



Program of Studies

2027 – 2028



JAMES RUMSEY TECHNICAL INSTITUTE

Concentration and Course Descriptions

The West Virginia Standards for 21st Century Learning include the following components: Content Standards, Learning Skills, and Technology Tools. Classroom instruction integrates learning skills, technology tools, and content standards and objectives. Group and individual activities engage students in problem-solving techniques and manipulative skills while completing industry-related activities.

Through Simulated Workplace, students are prepared for the various jobs common in the industry. Students will be responsible for job duties which may include safety, customer service, management, estimating, and production. Emphasis will be placed on leadership development and soft skills as students learn how these various roles interact with each other to create an effective simulated company.

College Credit Recommendation

Students who complete a program and score 70% on the NOCTI assessment receive a College Credit Recommendation for local, state and national postsecondary institute.

Scheduling Guide

Use this guide when scheduling students into JRTI AM and PM sessions.

Program	1st Year at JRTI	2nd Year at JRTI
Aerospace Engineering	AM	PM
Allied Health Sciences	AM or PM	AM or PM
Automotive Technology	PM	AM or PM
Carpentry	AM or PM	AM or PM
Cybersecurity/Cisco Networking	AM	PM
Coding, AI, & Game Design	AM or PM	AM or PM
Diesel Equipment Technology	AM or PM	AM or PM
Early Childhood Classroom Teacher Assistant	PM	AM
Electrical Technician	PM	AM or PM
Emergency & Firefighting Management Services	PM	AM
Graphic Design	AM or PM	AM or PM
HVAC Technician	PM	PM
Law & Public Safety	AM or PM	AM or PM
Masonry	AM or PM	AM or PM
Multimedia Publishing	AM or PM	AM or PM
Plumbing	AM or PM	AM or PM
ProStart Restaurant Management	AM or PM	AM or PM
Robotic Engineering	AM or PM	AM or PM
Therapeutic Services	AM or PM	AM or PM
Welding Technology	AM or PM	AM or PM

Scheduling Note: Every effort will be made to accommodate AM or PM scheduling preferences. However, transportation limitations, class sizes, program capacity, and other scheduling factors may require placement in a specific session. JRTI will notify schools of scheduling placements.



Embedded & Fulfillment Credit

Embedded credit allows students to earn an additional academic credit while completing an approved CTE program. At JRTI, the following embedded credits are available:

Transition ELA for Seniors: Allied Health Sciences, Early Childhood, Law & Public Safety, ProStart, and Therapeutic Services.

Transition Mathematics for Seniors: Automotive Technology, Carpentry, Electrical, Firefighting/Emergency Services, HVAC, Masonry, Plumbing, Robotics, and Welding.

Fulfillment credit allows an approved CTE course to satisfy an existing graduation requirement.

3rd Science Credit: Allied Health Sciences (Courses I, II, and III), Therapeutic Services (Courses I, II, and III)

Art Credit: Fundamentals of Illustration, Fundamentals of Graphic Design, Illustration, Graphic Design Applications, Digital Photography, Ornamental Metal Work

Computer Science Credit: Coding App and Game Design I & II, Computer Science/Programming, Foundations of Programming Part 1, Security+



Advanced Manufacturing Cluster

Cluster Description: The Future of Engineering and Production

Program of Studies: MA1630 Robotic Engineering (2 year program)

Students can be scheduled in AM or PM

Program of Studies Description: The Applied Engineering – AC Integrated Production Technology/Robotics Program introduces students to a career in engineering. A strong academic background is recommended for students interested in applying for this program. Students are provided practical experiences in a variety of skills for continued learning in mechanical, robotic, electro mechanical, and computer aided machine controlled operations. Students will be actively engaged in hands-on engineering operations as well as classroom activities that utilize critical thinking skills.

Students will receive weighted Credit for grades earned in the four core courses. Dual Credit and/or articulation agreements will be available to students who successfully complete this course. It is strongly recommended that students have successfully completed honors mathematics and/or English prior to enrolling in this program.

Courses:

Robotics I	1866 (2028-29)	Semester 1
Robotics II	1867 (2028-29)	Semester 2
Robotics III	1868 (2027-28)	Semester 1
Robotics IV	1869 (2027-28)	Semester 2

Electives:

FAA Part 107 Ground Operations	1887 (2028-29)	Semester 1
FANUC I	1889 (2028-29)	Semester 2
FAA Part 107 Drone Flight Operations	1888 (2027-28)	Semester 1
FANUC 2	1890 (2027-28)	Semester 2

Course Descriptions:

Robotics I

1 Credit

WVEIS Code: 1866

This course offers an introductory exploration into the field of robotics, focusing on VEX programming. Students engage in hands-on activities and problem-solving tasks to build a solid foundation in robotics concepts. Emphasizing real-world learning, this course encourages active participation.

Semester 2: Robotics II

1 Credit

WVEIS Code: 1867

This course advances students to build and program the BaseBot, expanding on REC 1. The course includes experiments demonstrating physics and mechanical properties, integrating sensors and mechanisms. Through hands-on activities and problem-solving, students deepen their understanding of robotics concepts, concluding with a capstone project using competitive instructional strategies.

Semester 3: Robotics III

1 Credit

WVEIS Code: 1868

This course explores advanced engineering topics, challenging students to construct more sophisticated robots. The course emphasizes hands-on activities and problem-solving to enhance students understanding of robotics concepts. Real-world learning opportunities are integrated to align with learning skills, technology tools, and essential skillsets. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

Semester 4: Robotics IV

1 Credit

WVEIS Code: 1869

Robotics IV focuses on a capstone project, providing students with an immersive hands-on experience. Throughout the course, students apply problem-solving techniques and engage in practical activities to deepen their understanding of robotics concepts. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide students with authentic learning experiences, employability skills, and instruction

Electives:

FAA Part 107 Ground Operations

1 Credit

WVEIS Code: 1887

FANUC I

1 Credit

WVEIS Code: 1889

FAA Part 107 Drone Flight Operations

1 Credit

WVEIS Code: 1888

FANUC 2

1 Credit

WVEIS Code: 1890



Example Job Titles: Mechanical Engineer, Electrical Engineer, Industrial Engineer, Civil Engineer, Aerospace Engineer, Chemical Engineer, Manufacturing Engineer, Computer Science Engineer, Electromechanical Engineer

Related College Programs: Engineering, Robotics, Electromechanical Technician, Mechatronics, Coding



Program of Studies: MA1980 Welding Technology (2 year program)

Students can be scheduled in AM or PM

Program of Studies Description: The Welding Program of Studies focuses on building a knowledge base and technical skills in all aspects of the Welding industry. Students have the opportunity to earn both NCCER certification and the WV Welding Certification for each skill set mastered and are exposed to skills that develop positive work ethics.

