737 Medical Assistant Laboratory and Diagnostic Procedures

Instructional content will focus on an introduction to the medical laboratory, safety, principles of disease transmission and prevention, as well as medical and surgical asepsis. Students will obtain the knowledge and skills necessary to assist and/or perform basic laboratory and diagnostic procedures.

0733 Medical Assistant Clinical

Instructional content in this will focus on clinical procedures utilized within medical offices. Major components include emergency medical care, physical exam, basic pharmacology and administration of medication. Students will participate in a work-based clinical externship within a medical office or equivalent health care facility.

0716 Body Structures and Functions

This course focuses on the structure and function of each system in the human body. Additional instructional components include concepts that pertain to the body as a whole, applicable medical terminology and the pathophysiology common to each system.

0721 Medical Terminology

Through the study of medical terminology, the student will be introduced to the language of medicine. Students will gain an understanding of basic elements, rules of building and analyzing medical words, and medical terms associated with the human body utilizing a systems approach.

Elective Courses

0720 ECG/Phlebotomy

Course content of ECG will focus on a review of the circulatory system and the electrical conduction of the heart. Students will learn proper placement of ECG electrodes and acquire accurate ECG tracing and interpret basic and lethal ECG rhythms. Phlebotomy content will focus on performing an accurate skin puncture procedure, proper specimen collection procedure, labeling and transporting specimens to the lab.

0730 Health Science Clinical Experience

Instructional content is focuses on extending career preparation and technical skills associated with a previously selected clinical specialization.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: First Aid, CPR, OSHA 10 Healthcare, NOCTI, Nationally Registered Certified Medical Assistant (National Association for Health Professionals)

AR2140 PLUMBING

This program introduces the student to the knowledge base and technical skills of the Plumbing industry.

Required Courses

2081 Plumbing I

Plumbing I begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets in the fundamentals of Plumbing such as Introduction to the Plumbing Profession and Plumbing Safety

2082 Plumbing II

Plumbing II will continue to build student skill sets in areas such as Plumbing Tools; Introduction to Plumbing Math; Introduction to Plumbing Drawings; Plastic Pipe and Fittings; Copper Pipe and Fittings; Cast-Iron Pipe and Fittings; Carbon Steel Pipe and Fittings; Corrugated Stainless Steel Tubing; Fixtures and Faucets; Introduction to Drain, Waste, and Vent (DWV) Systems; and Introduction to Water Distribution Systems.

2083 Plumbing III

Plumbing III will continue to build student skill sets in areas of Plumbing Math Two; Reading Commercial Drawings; Hangers, Supports, Structural Penetrations, and Fire Stopping; Installing and Testing DWV Piping; Installing Roof, Floor, and Area Drains; and Types of Valves.

2084 Plumbing IV

Plumbing IV will continue to build student skill sets in areas of Installing and Testing Water Supply Piping; Installing Fixtures, Valves and Faucets; Introduction to Electricity; Installing Water Heaters; Fuel Gas Systems; and Servicing of Fixtures, Valves and Faucets.

Course Length: One year (540 hours)

Meeting Times: 7:25 AM - 10:15 AM

Articulation Agreements: N/A

Certifications: Plumber In Training, OSHA 10, NOCTI

ST2460 PRE-ENGINEERING-PROJECT LEAD THE WAY

The Pre-Engineering Program of Study focuses on a broad range of engineering careers and foundation knowledge including basic safety, plan reading, use of tools and equipment as well as how to employ positive work ethics in an engineering career.

Required Courses

2461 Introduction to Engineering Design

This course teaches problem-solving skills using a design development process. Models of product solutions are created, analyzed, and communicated using solid modeling computer design software. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

2463 Principles of Engineering

This course will help students understand the field of engineering and engineering technology. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science, and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. *This course will fulfill the requirement for a third science course graduation requirement.