Courses:

Welding I	1862 (2028-29)	Semester 1
Welding II	1863 (2028-29)	Semester 2
Welding III	1864 (2027-28)	Semester 1
Welding IV	1865 (2027-28)	Semester 2

Elective Courses

Ornamental Metalwork	1982 (2028-29)	Semester 1
Metal Trades Processes and Application	1909 (2028-29)	Semester 2
Blueprint Reading and Metallurgy	1983 (2027-28)	Semester 1
Gas Piping	2146 (2027-28)	Semester 2

Course Descriptions:

Welding I

1 Credit

WVEIS Code: 1862

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 first 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 then begin developing skill sets in the fundamentals of Welding such as Welding Safety; Oxyfuel Cutting; and Plasma Arc Cutting.

Welding II

1 Credit

WVEIS Code: 1863

Welding II continues 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.

Welding III

1 Credit

WVEIS Code: 1864

Welding III continues 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.

Welding IV

1 Credit

WVEIS Code: 1865

Welding IV continues to build student skill sets in areas of GTAW-Equipment and Filler Metals; and GTAW-Plate. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers provide each student with real-world learning opportunities and instruction.

Electives:

Ornamental Metalwork	1 Credit	WVEIS Code: 1982
Metal Trades Processes and Application	1 Credit	WVEIS Code: 1909
Blueprint Reading & Metallurgy	1 Credit	WVEIS Code: 1983
Gas Piping	1 Credit	WVEIS Code: 2146

Example Job Titles: Apprentice Welder, Commercial Welder, Journeyman Welder, Certified Pipe Welder, Nuclear Welder, Fabrication Welder, Pipefitter, Production Welder

Related College Programs: Welding Engineer, Welding Technology, Industrial Maintenance Technology

Successful completion of one of the following fulfills the one art credit graduation requirement: 1982



Arts, Entertainment, & Design Cluster

Cluster Description: Inspiring Creativity, Innovation, and Artistry

Program of Studies: AV1840 Graphic Design (1 year program)

Students can be scheduled in AM or PM

Program of Studies Description: Pre-requisite for this course is prior art experience and an interview with the instructor which includes the student's art portfolio. Students learn to transfer their sketches to electronic media as they learn the creative and technical aspects of commercial art/graphic design including the basics of national retail trade, industrial and professional advertising, layout; and computer graphics. Students utilize problem-solving techniques and participate in laboratory activities to develop an understanding of course concepts, and teachers provide each student with real-world learning opportunities and instruction related to occupations in graphic design.

Course Descriptions:

Semester 1: Fundamentals of Illustration

1 Credit

WVEIS Code: 1851

This course introduces the student to the knowledge base and technical skills necessary for all courses in the Graphic Design Program of Studies. Areas of study include media applications, perspective, drawing and painting, and student organizations. Students demonstrate knowledge and technical expertise in illustration.

Semester 1: Fundamentals of Graphic Design

1 Credit

WVEIS Code: 1857

This course introduces the student to the knowledge base and technical skills for all courses in the Graphic Design Program of Studies. Areas of study include equipment and materials, computer skills, copyright, design principles, customer specifications, and student organizations. Emphasis is placed on personal and professional ethics, and students explore a variety of career opportunities.

Semester 2: Illustration

1 Credit

WVEIS Code: 1861

This course introduces the student to advanced topics in illustration. Areas of study include color theory, proportion, portfolios, and student organizations. Students demonstrate knowledge and technical expertise in advanced illustration techniques.

Semester 2: Graphic Design Applications

1 Credit

WVEIS Code: 1859

This course introduces the student to basic advertising concepts and advanced layout procedures. Areas of study include demographics, mechanical preparation, vector and raster graphics, and student organizations. Students demonstrate knowledge and technical expertise in the mechanical preparation of design projects.

Example Job Titles: Graphic Designer, Desktop Publisher, Print Shop Employee, Screen Printer, Sign-Shop Employee, Photographer, Industrial Designer, Web Designer, Computer Animator

Related College Programs: Graphic Design, Game Art & Design, Digital Arts & Design

Successful completion of one of the following fulfills the one art credit graduation requirement: 1851, 1859, 1857 or 1861



Program of Study: AV1684 Multimedia Publishing (1 year program)

Students can be scheduled in AM or PM

Program of Study Description: The Multimedia Publishing Program of Study prepares students for college Communications and Journalism programs, as well as various media production jobs such as Copy Center Printing, Photography and Video Production Assistant, and Print, Television, and Online Journalism.

Course Descriptions:

Semester 1: Introduction to Visual Communication

1 Credit

WVEIS Code: 1514

This course introduces the student to the skills required for visual communication in the 21st Century. Students will use digital cameras and professional software tools to create publications for print and the web. Units of Study: Page Layout, Desktop Publishing, Digital Publishing.

Semester 1: Digital Photography

1 Credit

WVEIS Code: 1515

This course introduces the student to the skills required to produce professional quality photographs. Students will use DSLR cameras, various accessories such as filters and tripods, photo editing software, and an inkjet printer. Emphasis will be placed on photojournalism and advertising photography. Units of Study: Camera Basics, Photo Editing, Photo Printing.

Semester 2: Videography

1 Credit

WVEIS Code: 1516

This course introduces the student to the skills required for multimedia production. Students will utilize digital camcorders as well as video editing, and sound recording software to create multimedia projects. Areas of study include video and sound editing, motion graphics, and effects. Units of Study: Videography Basics, Video Editing, Motion Graphics

Semester 2: Cross-Media Publishing

1 Credit

WVEIS Code: 1517

This course introduces students to the emerging field of cross-media publishing. Students will explore the use of blogging, video sharing, and social media services as journalism and marketing tools. Students will research, write, and produce multimedia content to be disseminated across various platforms (print, video, and digital publishing). Units of Study: 21st Century Publishing, Marketing across Media, Content Marketing

Example Job Titles: Film and Video Editors, Social Media Marketer, Multimedia Artists and Animators, Audio and Video Equipment Technicians, Technical Writers, Reporters, Correspondents, Search Marketing Strategists, Photojournalist, Production Assistant, Videographer, Copy and Print Associate.

Related College Programs: Communication Studies, Online Journalism, Communication Arts, Communication and New Media.

Successful completion of one of the following fulfills the one art credit graduation requirement: 1515



Construction Cluster

Cluster Description: Building Futures and Pioneering Sustainable Horizons

Program of Studies: AR1820 Carpentry (2 year program)

Students can be scheduled in AM or PM

Program of Studies Description: The Carpentry Program of Studies focuses on building a knowledge base and technical skills in all aspects of the carpentry industry. Learners are 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 have the opportunity to earn NCCER certification for each skill set mastered.

Courses:

Carpentry I	1842 (2028-29)	Semester 1
Carpentry II	1843 (2028-29)	Semester 2
Carpentry III	1844 (2027-28)	Semester 1
Carpentry IV	1845 (2027-28)	Semester 2

Elective Courses:

Building and Construction Applications	1828 (2028-29)	Semester 1
Applications in Commercial Construction	1820 (2028-29)	Semester 2
Framing Practices and Applications	1824 (2027-28)	Semester 1
Blueprint Reading for Construction	1822 (2027-28)	Semester 2

Course Descriptions:

Carpentry I

1 Credit

WVEIS Code: 1842

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 first 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.

Carpentry II

1 Credit

WVEIS Code: 1843

Carpentry II continues 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.

Carpentry III

1 Credit

WVEIS Code: 1844

Carpentry III continues to build student skill sets in areas of Commercial Drawings; Roofing Applications; Thermal and Moisture Protection; and Exterior Finishing. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers provide each student with real-world learning opportunities and instruction.

Carpentry IV

1 Credit

WVEIS Code: 1845

Carpentry IV continues 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.

Electives:

Building and Construction Applications	1 Credit	WVEIS Code: 1828
Applications in Commercial Construction	1 Credit	WVEIS Code: 1820
Framing Practices and Applications	1 Credit	WVEIS Code: 1824
Blueprint Reading for Construction	1 Credit	WVEIS Code: 1822

Example Job Titles: Carpenter, Leadman, Framers, Installer, Roofer, Contractor, Entrepreneur, Real Estate Developer

Related College Programs: Construction Management, Construction Engineering & Management, Civil Engineering, Occupational Safety, Architecture and Environmental Design



Program of Studies: AR1760 Electrical Technician (2 year program)

First-year students are scheduled for the PM session; second-year students are scheduled for the AM or PM session.

Program of Studies Description: The Electrical Technician Program of Studies focuses on building a knowledge base and technical skills in all aspects of the Electrical Trades industry. Students have the opportunity to earn NCCER certification for each skill set mastered and are exposed to skills that develop positive work ethics. ***Students wishing to attend the Electrical Technology Program should not be color blind, and should have the physical stamina for heavy lifting, bending, and working overhead.***

Courses:

Electrical Trades I	1756	Semester 1
Electrical Trades II	1757	Semester 2
Electrical Trades III	1758	Semester 3
Electrical Trades IV	1759	Semester 4

Electives:

Residential Wiring	1769	Semester 1
National Electrical Code	1767	Semester 2
Blueprint Reading for Electricians	1762	Semester 3
Rotating Devices & Control Circuitry	1771	Semester 4

Course Descriptions:

Electrical Trades I

1 Credit

WVEIS Code: 1756

This course introduces the student to the knowledge base and technical skills of the Electrical Trades industry. Electrical Trades I begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students first 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 then begin developing skill sets related to the fundamentals of Electricity such as Orientation to the Electrical Trade; and Electrical Safety.

Electrical Trades II

1 Credit

WVEIS Code: 1757

Electrical Trades II continues 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.

Electrical Trades III

1 Credit

WVEIS Code: 1758

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

Electrical Trades IV

1 Credit

WVEIS Code: 1759

Electrical Trades IV continues 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.

First Year Electives:

Residential Wiring	1 Credit	WVEIS Code: 1769
National Electrical Code	1 Credit	WVEIS Code: 1767

Second Year Electives:

Blueprint Reading for Electricians	1 Credit	WVEIS Code: 1762
Rotating Devices and Control Circuitry	1 Credit	WVEIS Code: 1771

Example Job Titles: Electrician Apprentice, Electrician Journeyman, Electrician Master, Electrical Maintenance Technician, Lineman, Industrial Electrician, Installation Technician, Electrical Engineer

Related College Programs: Electromechanical Technology, Electrical Engineering, Mechanical Engineering Technology, Electrical Distribution Technology



Program of Studies: AR1600 HVAC Technician (2 year program)

Students must be scheduled in the PM.

Program of Studies Description: The HVAC program introduces students to the knowledge base and technical skills of the HVAC industry including certified curriculum taught throughout eight courses.

Courses:

HVAC I	1752 (2028-29)	Semester 1
HVAC II	1753 (2028-29)	Semester 2
HVAC III	1754 (2027-28)	Semester 1
HVAC IV	1755 (2027-28)	Semester 2

Electives:

Air Conditioning Applications	1602 (2028-29)	Semester 1
Domestic Refrigeration	1603 (2028-29)	Semester 2
Heating Systems	1607 (2027-28)	Semester 1
Commercial Air Conditioning	1608 (2027-28)	Semester 2

Course Descriptions:

HVAC I

1 Credit

WVEIS Code: 1752

This course introduces the student to the knowledge base and technical skills of the HVAC industry. HVAC 1 begins with instruction 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. Teachers should provide each student with real world learning, opportunities, and instruction. Students are encouraged to become active members of the student organization, WV SkillsUSA.

HVAC II

1 Credit

WVEIS Code: 1753

This course 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. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, WV SkillsUSA.

HVAC III

1 Credit

WVEIS Code: 1754

This course 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. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, WV SkillsUSA.

HVAC IV

1 Credit

WVEIS Code: 1755

This course will continue to build student skill sets in the areas of troubleshooting Gas Heating; troubleshooting Cooling; Heat Pumps; Basic Installation and Maintenance Practices; Sheet Metal Duct Systems; and Fiberglass and Flexible Duct Systems. Teachers should provide each student with real world learning opportunities and instruction. Students are encouraged to become active members of the student organization, WV SkillsUSA.

Electives

Air Conditioning Applications

1 Credit

WVEIS Code: 1602

Domestic Refrigeration

1 Credit

WVEIS Code: 1603

Heating Systems

1 Credit

WVEIS Code: 1607

Commercial Air Conditioning

1 Credit

WVEIS Code: 1608

Example Job Titles: HVAC Installer, HVAC Service Technician, Refrigeration Technician, Controls Technician, Commercial HVAC Technician, Chiller Technician, Boiler Technician

Related College Programs: Heating, Ventilation, and Refrigeration (HVAC/R) Technology, Refrigeration and Air Conditioning Technology, Building Automation Systems, Energy Management Technology, Mechanical Engineering Technology, Environmental Engineering



Program of Studies: AR1910 Masonry (2 year program)

Students can be scheduled in AM or PM

Program of Studies Description: Masons are some of the highest paid workers in the construction industry. Skilled masons can work anywhere in the world. The Masonry Program of Studies focuses on building a knowledge base and technical skills in all aspects of the Masonry industry. Students have the opportunity to earn NCCER certification for each skill set mastered and are exposed to skills that develop positive work ethics. Students in this class gain practical experience working on several projects, including jobs for the school and the community.

Courses:

Masonry I	1846 (2028-29)	Semester 1
Masonry II	1847 (2028-29)	Semester 2
Masonry III	1848 (2027-28)	Semester 1
Masonry IV	1849 (2027-28)	Semester 2

Electives:

Bricklaying Applications	1914 (2028-29)	Semester 1
Decorative Masonry Work	1916 (2028-29)	Semester 2
Foundations and Footings	1917 (2027-28)	Semester 1
Concrete Finishing	1821 (2027-28)	Semester 2

Course Descriptions:

Masonry I

1 Credit

WVEIS Code: 1846

This course introduces the student to the knowledge base and technical skills of the Masonry industry. Masonry I begins with the NCCER Core curriculum which is a prerequisite to all Level I completions. The students first 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 then begin developing skill sets related to the fundamentals of Masonry such as Introduction to Masonry; and Masonry Tools and Equipment.