2465 Computer Integrated Manufacturing

Computer Integrated Manufacturing is a component of the Project Lead the Way (PLTW) pre- engineering curriculum. This course will introduce students to principles of robotics and automation and CAD design. The course builds on computer solid modeling skills developed in Computer Integrated Manufacturing, and Design and Drawing for Production. Students use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing and design analysis are included. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

2464 Engineering Design and Development

This is an engineering research course in which students work in teams to research, design, and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses and are guided by a community mentor. They must present progress reports, submit a final written report, and defend their solutions to a panel of outside reviewers at the end of the school year. Safety instruction is integrated into all activities. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

Course Length: One year (540 hours)

Meeting Times: 11:15 AM – 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: Autodesk Certified User Inventor Certification, NIMS Level 1 Machining Credential, OSHA 10, NOCTI

HO1010 PROSTART RESTAURANT MANAGEMENT

The ProStart Restaurant Management concentration focuses on the skills needed for a successful employment in a restaurant environment, but has applicability for students interested in culinary nutrition, dietary services, and child nutrition services.

Required Courses

1013 Restaurant and Culinary Foundations

This course focuses on the basic preparation and service of safe food, introduction to industry safety standards, restaurant equipment, knife skills, stocks and sauces, and communication concepts in the restaurant industry.

1014 Restaurant Management Essentials

This course focuses on management essentials in the restaurant industry, guest service, food production, and career exploration and pursuit.

1019 Advanced Principles in Food Production

This course is designed to examine advanced food production, nutrition, and cost control.

1020 Restaurant Professional

This course is designed to provide content related global cuisine, sustainability, desserts and baked goods, and marketing.

Elective Courses

1240 Hospitality and Tourism Leadership

This course is designed to focus on leadership and management in the hospitality industry. Students will gain knowledge and skills in travel, tourism, attractions, leadership, marketing, and entrepreneurship.

1016 Food Service Management Practices

Management roles and financial responsibilities, staff supervision and training, marketing and advertising, menu planning, food safety, sanitation, labor rules and regulations, and HACCP planning are incorporated in the coursework.

1017 Culinary Nutrition and the Menu

Nutrition basics and the guidelines used for foodservice meal planning are covered. Dietary guidelines and special dietary needs will be used in modifying menu choices.

1018 Baking and Pastry Applications

This course focuses on weights, measures, and general baking, classifications, handling and storage of ingredients, safety and handling, yeast raised dough products, cakes, cookies, batters, breads, muffins, pies, and special desert preparation.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications:

ProStart Certificate of Achievement/WV Food Handler's Certificate; WV
Welcome Certificate in Customer Service/ServSafe Certification for
Managers/American Culinary Foundation (ACF) Junior Culinarian, NOCTI

HE0723 THERAPEUTIC SERVICES

The Therapeutic Services Concentration allows the student to explore careers focused primarily on changing the health status of the patient over time. Health professionals in this concentration work directly with patients; they may provide care, treatment, counseling and health education information

Required Courses

0711 Foundations of Health Science

This course is designed to allow instructional content to focus on basic medical terminology, growth and development, nutrition, health maintenance practices and healthcare delivery systems. It is designed to provide the student with knowledge and technical skills required for infection control and the prevention of disease transmission, CPR and First Aid. Students will be provided with the opportunity to acquire certification in these areas.

0715 Advanced Principles of Health Science

Instructional content will focus on healthcare safety, environmental safety processes and procedures, ethical and legal responsibilities and mathematical computations. Medical terminology and the reinforcement, expansion and enhancement of biology content specific to 27 diseases and disorders are an integral part of the course. Instruction will incorporate project and problem based healthcare practices and procedures to demonstrate the importance of these skills. Students will develop basic technical skills required for all health career specialties including patient privacy, communication, teamwork and occupational safety and be provided with opportunities to obtain certifications in HIPPA/Data Privacy and health care safety.

0789 Clinical Specialties I

Upon successful completion of the prerequisite courses in the Health Science Education concentration, students will be provided the opportunity in Clinical Specialty I to participate in a work-based clinical experience. Students choose a health career specialty for in-depth study and must complete a minimum of 25-55 hours in an applicable clinical rotation. Instruction is guided by career-specific content skill sets that must be mastered before students are eligible to attain established credentials and/or industry validation.