Masonry II

1 Credit

WVEIS Code: 1847

Masonry II continues to build student skill sets in areas such as Measurements, Drawings, and Specifications; Mortar; and Masonry Units and Installation Techniques.

Masonry III

1 Credit

WVEIS Code: 1848

Masonry III continues to build student skill sets in areas of Residential Plans and Drawing Interpretation; Residential Masonry; Grout and Other Reinforcement; and Metal Work in Masonry.

Masonry IV

1 Credit

WVEIS Code: 1849

Masonry IV continues to build student skill sets in areas of Advanced Laying Techniques; Construction Techniques and Moisture Control; and Construction Inspection and Quality Control.

Electives:

Bricklaying Applications	1 Credit	WVEIS Code: 1914
Decorative Masonry Work	1 Credit	WVEIS Code: 1916
Foundations and Footings	1 Credit	WVEIS Code: 1917
Concrete Finishing	1 Credit	WVEIS Code: 1821

Example Job Titles: Apprentice, Bricklayer, Stonemason, Concrete Finisher, Tile Setter, Plasterer, Foreman, Project Manager, Structural Engineer

Related College Programs: Construction Management, Construction Engineering & Management, Civil Engineering, Occupational Safety, Architecture and Environmental Design



Program of Studies: AR2140 Plumbing (2 year program)

Students can be scheduled in the AM or PM.

Program of Studies Description: The Plumbing program prepares students for careers in the plumbing and construction industries through hands-on training in residential and commercial plumbing systems. Students learn to install, maintain, and repair piping, fixtures, water supply, and drainage systems using industry-standard tools and equipment. Instruction includes workplace safety, blueprint reading, measurement, plumbing codes, system layout, and troubleshooting. Students develop the technical skills, problem-solving abilities, and professional work habits needed for entry-level employment, apprenticeships, and continued education in plumbing and related skilled trades.

Courses:

Plumbing I	2081 (2028-29)	Semester 1
Plumbing II	2082 (2028-29)	Semester 2
Plumbing III	2083 (2027-28)	Semester 1
Plumbing IV	2084 (2027-28)	Semester 2

Electives:

Piping Systems	1722 (2028-29)	Semester 1
Drains, Waste, and Vent Systems	2148 (2028-29)	Semester 2
Plumbing Fixtures	2149 (2027-28)	Semester 1
Basic Plumbing & Electricity	1803 (2027-28)	Semester 2

Course Descriptions:

Plumbing I

1 Credit

WVEIS Code: 2081

This course introduces the student to the knowledge base and technical skills of the Plumbing industry. Plumbing 1 begins with instruction 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.

Plumbing II

1 Credit

WVEIS Code: 2082

This course 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.

Plumbing III

1 Credit

WVEIS Code: 2083

This course 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.

Plumbing IV

1 Credit

WVEIS Code: 2084

This course 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.

Electives

Piping Systems

1 Credit

WVEIS Code: 1722

Drains, Waste and Vent Systems

1 Credit

WVEIS Code: 2148

Plumbing Fixtures

1 Credit

WVEIS Code: 2149

Basic Plumbing & Electricity

1 Credit

WVEIS Code: 1803

Example Job Titles: Plumber, Plumbing Technician, Pipefitter, Plumbing Installer, Service Plumber, Apprentice Plumber, Maintenance Technician, Plumbing & Pipefitting Technician

Related College Programs: Plumbing Technology, Construction Technology, Building Construction, Facilities Maintenance Technology, Construction Management, Mechanical Engineering Technology, Building Systems Technology



Digital Technology Cluster

Cluster Description: Modernizing Industries and Connecting Communities

Program of Studies: IT1640 Cybersecurity/Cisco Networking Academies (2 year program)

First-year students are scheduled for the AM session; second-year students are scheduled for the PM session.

Program of Studies Description: The Cisco Networking Academies Program of Studies provides general networking theory, practical experience, and opportunities for career exploration and soft-skills development. The curriculum teaches networking based on application, covering networking concepts within the context of network environments students may encounter in their daily lives—from small office and home office (SOHO) networking to more complex enterprise and theoretical networking models later in the curriculum. CCNA Discovery is designed for students with basic PC skills and foundational math and problem-solving skills. CCNA Discovery helps prepare students for entry-level career opportunities, continuing education, and globally recognized Cisco CCENT and CCNA certifications. *Dual Credit and/or articulation agreements will be available to students who successfully complete this course.*

Course Descriptions:

Semester 1: CCNA 1

1 Credit

WVEIS Code: 1654

This course provides a hands-on introduction to networking and the Internet using tools and hardware commonly found in the home and small business environment. Areas of study include computers and applications, operating systems, connecting to a network, connecting to the Internet, network addressing, network services, wireless technologies, basic securities, and troubleshooting. Students demonstrate knowledge and technical expertise necessary to plan and implement small networks across a range of applications. Emphasis is placed on personal and professional ethics and students exploring careers.

Semester 2: CCNA 2

1 Credit

WVEIS Code: 1658

This course provides an introduction to routing and remote access, addressing, and network services. Areas of study include the Internet and its uses, ISP support, planning a network upgrade, planning an addressing structure, configuring network devices, routing, ISP services, and ISP responsibilities. Students demonstrate knowledge and technical expertise necessary to provide customer support to users of small-to-medium-sized networks and across a range of applications.

Semester 3: CCNA 3

1 Credit

WVEIS Code: 1659

This course provides more advanced configurations of switching and routing protocols, configuration of access control lists, and basic implementation of WAN links. Areas of study include networking in the enterprise, infrastructure, switching, addressing, routing with a distance vector protocol, routing with a link-state protocol, implementing enterprise WAN links, filtering traffic by using access control lists, and troubleshooting. Students demonstrate knowledge and technical expertise in using protocols to maximize enterprise LAN and WAN performance.

Semester 4: CCNA 4

1 Credit

WVEIS Code: 1660

This course provides an introduction to collecting customer requirements, translating those requirements into equipment and protocol needs, and creating a network topology which addresses the needs of the customer. Areas of study include network design concepts, gathering network requirements, characterizing the existing network, identifying application impacts on network designs, creating the network design, using IP addressing in the network design, prototyping campus networks, prototyping the WAN, and preparing the proposal.

First Year Electives:

**Computer Hardware
Networking**

1 Credit

WVEIS Code: 1692

1 Credit

WVEIS Code: 1694

Second Year Electives:

Security+

1 Credit

WVEIS Code: 1696

Fundamentals of Computer Systems

1 Credit

WVEIS Code: 1705

Example Job Titles: Data Center Support Specialist, Network Administrator, Network Systems Engineer, Network Service Technician, Database Administrator, Desktop Support Manager, Chief Information Officer, Computer and Information Systems Manager, Customer Support Specialist

Related College Programs: Cyber Security, Information Technology, Computer Information Technology, Information Security Major, Computer Engineering Comprehensive

Successful completion of one of the following fulfills the one computer science credit graduation requirement: 1696



Program of Studies: IT1470 Coding, AI and Game Design (1 year program)

Students can be scheduled in AM or PM

Program of Studies Description: Students with basic PC skills and foundational math and problem-solving skills who plan on pursuing postsecondary studies in the computer and information technology fields will explore various technologies used to develop, design and build websites, app and games.

Course Descriptions:

Semester 1: Coding, App and Game Design I

1 Credit

WVEIS Code: 1456

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.

Semester 1: Computer Science/Programming

1 Credit

WVEIS Code: 2831

This course introduces computer programming using the Python programming language. Students will learn the basics of programming concepts such as variables, data types, control structures, functions, and object-oriented programming. Through hands-on exercises and projects, students will develop problem-solving skills and learn to write clear, efficient code. By the end of the course, students will be able to design and implement simple programs, laying the foundation for further studies in computer science and software development.

Semester 2: Coding, App and Game Design II

1 Credit

WVEIS Code: 1457

This course is designed to further develop student knowledge and skills in developing apps and games using more advanced coding and graphic design including both 2D and 3D elements. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

Semester 2: Foundations of Programming Part 1

1 Credit

WVEIS Code: 2875

Foundations of Programming Part 1 is an introductory course designed to provide students with a solid understanding of the fundamental concepts and principles of computer programming. Through a combination of theoretical lectures and hands-on programming exercises, students will learn key programming concepts such as variables, data types, control structures, functions, and basic algorithms. The course will focus on building problem-solving skills and developing logical thinking abilities essential for programming. By the end of the course, students will have gained proficiency in writing and debugging simple programs in a programming language such as Python, Java, or C++. This course serves as a prerequisite for more advanced programming courses and provides a solid foundation for further studies in computer science and software development.

Example Job Titles: Web Designer, Web Developer, Application Development, Game Design, Game Development, IT Sales and Marketing, Project Management, Flash Developer, Javascript Programmer, Java Programmer

Related College Programs: Game Software Development, Game and Simulation Programming, Graphic Design, Audio Developer

Successful completion of one of the following fulfills the one computer science credit graduation requirement: 1456, 1457, 2831, 2875



Education Cluster

Cluster Description: Transforming Lives and Enriching Futures Through Lifelong Learning

Program of Studies: ED1320 Early Childhood Classroom Teacher Assistant (2 year program)

First-year students are scheduled for the PM session; second-year students are scheduled for the AM session.

Program of Studies Description: This course is designed for students who want to pursue postsecondary training in early childhood education. Students learn childhood physical development, social-emotional development, language development, learning through play, developmental theory, and legal and ethical situations that may arise between caregiver and parent, caregiver and child, or caregiver and coworkers. Students will work with the children in the on-site day care. The ECE Program of Studies focuses on the (CDA) and/or AAFCS Pre-PAC Certification in Early Childhood Education.

Dual Credit and/or articulation agreements will be available to students who successfully complete this course.

Course Descriptions:

Semester 1: Childhood Development

1 Credit

WVEIS Code: 1321

This course is designed to focus on the various physical, cognitive, social, emotional, and moral development, environments and social institutions, family life, demographics, and culture influencing human growth and development. This course also provides information and activities for guiding behavior and meeting the needs of special age groups. This course includes organizational strategies and systems and the use of appropriate resources and assessments to advance learning in a variety of organizational structures. Observation in an approved school setting is a part of this course. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real-world learning opportunities and instruction. Students are encouraged to become active members of the Educators Rising Career Technical Student Organization. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and skill sets.

Semester 2: Special Needs Inclusion

1 Credit

WVEIS Code: 1322

This course is designed to focus on understanding how to facilitate activities that will promote learning within inclusive early childhood classrooms. The course provides information and activities on the IEP Process, modifications, and accommodations for students with disabilities, school readiness, confidentiality, and family communications. Observation in an approved school setting is a part of this course. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real-world learning opportunities and instruction. Students are encouraged to become active members of the Educators Rising Career Technical Student Organization. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and skill sets.

Semester 3: Early Learning: Language and Literacy

1 Credit

WVEIS Code: 1323

This course is designed to focus on understanding how to facilitate developmentally appropriate activities that will promote an understanding of language and literacy learning for early childhood students in their classes. The course provides information and activities on language development, read aloud and storytelling, phonological awareness, and creating a functional print rich environment. Extensive observation and actual classroom teaching experience in an approved school setting is a part of this course. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real-world learning opportunities and instruction. Students are encouraged to become active members of the Educators Rising Career Technical Student Organization. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and skill sets.

Semester 4: Early Learning: Numeracy

1 Credit

WVEIS Code: 1324

This course is designed to focus on understanding how to facilitate developmentally appropriate activities that will promote mathematical understandings for early childhood students in their classes. The course provides information and activities on counting and cardinality, shapes and space, and mathematical operations. This course also provides information on how to integrate mathematical habits of mind. Extensive observation and actual classroom teaching experience in an approved school setting is a part of this course. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts. Teachers should provide each student with real-world learning opportunities and instruction. Students are encouraged to become active members of the Educators Rising Career Technical Student Organization. All West Virginia teachers are responsible for classroom instruction that integrates learning skills, technology tools, and skill sets.



First Year Electives:**Human Development****1 Credit****WVEIS Code: 0904****Work Based Integration and Transition****1 Credit****WVEIS Code: 0520****Second Year Electives:****Learning for Independence Family & Employment****1 Credit****WVEIS Code: 0929****Fundamentals of Human Services****1 Credit****WVEIS Code: 0928**

Example Job Titles: Teacher, Child Care Worker, Licensing Specialist, Teacher Aide, Social Worker, Child Advocate, Interventionist, Speech and Language Pathologist, Special Needs Teacher, Curriculum Developer, Children's Entertainment.

Related College Programs: Occupational Development, Elementary/Early Childhood Education, Psychology, Social Work



Healthcare & Human Services Cluster

Cluster Description: Supporting the Whole Health of Individuals, Families, and Communities

Program of Studies: HE0715 Allied Health Sciences (1 year program)

Students can be scheduled in AM or PM

Program of Studies Description: The Allied Health Program is a one-year program. The program consists of four core courses: Foundations of Health Science, Advanced Principles of Health Science, Electrocardiograph Technician, and Phlebotomy. Students enrolled in the program will get hands-on experience in labs, physicians' offices, and other health care settings. Students will gain healthcare knowledge and skills such as drawing blood, performing EKGs, and obtaining vital signs. Upon completion of the program, students will be eligible to earn certification in phlebotomy, EKGs, CPR/First Aid, and OSHA.

***NOTE: A minimum course completion score of 80% is required to progress to the next course.**

Course Descriptions:

Semester 1: Foundations of Health Science

1 Credit

WVEIS Code: 0711

This course is designed to allow instructional content to focus on basic medical terminology, growth and development, nutrition, health maintenance practices, and health care 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 are provided with opportunities to acquire certification in these areas.