0790 Clinical Specialties II

Upon successful completion of the prerequisite courses in the Health Science Education concentration, students will be provided the opportunity in Clinical Specialty II to participate in a work-based clinical experience. Students choose a health career specialty for in-depth study and must complete a minimum of 25-55 hours in an applicable clinical rotation. Instruction is guided by career-specific content skill sets that must be mastered before students are eligible to attain established credentials and/or industry validation.

Elective Courses

0721 Medical Terminology

Through the study of medical terminology, the student will be introduced to the language of medicine. Students will gain an understanding of basic elements, rules of building and analyzing medical words, and medical terms associated with the human body utilizing a systems approach.

0725 Understanding Human Behavior

Within this course, students will learn basic principles of human behavior. Because of this knowledge, students should gain an improved sense of self and build interpersonal relationship skills. The end goal will be the delivery of conscientious, personalized care which conveys respect and sincerity.

0716 Body Structures and Functions

This course focuses on the structure and function of each system in the human body. Additional instructional components include concepts that pertain to the body as a whole, applicable medical terminology and the pathophysiology common to each system.

0730 Health Science Clinical Experience

This course is designed to be used in conjunction with a Health Science Education course that includes a clinical specialization experience. Instructional content focuses on extending career preparation and technical skills associated with a previously selected clinical specialization.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: Pharmacy Technician, Phlebotomy, ECG, NOCTI, CPR, First Aid, Stop The Bleed, OSHA 10

MA1980 WELDING

The Welding concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Welding industry. Students will have the opportunity to earn both NCCER certification and the WV Welding Certification for each skill set mastered and be exposed to skills to develop positive work ethics.

Required Courses

1862 Welding I

This course is designed to introduce the student to the knowledge base and technical skills of the Welding industry. Welding I begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets in the fundamentals of Welding such as Welding Safety; Oxyfuel Cutting; and Plasma Arc Cutting.

1863 Welding II

Welding II will continue to build student skill sets in areas of Air Carbon Arc Cutting and Gouging; Base Metal Preparation; Weld Quality; SMAW-Equipment and Setup; Shielded Metal Arc Electrodes; SMAW-Beads and Fillet Welds; Joint Fit Up and Alignment; SMAW-Groove Welds with Backing; and SMAW-Open V-Groove Welds.

1864 Welding III

Welding III will continue to build student skill sets in areas of Welding Symbols; Reading Welding Detail Drawings; Physical Characteristics and Mechanical Properties of Metals; Preheating and Post-Heating of Metals; GMAW and FCAW-Equipment and Filler Metals; and GMAW and FCAW-Plate.

1865 Welding IV

Welding IV will continue to build student skill sets in areas of GTAW-Equipment and Filler Metals; and GTAW-Plate.

Elective Courses

1983 Blueprint Reading and Metallurgy

Areas of study include drawing fundamentals, sketching and fabricating, basic welding symbols, and properties of metals and alloys.

1987 Gas Metal Arc Welding

Incorporated into this course are elements of introductory knowledge and skills necessary for a career in welding.

1982 Ornamental Metalwork

Areas of study include measurement, metal layout and bending, operation of the drill press, band saw, and the iron worker.

1989 Gas Tungsten Arc Welding

Incorporated into this course are elements of introductory knowledge and skills necessary for a career in welding.

Course Length: Two years (1080 hours)

Meeting Times: First Year: 7:25 AM - 10:15 AM; Second Year: 11:15 AM - 2:23 PM

Articulation Agreements: EDGE Credit

Certifications: SMAW State Certification, GMAW State Certification, GTAW Stainless Steel State Pipe Certification, GTAW Aluminum Pipe State Certification, FCAW State Certification, National Center for Construction Education and Research (NCCER), NOCTI, OSHA 10

TR9803 COMMERCIAL DRIVING (ACE)-ADULT STUDENTS ONLY

This course introduces the student to the knowledge base and technical skills for Commercial Driving License. Areas of study include CDL license information, licensing procedures, requirements, and traffic laws.