Semester 2: Advanced Principles of Health Science

1 Credit

WVEIS Code: 0715

Instructional content focuses on health care 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 incorporates project- and problem-based health care practices and procedures to demonstrate the importance of these skills. Students will develop basic technical skills required for all health care specialties including patient privacy, communication, teamwork and occupational safety and be provided with opportunities to obtain certifications in HIPAA/Data Privacy and health care safety.

Semester 1: Electrocardiograph Technician

1 Credit

WVEIS Code: 0810

Instructional content will focus on basic operation of a 12-lead electrocardiograph machine, explanation of the Einthoven triangle related to the cardiac system. Students will identify the anatomic position of each of the chest leads, prepare a patient for a 12-Lead EKG, maintain the EKG machine, and maintain EKG tracings in the patient's chart. The student will interpret and evaluate electrocardiogram tracing. Students participate in clinical practicum for the EKG Technician. Clinical experiences may occur in a variety of settings that utilize EKG monitors.

Semester 2: Phlebotomy

1 Credit

WVEIS Code: 0825

Instructional content will focus on performing laboratory duties requiring accuracy, timeliness, and documentation. The student will be able to function in the laboratory setting, utilizing these skills. This course will enhance the students' knowledge of safety procedures as they relate to phlebotomy.

They will be provided with the knowledge and skills necessary to maintain the standard procedures required for a laboratory. Legal and ethical issues to consider in the profession are an integral part of this course. The phlebotomist must be able to recognize appropriate methods for analyzing specimens. In this course, the student will learn these methods for collecting and processing the specimen to be analyzed. This externship is designed to provide students with hands-on experience in a clinical, physician's office, or laboratory setting. They are required to complete certification requirements, which could require not less than 50 hours and up to 120 hours in the externship to receive credit for the course.

Example Job Titles: Nurse, Doctor, Therapist, Counselor, Veterinarian, Surgical Technician, Dietician/Nutritionist, Physical Therapist, Insurance Coder, Laboratory Technician

Related College Programs: Veterinary Science, Nursing, Pre-Medicine, Internal Medicine, Radiology, Physician Assistant, Resident Nursing Assistant, Surgical Technology, Physical Therapy, Sports Medicine, Psychology



Program of Studies: HE0723 Therapeutic Services (2 year program)

Students can be scheduled in AM or PM

Program of Studies Description: The Therapeutic Services program allows the students to experience healthcare through exploring careers and being fully emerged into the world of healthcare. Students will learn Measuring/Assessing and Recording Vital Signs, Nursing Assistant Skills, First Aid, CPR, Medical Terminology, Patient Care such as bathing, grooming, and transporting. Students experience what it's like to work as a unit, make policy, use critical thinking to discuss ethical or medical scenarios, and educate the community around you. This course also prepares students who eventually want to enter into veterinary care.

***NOTE: A minimum course completion score of 80% is required to progress to the next course.**

Course Descriptions:

Semester 1: Foundations of Health Science

1 Credit

WVEIS Code: 0711

This course is designed to allow instructional content to focus on basic medical terminology, growth and development, nutrition, health maintenance practices and health care 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 are provided with opportunities to acquire certification in these areas.

Semester 2: Advanced Principles of Health Science

1 Credit

WVEIS Code: 0715

Instructional content focuses on health care 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 incorporates project- and problem-based health care practices and procedures to demonstrate the importance of these skills. Students will develop basic technical skills required for all health care specialties including patient privacy, communication, teamwork and occupational safety and be provided with opportunities to obtain certifications in HIPAA/Data Privacy and health care safety.

Semester 3: Clinical Specialty I

1 Credit

WVEIS Code: 0789

This course is designed to allow the student to choose a career work-based experience from the following specializations: Select 1: Home Health Aide (A) Nursing Assistant (B) Certified Patient Care Technician (C) ECG Certified Technician (D) Health Unit Coordinator (E) Physical Therapy Aide(F) Veterinary Science Aide.

Upon successful completion of the prerequisite courses in the Health Science Education Program of Studies, students are provided the opportunity in Clinical Specialty 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. Within this course, students focus upon leadership, employability skills and career development, and apply health care information technology and technical skills. Instruction incorporates project- and problem-based healthcare practices and procedures to demonstrate the criticality of these skills. Due to health care industry standards, exemplary attendance is mandatory.

Semester 4: Clinical Specialty II

1 Credit

WVEIS Code: 0790

This course is designed to allow the student to choose a career work-based experience from the following specializations: Select 1: Patient Care Technician (G) Veterinary Aide (H) Health Unit Coordinator (M) Family Caregiver.

Upon successful completion of the prerequisite course, Clinical Specialty I, students are 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 standards and skill sets that must be mastered before students are eligible to attain established credentials and/or industry validation. Within this course, students focus upon leadership, employability skills and career development, and apply health care information technology and technical skills. Instruction incorporates project- and problem-based health care practices and procedures to demonstrate the criticality of these skills. Due to health care industry standards, exemplary attendance is mandatory.

First Year Electives:

Medical Terminology

1 Credit

WVEIS Code: 0721

Nutrition and Wellness

1 Credit

WVEIS Code: 0739



Second Year Elective:

Health Science Clinical Experience
Employment in Health Occupations

1 Credit
1 Credit

WVEIS Code: 0730
WVEIS Code: 0710

Example Job Titles: Nurse, Doctor, Therapist, Counselor, Veterinarian, Surgical Technician, Dietician/Nutritionist, Physical Therapist, Insurance Coder, Laboratory Technician

Related College Programs: Veterinary Science, Nursing, Pre-Medicine, Internal Medicine, Radiology, Physician Assistant, Resident Nursing Assistant, Surgical Technology, Physical Therapy, Sports Medicine, Psychology

Successful completion of one of the following fulfills the third science credit graduation requirement: 0711, 0715 and either 0789 or 0790



Hospitality, Events, & Tourism Cluster

Cluster Description: Unlocking Adventures and Elevating Experiences

Program of Studies: HO1010 ProStart Restaurant Management (2 year program)

Students can be scheduled in AM or PM

Program of Studies Description: Students in this program will learn to create, plan, budget, cost, and execute menus, caterings, special events and run the class like a functioning professional kitchen, restaurant, cafeteria or food service establishment. Students will master cutting and chopping techniques, cooking and baking fundamentals, menu preparation, budgeting and costing, and event planning. ProStart is a restaurant industry-driven curriculum developed by the National Restaurant Association Educational Foundation.

Courses:

Restaurant and Culinary Foundations	1013 (2028-29)	Semester 1
Restaurant Management Essentials	1014 (2028-29)	Semester 2
Advanced Principles in Food Production	1019 (2027-28)	Semester 1
The Restaurant Professional	1020 (2027-28)	Semester 2

Elective Courses:

Hospitality Products and Service	1015 (2028-29)	Semester 1
Food Service Management Practice	1016 (2028-29)	Semester 2
Baking and Pastry Applications	1018 (2027-28)	Semester 1
Work Based Integration and Transition	0520 (2027-28)	Semester 2

Course Descriptions:

Restaurant and Culinary Foundations

1 Credit

WVEIS Code: 1013

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

Restaurant Management Essentials

1 Credit

WVEIS Code: 1014

This course is designed to focus management essentials in the restaurant industry, guest service, food production, and career exploration and pursuit. Students are encouraged to become active members of SkillsUSA, which is an integral component of the program and provides curricular opportunities that enhance student achievement. Teachers utilize relevant SkillsUSA activities to support experiential learning.

Advanced Principles in Food Production

1 Credit

WVEIS Code: 1019

This course is designed to examine advanced food production, nutrition, and cost control. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

The Restaurant Professional

1 Credit

WVEIS Code: 1020

This course is designed to provide content related global cuisine, sustainability, desserts and baked goods, and marketing. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

Electives:

Hospitality Products and Service	1 Credit	WVEIS Code: 1015
Food Service Management Practice	1 Credit	WVEIS Code: 1016
Baking and Pastry Application	1 Credit	WVEIS Code: 1018
Work Based Integration and Transition	1 Credit	WVEIS Code: 0520

Example Job Titles: Research Chef, Executive Chef, Food & Beverage Director, Beverage Manager, Dietitian, Executive Steward, Catering Manager, Food Stylist, Food Photographer, Banquet Manager

Related College Programs: Culinary Arts, Baking and Pastry, Food Service Management, Food & Beverage Management, Hospitality and Tourism Management



Public Service & Safety Cluster

Cluster Description: Shaping, Serving, and Protecting Our Community

Program of Studies: LA2200 Emergency and Firefighting Management Services (2 year program)

First-year students are scheduled for the PM session; second-year students are scheduled for the AM session.

Program of Studies Description: The Emergency and Firefighting Management Services Program of Studies focuses on the knowledge and skills to be first responders to fires and other emergencies and to manage services within the field.

Course Descriptions:

Semester 1: Fire Fighting I

1 Credit

WVEIS Code: 2203

Students will learn basic fundamentals of firefighting. Students 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.

Semester 2: Industrial Hazardous Materials

1 Credit

WVEIS Code: 2251

Students will learn the fundamentals of industrial management and industrial hazardous materials.

Semester 3: Fire Fighting II

1 Credit

WVEIS Code: 2205

Students will learn 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. Students will analyze emergency scenes to develop and execute emergency action plans; cover a fire scene and demonstrate proper procedure to preserve property and the chain of evidence when presented with evidence of criminal activity; analyze the role of the first responder to acts of terrorism; and analyze and demonstrate the role of fire service in fire prevention and education in the community.

Semester 4: Industrial Incident Command

1 Credit

WVEIS Code: 2250

Students will learn the basic incident command fundamentals of the National Incident Management Systems (NIMS) protocols in response to industrial fire protection and industrial manufacturing and petrochemical incidents.

First Year Electives:

Fire Science Technology

1 Credit

WVEIS Code: 2202

Auto Extrication

1 Credit

WVEIS Code: 2208

Second Year Electives:

Driver/Pump Operator

1 Credit

WVEIS Code: 2209

Work Based Integration and Transition

1 Credit

WVEIS Code 0520

Example Job Titles: Firefighter, EMT, Health Care Provider, Fire Officer, Fire Investigator, Paramedic, Safety Officer, Haz-Mat Specialist

Related College Programs: Fire Prevention and Safety Technology, Fire Science / Fire-fighting, Occupational Safety, Safety Management



Program of Studies: LA1020 Law and Public Safety (2 year program)

Students can be scheduled in AM or PM

Program of Studies Description: The Law and Public Safety Program of Studies focuses on methods used by public safety leaders to protect a democratic society. A strong academic background is recommended for students interested in applying for this program. Students will participate in debates over legal and ethical issues, become a member of a CSI team and investigate staged crime scenes, participate in mock trials and intern in a criminal justice related field, learn and practice proper arrest procedures, practice tactical communication, operate a police car and conduct traffic stops.

Courses:

Fundamentals of Public Safety Leadership	1225 (2028-29)	Semester 1
Ethical Issues of Public Safety Leadership	1226 (2028-29)	Semester 2
Practical Applications Public Safety	1039 (2027-28)	Semester 1
Seminar in Courts and Legal System	1031 (2027-28)	Semester 2

Elective Courses:

Public Safety and Wellness	1055 (2028-29)	Semester 1
Seminar in Law Enforcement	1035 (2028-29)	Semester 2
Principles of Investigation	1032 (2027-28)	Semester 1
Work Based Integration & Transition	0520 (2027-28)	Semester 2

Course Descriptions:

Foundations of Public Safety Leadership

1 Credit

WVEIS Code: 1225

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. Students utilize problem-solving techniques and participate in hands-on activities to develop an understanding of course concepts.

Ethical Issues of Public Safety Leadership

1 Credit

WVEIS Code: 1226

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. By examining societal and psychological stressors that contribute to behavior, 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.

Practical Applications Public Safety

1 Credit

WVEIS Code: 1039

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 (Criminal Justice) field including ethics, teamwork, and professionalism. Students may participate in activities associated with Public Safety agencies (such as county and local law enforcement, county judicial offices, correctional facilities, training academies, social services, etc.) for hands-on or work-based experiences. Preparation includes construction of a portfolio that can be utilized in obtaining employment upon completion of the student's program.

Seminar in Courts and Legal System

1 Credit

WVEIS Code: 1031

This course is designed to provide students with fundamental principles of the court system. Students will learn about the various levels of the judicial system, criminal law procedures, police concepts and skills, court processes and procedures, and legal case management. Students are encouraged to become active members of the student organization SkillsUSA.

Electives:

Public Safety and Wellness

1 Credit

WVEIS Code: 1055

Seminar in Law Enforcement

1 Credit

WVEIS Code: 1035

Principles of Investigation

1 Credit

WVEIS Code: 1032

Work Based Integration & Transition

1 Credit

WVEIS Code: 0520



Example Job Titles: Police Officer, State Trooper, Game Warden, Detective, Crime Scene Investigator, FBI Special Agent, DEA Agent, Secret Service Special Agent, Border Patrol Agent, Correctional Officer

Related College Programs: Criminology, Criminal Justice, Administration of Justice, General Law



Supply Chain & Transportation Cluster

Cluster Description: Driving Efficiency and Streamlining Tomorrow's Transport

Program of Studies: ST2200 AC Aerospace Engineering (SREB Advanced Careers Program) (2 year program)

First-year students are scheduled for the AM session; second-year students are scheduled for the PM session.

Program of Studies Description: The Aerospace Engineering program of study is designed to prepare students for careers and further study in aerospace technologies and related industries. The program's course sequence will provide students with the opportunity to apply concepts and principles of atmospheric flight and space flight to authentic situations with an emphasis on propulsion systems, ballistic projectiles, airplane wing design, aerodynamic forces, pneumatic projectiles and quality management and enhance their knowledge of space through a series of projects that include in-depth research, concept application and prototype development.