TR9803-2 Commercial Driving Class A

9283 CDL-Class A

TR9803-5 ELDT Theory Commercial Driving Passenger Endorsement

TR9803-6 ELDT Theory Commercial Driving Hazardous Materials Endorsement

CLASSROOM TRAINING

Students attend 45 hours of classroom training covering all subjects required by the **ENTRY LEVEL DRIVER TRAINING** curriculum for a Class A commercial driver's license including but not limited to, **Basic Operation, Safe Operating Procedures, Advanced Operating Practices, Vehicle Systems and Reporting Malfunctions etc.,** along with all required non-driving theory subjects outlined by the FMCSA's theory instruction standard curriculum. At the end of the classroom training students will then take the Class A Learners Permit test given by the West Virginia Division of Motor Vehicles. Students who acquire the Class A Learners Permit will then move on to the **RANGE and BEHIND THE WHEEL "BTW"** training segments of the course. Students must meet at least an 80% score in all areas to progress.

BEHIND-THE-WHEEL RANGE

BTW/RANGE training teaches exercises related to basic vehicle control skills and mastery of basic maneuvers, as covered in 49 CFR 383.111 and 383.113 these include, **VEHICLE INSPECTION PRE-TRIP/ENROUTE/POST-TRIP, STRAIGHT LINE BACKING, ALLEYDOCK BACKING 45/90 DEGREE, OFF-SET BACKING, PARALELL PARKING BLIND SIDE AND SIGHT SIDE, COUPLING AND UNCOUPLING.** Students will be trained to meet the proficiency level in all elements of the BTW/RANGE curriculum to successfully complete the training module.

BEHIND-THE-WHEEL (BTW) PUBLIC ROAD

This segment of training will include BTW driving with a combination of highway, city, long steep downgrades, and heavy traffic driving. Training will meet all ELDT requirements including, **SHIFTING/TRANSMISSION, COMMUNICATIONS/SIGNALING, VISUAL SEARCH, SPEED AND SPACE MANAGMENT, SAFE DRIVER BEHAVIOR, HOURS OF SERVICE REQUIREMENTS, HAZARD PERCEPTION, RAILROAD HIGHWAY GRADE CROSSING etc.** A heavy emphasis is placed on defensive driving and giving each student plenty of time behind the wheel to become proficient in their ability to safely and professionally operate large combination vehicles.

STUDENT JOB PLACEMENT SERVICES

The Commercial Driving Program offers job placement assistance and career counseling to all students in the program. We work with students during the classroom phase of training so that they are educated in resume building and job seeking methods. Academy of Careers and Technology will invite several various trucking companies to visit with our students here at the campus to talk to students regarding job placement with their company. Every effort will be made to assist our students in securing a new career in the commercial motor vehicle industry by the time they are due to graduate.

TRAINING EQUIPMENT

At Academy of Careers and Technology you will be trained on many different types of equipment all of which directly compare to industry level size and operation. You will operate up to date conventional sleeper/road tractors with 10 speed unsynchronized transmissions equipped with APU and meet all regulated emission standards. Trailers used in training are 53' Dry Van, 45' Dry Van with electric powered lift gate and a 48' flatbed this gives our students hands on skill development with the major towed units that are industry related. Road tractors are modern International Pro Stars with manual transmissions, sliding fifth wheel, super singles and dual tire power units.

Course Length: 5 to 6 weeks; 180 hours

Meeting Times: 7:00 AM to 2:30 PM
Monday-Friday

Articulation Agreements: N/A

Certifications: Class A Learner's Permit
ELDT Theory: Passenger and HAZMAT
Endorsements: Tanker, Doubles, and Triples
Class A CDL License

HU9505-1 COSMETOLOGY (ACE)-ADULT STUDENTS ONLY

The Cosmetology program prepares students to become the creative, well-trained professionals demanded by today's beauty industry. The Professional Cosmetologist will be trained with entry-level skills relating to hair, nails and skin with an emphasis on hygiene, sanitation, customer relations and salon management. The program provides the Cosmetologist with theory and skills-training in basic haircutting, hairstyling, and hair coloring. In addition to training on related hair services, nail and skin care will be introduced and implemented. Graduates are eligible to take the licensing examination from the West Virginia Board of Barbers and Cosmetologists.