Students will receive weighted Credit for grades earned in the four core courses. Dual Credit and/or articulation agreements will be available to students who successfully complete this course. It is strongly recommended that students have successfully completed honors mathematics and/or English prior to enrolling in this program.

Course Descriptions:

Semester 1: AC Aerospace Engineering I

1 Credit (Weighted)

WVEIS Code: 1540

This course is designed to prepare students for careers and further study in aerospace technologies and related industries. Students apply fundamental concepts and principles of atmospheric flight to authentic situations. Emphasis is placed on propulsion systems, ballistic projectiles, and airplane wing design.

Semester 2: AC Aerospace Engineering II

1 Credit (Weighted)

WVEIS Code: 1541

This course is designed to deepen students' preparation for careers and further study in aerospace technologies and related industries. Students apply advanced principles and theories of flight to authentic projects related to atmospheric and space flight. Emphasis is placed on pneumatic projectiles, aerodynamic forces, and quality management.

Semester 3: AC Aerospace Engineering III

1 Credit (Weighted)

WVEIS Code: 1542

This course allows students to further enhance their knowledge of space through a series of projects that include in-depth research, concept application, and prototype development. Students will begin to develop a capstone project, complete a prototype.

Semester 4: AC Aerospace Engineering IV

1 Credit (Weighted)

WVEIS Code: 1543

This course is designed to enhance students' knowledge of flight. Students will be engaged in projects that require extensive research, concept application and prototype development. The capstone project will be presented and defended before a select panel of reviewers.

First Year Electives:

Aviation Fundamentals I

1 Credit

WVEIS Code: 2012

Aviation Fundamentals II

1 Credit

WVEIS Code: 2013

Second Year Electives:

FAA Part 107 Ground School

1 Credit

WVEIS Code: 1887

FAA Part 107 Flight Operations

1 Credit

WVEIS Code: 1888

Example Job Titles: Aeronautical Engineer, Mechanical Engineer, Aircraft/Spacecraft Designer, Data Processing Manager, Military Aerospace Engineer, Inspector and Compliance Officer, Aeronautical Drafter, Aerospace Technician, Mission or Payload Specialist

Related College Programs: Aerospace Engineering, Mechanical Engineering, Physics, Mathematics, Space Studies



Program of Studies: TR1620 Automotive Technology (2 year program)

First-year students are scheduled for the PM session; second-year students are scheduled for the AM or PM session.

Program of Studies Description: The Automotive Technology Program of Studies focuses on building a knowledge base and technical skills in all aspects of the automotive industry. Students have the opportunity to acquire hours towards certification and be exposed to skills that develop positive work ethics.

Course Descriptions:

Semester 1: Automotive Technology MLR-1

1 Credit

WVEIS Code: 1631

This course introduces the student to the knowledge base and technical skills as they relate to the field of Automotive Technology. In the Fundamentals of Automotive Technology class areas of study include career opportunities and practices, basic safety, tool and equipment, measuring tools and equipment, automotive specifications, electrical system basics, battery service, wheel and tire service, cooling and lubrication systems, and student organizations.

Semester 2: Automotive Technology MLR-2

1 Credit

WVEIS Code: 1623

Basic Engine Concepts continues to build student skill sets in areas such as general engines, diagnosis of cylinder head and valve train, diagnosis and repair of engine block, and diagnosis and repair of lubrication and cooling systems. Students will also develop skills in diagnosing engine performance problems with handheld diagnostic computers, trouble Code charts and computer-based programs.

Semester 3: Automotive Technology MLR-3

1 Credit

WVEIS Code: 1625

Brake Systems continues to build student skill sets in areas such as diagnosis and repair of hydraulics systems, diagnosis and repair of drum brakes, diagnosis and repair of disc brakes, power assist systems, and antilock brake systems. Students will comply with personal and environmental safety practices associated with proper ventilation, handling, storage, and disposal of brake components.

Semester 4: Automotive Technology MLR-4

1 Credit

WVEIS Code: 1637

Suspension and Steering continues to build student skill sets in areas such as diagnosis and repair of steering systems, diagnosis and repair of front suspension systems, diagnosis and repair of rear suspension systems, miscellaneous suspension and steering systems, and diagnosis and adjust wheel alignment.

First Year Electives:

Automotive Technology AST-1

1 Credit

WVEIS Code: 1629

Automotive Technology AST-2

1 Credit

WVEIS Code: 1633

Second Year Electives:

Automotive Technology AST-3

1 Credit

WVEIS Code: 1635

Automotive Technology AST-4

1 Credit

WVEIS Code: 1627

Example Job Titles: ASE Master Automobile Technician, Service Writer, Shop Foreman, Service Manager, Parts Specialist, Parts Manager, Shop Owner

Related College Programs: Mechanical Engineering and Automotive Design, Automotive Technician, Analysis & Repair, Applied Technologies, Auto Technology



Program of Studies: TR1740 Diesel Equipment Technology (2 year program)

Students can be scheduled in AM or PM

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

Courses:

Fundamentals of Diesel Equipment Technology	1751 (2028-29)	Semester 1
Diesel Engine Components	1741 (2028-29)	Semester 2
Diesel Support Systems	1747 (2027-28)	Semester 1
Electronic Engine Controls	1744 (2027-28)	Semester 2

Elective Courses:

Diesel Preventive Maintenance and Inspection	1745 (2028-29)	Semester 1
Diesel Electrical System	1742 (2028-29)	Semester 2
Diesel Truck Chassis Concepts	1749 (2027-28)	Semester 1
Diesel Engine Tune-ups and Troubleshooting	1743 (2027-28)	Semester 2

Course Descriptions:

Fundamentals of Diesel Equipment Technology

1 Credit

WVEIS Code: 1751

This course introduces the student to the knowledge base and technical skills as they relate to the field of Fundamentals of Diesel Equipment Technology. In the Fundamentals of Diesel Equipment Technology class 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.

Diesel Engine Components

1 Credit

WVEIS Code: 1741

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. Safety instruction is integrated into all activities.

Diesel Support Systems

1 Credit

WVEIS Code: 1747

This course introduces the student to the knowledge base and technical skills as they relate to Diesel Support Systems. In the Diesel Support Systems class areas of study include lubrication 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.

Electronic Engine Controls

1 Credit

WVEIS Code: 1744

This 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 is placed on career exploration, job seeking skills, and personal and professional ethics. Safety instruction is integrated into all activities.

Electives:

Diesel Preventive Maintenance and Inspection

1 Credit

WVEIS Code: 1745

Diesel Electrical System

1 Credit

WVEIS Code: 1742

Diesel Truck Chassis Concepts

1 Credit

WVEIS Code: 1749

Diesel Engine Tune-ups and Troubleshooting

1 Credit

WVEIS Code: 1743

Example Job Titles: Mechanic, Diesel Mechanic, Bus Mechanic, General Repair Mechanic, Diesel Technician, Truck Mechanic, Service Technician, Preventive Maintenance Technician

Related College Programs: Diesel Technology, Automotive Technology, Applied Technologies, Aviation Maintenance Technology