Required Courses

9190 General Cosmetology Professional Information

This course will develop life skills that include health and mind, ergonomics, basic communication, human relations. Concluding the course with practical theory of long hair design, wigs, and hair addition.

9191 The Science of Cosmetology/Hair Styling

This course provides information on the scientific aspects of cosmetology as delineated by the WVBBC such as human anatomy, chemistry and electricity, infection control, shampooing, and equipment.

9192 Professional Cosmetology/Hair Styling

This course will develop theory and practical knowledge of hair design, sculpture/art, and men's sculpture/art.

9193 Chemicals

This course will provide theory and practical knowledge of highlights, color, perming, and relaxing.

9194 The Science of Aesthetics

This course will provide theory knowledge of skin care, skin diseases and disorders, human anatomy, skeletal system, muscular system, circulatory system, and nervous system.

9195 Skin Sciences

This course will provide in-depth practical knowledge of skin disease and disorders, skin care, guest experience and facial workshops.

9196 General Aesthetics

This course will provide theory and practical knowledge in hair removal, eyebrow, leg, and bikini, make up theory, makeup product and design, and make up workshop.

9197 The Science of Nail Technology

This course will provide theory of nail diseases and disorders. The anatomy of nail and practical theory of natural nail services.

9198 Basic Nail Procedures

This course will provide theory and practical knowledge of natural nail by performing manicures and pedicures.

9199 Art of Nail Technology

In this course it will focus on practical nail services, nail tips, artificial nails, acrylic overlay, pink and white acrylics, and gel overlay.

Course Length: 1800 hours
Program is designed to be completed in about one-and-a-half years (315 days @ 6 hours/day).

Meeting Times: 7:30 AM - 2:00 PM

Articulation Agreements: EDGE Credit

Certifications: WV Board of Barbers and Cosmetologists license

AR9105-1 HVAC TECHNICIAN (ACE)-ADULT STUDENTS ONLY
DAY OR EVENING PROGRAM

HVAC Technicians are skilled tradesman in charge of installing, inspecting and repairing various air quality systems. Their main duties include locating and diagnosing maintenance problems on equipment, conducting warranty services and quickly performing emergency repairs.

Required Courses

9041 Basic Refrigeration Theory

This course introduces the student to the knowledge base and technical skills of the HVAC industry. HVAC I begins with the NCCER Core curriculum, which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets related to the fundamentals of HVAC such as Introduction to HVAC; and Trade Mathematics.

9042 Electricity and Controls

HVAC II will continue to build student skill sets in areas such as Copper and Plastic Piping Practices; Soldering and Brazing; Ferrous Metal Piping Practices; Basic Electricity; Introduction to Cooling; Introduction to Heating; and Air Distribution Systems.

9043 Commercial Air-Conditioning Systems

HVAC III will continue to build student skill sets in areas of Commercial Airside Systems; Chimneys, Vents, and Flues; Introduction to the Hydronic Systems; Air Quality Equipment; Leak Detection, Evacuation, Recovery, and Charging; Alternating Current; Basic Electronics; and Introduction to Control Circuit Troubleshooting.

9044 Commercial Refrigeration Systems

HVAC IV will continue to build student skill sets in areas of Troubleshooting Gas Heating; Troubleshooting Cooling; Heat Pumps; Basic Installation and Maintenance Practices; Sheet Metal Duct Systems; and Fiberglass and Flexible Duct Systems.

9045 System Installation, Air Distribution, and Balance

This course introduces the student to the knowledge base and technical skills for concepts in Basic Control Circuits. Areas of study include mathematical concepts, technical writing skills, technical reading comprehension, career opportunities and personal and equipment safety. Emphasis will be placed on career exploration, job-seeking skills and personal and professional ethics. Safety instruction is integrated into all activities.

9046 System Diagnostics, Troubleshooting, and Servicing

This course introduces the student to the knowledge base and technical skills for concepts in Air Conditioning Applications. Areas of study include mathematical concepts, technical writing skills, technical reading comprehension, career opportunities, personal and equipment safety, fabrication operations and basic compression refrigeration. Emphasis will be placed on career exploration, job seeking skills and personal and professional ethics.

9047 Heating Systems

This course introduces the student to the knowledge base and technical skills for concepts in Domestic Refrigeration. Areas of study include mathematical concepts, technical writing skills, technical reading comprehension, career opportunities and personal and equipment safety. Emphasis will be placed on career exploration, job-seeking skills and personal and professional ethics.

Course Length: Two years (1080 hours)
Classes begin in August and January each year

Meeting Times: Tuesday-Thursday 5:00 PM – 10:00 PM

Articulation Agreements: N/A

Certifications: EPA 608 Refrigerant Handling Certification, Air Conditioning-EPC, Heat Pump-Employment Ready Credential (EPC), Light Commercial A/C-EPC, Light Commercial Refrigeration-EPC, Electric Heat-EPC, Carbon Monoxide & Combustion Analysis-EPC, Carbon Monoxide Safety, Basic Refrigeration, OSHA 10

**HE9301-1 PHLEBOTOMY TECHNICIAN (ACE)-ADULT STUDENTS ONLY
EVENING PROGRAM**

Phlebotomists draw blood from patients in hospitals, blood centers, or similar facilities for analysis or other medical purposes.

Required Courses

9065 Phlebotomy Skills

Students will learn the anatomy of the vascular system as well as perform basic phlebotomy procedures. Students will evaluate patients for ability to withstand venipuncture procedure, can explain the venipuncture procedure and answer patient questions. Students will demonstrate basic point of care testing, such as blood glucose levels on patients; prepare blood, urine, and other body fluid specimens for testing per established standards.

Course Length: Twelve Weeks Classroom/Two Weeks Clinical
(225 hours-145 classroom, 80 clinical)
Classes begin in August and late January or early February

Meeting Times: Monday – Thursday 6:00 p.m. -9:00 p.m.

Articulation Agreements: N/A

Certifications: National Healthcare Association (NHA)

**AR9103-1 PLUMBER TECHNICIAN (ACE)-ADULT STUDENTS ONLY
DAY OR EVENING PROGRAM**

This program introduces the student to the knowledge base and technical skills of the Plumbing industry.

Required Courses

9022 Plumbing I

Plumbing I begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students will complete modules in Basic Safety; Introduction to Construction Math; Introduction to Hand Tools; Introduction to Power Tools; Introduction to Construction Drawings; Basic Rigging; Basic Communication Skills; Basic Employability Skills; and Introduction to Materials Handling. Students will then begin developing skill sets in the fundamentals of Plumbing such as Introduction to the Plumbing Profession and Plumbing Safety.

9023 Plumbing II

Plumbing II will continue to build student skill sets in areas such as Plumbing Tools; Introduction to Plumbing Math; Introduction to Plumbing Drawings; Plastic Pipe and Fittings; Copper Pipe and Fittings; Cast-Iron Pipe and Fittings; Carbon Steel Pipe and Fittings; Corrugated Stainless Steel Tubing; Fixtures and Faucets; Introduction to Drain, Waste, and Vent (DWV) Systems; and Introduction to Water Distribution Systems.

9024 Plumbing III

Plumbing III will continue to build student skill sets in areas of Plumbing Math Two; Reading Commercial Drawings; Hangers, Supports, Structural Penetrations, and Fire Stopping; Installing and Testing DWV Piping; Installing Roof, Floor, and Area Drains; and Types of Valves.

9025 Plumbing IV

Plumbing IV will continue to build student skill sets in areas of Installing and Testing Water Supply Piping; Installing Fixtures, Valves and Faucets; Introduction to Electricity; Installing Water Heaters; Fuel Gas Systems; and Servicing of Fixtures, Valves and Faucets.

Course Length: Two years (1080 hours)
Classes begin in August and January each year

Meeting Times: We offer two class options:
Class meets
1. Monday-Friday 11 am to 2:20 pm
OR
2. Monday, Tuesday, and Thursday 5 pm to 10 pm

Articulation Agreements: N/A

Certifications: WV Journeyman Plumber, OSHA 10

HE9311-1 PRACTICAL NURSING (ACE)-ADULT STUDENTS ONLY

Licensed practical nurses (LPNs) provide basic nursing care. They work under the direction of registered nurses and doctors. Licensed practical nurses work in many settings, including nursing homes and extended care facilities, hospitals, physicians' offices, and private homes.

Required Courses

Basic Skills Phase

Fundamentals of Nursing
Social Science I
Gerontology
Social Science II
Growth and Development
Nursing Skills
Introduction to Anatomy and Physiology
Introduction to Pharmacology
Introduction to Nutrition and Diet Therapy

Med-Surg Phase

Medical Surgical Nursing
Integrated Anatomy
Integrated Nutrition
Integrated Pharmacology

Specialty Phase

Gerontology
Maternal Child Health
Psychiatric Nursing
Community Health
Entry to Practice

Course Length: Daytime Program: One year (1350 hours)
Evening Program: Approximately 15 months (1350 hours)

Meeting Times: Daytime Program: Monday – Friday 8:00 AM – 3:00 PM
Clinical Hours: Basic Skills and Medical-Surgical Phases 7:30 AM – 3:00 PM
Specialties 8:00 AM – 3:00 PM

Evening Program: Monday-Friday 5:00 PM - 9:00 PM
Clinical Hours: 5:00 PM – 10:00 PM
Clinicals for evening program are typically Wednesday, Thursday, and Friday. Clinical groups are on a rotating schedule. Clinical hours may vary according to clinical group. Each evening clinical group will be scheduled for approximately 10 Saturday clinicals over the course of the program. Saturday hours: 7:30 AM - 3:30 PM.

Articulation Agreements: N/A

Certifications:

State Board of Examiners for Licensed Practical Nursing, Certified Nursing Assistant (CNA)

MA9704-1 WELDING (ACE)-ADULT STUDENTS ONLY EVENING PROGRAM

The Welding concentration focuses on careers that will build a knowledge base and technical skills in all aspects of the Welding industry. Students will have the opportunity to earn a WV Welding Certification for each skill set mastered and be exposed to skills to develop positive work ethics.

Beginning Welders (No Certification)

Students have two 700-hour choices:

1. Beginning Welding (Stick) 9311 SMAW Basic and 9310 Fundamentals of Welding
2. Beginning Welding (MIG) 9312 GMAW-9313 FCAW Basic and 9310 Fundamentals of Welding

Welders with a Certification

Students have three 600-hour choices:

1. Basic Welding (Stick) 9311 SMAW Plate
2. Basic Welding (MIG) 9312 GMAW Plate - 9313 FCAW Plate
3. Basic Welding (TIG) 9314 GTAW Plate

Welders with a Basic (Plate) Certification

Students have three 600-hour choices:

1. Advanced Welding 9315 SMAW (Stick Pipe) – Prerequisite 9311 SMAW Basic (Plate) Certification
2. Advanced Welding 9316 GMAW-9317 FCAW (MIG Pipe) –
Prerequisite 9312 GMAW-9313 FCAW Basic (Plate) Certification
3. Advanced Welding 9318 GTAW (TIG Pipe) – Prerequisite 9314 GTAW Basic (Plate) Certification

Beginning Welders (No Certification)

Beginning Welding

SMAW Basic Certification (700 – Hours) (9311)

1. The SMAW (Shielded Metal Arc Welding) basic course will prepare students for entry level positions in the field of welding. It will cover basic SMAW skills such as: SMAW equipment, different polarities, electrode selection and welding in all positions. With the skills obtained from this course you can work in the mining industry, manufacturing and repair or construction industries.

West Virginia State Certification 9311 SMAW-Plate

Fundamentals of Welding (9310)

The 100-hour Fundamentals of Welding course teaches students welding safety, oxyacetylene safety, and OSHA 10. This course also teaches welding symbols which are used every day in the welding industry. It is required to take this course before entering any other welding course offered.

Certification OSHA 10 Card

GMAW-FCAW Basic Certification (700 – Hours) (9312 and 9313)

2. The GMAW (Gas Metal Arc Welding) – FCAW (Flux Cored Arc Welding) basic course will prepare students for entry level positions in the manufacturing industry. It will cover basic GMAW-FCAW skills such as: equipment, different polarities, layout, and proper shielding gas selection. Students will train with different joint designs in all welding positions. With the skills obtained from this course you can work in the manufacturing and fabrication industry.

West Virginia State Certification 9312 GMAW-Plate

West Virginia State Certification 9313 FCAW-Plate

Fundamentals of Welding (9310)

The 100-hour Fundamentals of Welding course teaches students welding safety, oxyacetylene safety, and OSHA 10. This course also teaches welding symbols which are used every day in the welding industry. It is required to take this course before entering any other welding course offered.

Certification OSHA 10 Card

Welders with a Certification

Basic Welding

SMAW Basic Certification (600-Hours) (9311)

1. The SMAW (Shielded Metal Arc Welding) basic course will prepare students for entry level positions in the field of welding. It will cover basic SMAW skills such as: SMAW equipment, different polarities, electrode selection and welding in all positions. With the skills obtained from this course you can work in the mining industry, manufacturing and repair or construction industries.

West Virginia State Certification 9311 SMAW-Plate

GMAW-FCAW Basic Certification (600-Hours) (9312 and 9313)

2. The GMAW (Gas Metal Arc Welding) – FCAW (Flux Cored Arc Welding) basic course will prepare students for entry level positions in the manufacturing industry. It will cover basic GMAW-FCAW skills such as: equipment, different polarities, layout, and proper shielding gas selection. Students will train with different joint designs in all welding positions. With the skills obtained from this course you can work in the manufacturing and fabrication industry.

West Virginia State Certification 9312 GMAW-Plate

West Virginia State Certification 9313 FCAW-Plate

GTAW Basic Certification (600-Hours) (9314)

3. In the GTAW (TIG) Basic course students will learn on mild steel, stainless steel, and aluminum. It will cover GTAW safety, equipment, polarities, and shielding gas selection. Students will practice on edge, corner, lap, and T-joints before continuing to groove welds. With the skills obtained from this course you can work in the manufacturing and fabrication industry.

West Virginia State Certifications 9314 GTAW-Plate

Welders with a Basic (Plate) Certification

Advanced Welding

SMAW Advanced Certification (600-Hours) (9315) – Prerequisite 9311 SMAW Basic Certification

1. The SMAW Advanced course requires the SMAW Basic. Students will practice on 2” and 6” pipe in the 2G,5G and 6G positions. Students will take tests in the uphill and downhill progression. This course will give students the ability to enter the pipe welding trades.

West Virginia State Certification 9315 SMAW-Pipe

GMAW-FCAW Advanced Certification (600-Hours) (9316 and 9317)

-Prerequisite 9312 GMAW-9313 FCAW Basic Certification

2. The GMAW-FCAW Advanced course. Students will practice GMAW with spray and pulsed spray metal transfers as well as GMAW on aluminum. Students will also learn 2G,5G and 6G pipe using FCAW-G, FCAW-S and GMAW.

West Virginia State Certification 9316 GMAW-Pipe

West Virginia State Certification 9317 FCAW-Pipe

GTAW Advanced Certification (600-Hours) (9318) – Prerequisite 9314 GTAW Basic Certification

3. The GTAW Advanced course requires GTAW Basic and Fundamentals of Welding as a prerequisite to enter the course. This course will train students 2” schedule 80 pipe and 6” schedule 80 pipe with GTAW root and SMAW fill and cap in the 2G, 5G and 6G positions.

West Virginia State Certification 9318 GTAW-Pipe

Meeting Times: Tuesday-Thursday 5:00 PM – 10:00 PM

Articulation Agreements: EDGE Credit

Certifications: Possible certifications listed above