

**WEST VIRGINIA COLLEGE- AND CAREER-READINESS PROGRAMS OF STUDY/STANDARDS  
FOR CAREER TECHNICAL EDUCATION (2520.13)**

**Introduction**

Policy 2520.13 has been developed with the goal of preparing students for a wide range of high-quality postsecondary opportunities within a Simulated Workplace environment. Specifically, college- and career-readiness refers to the knowledge, skills, and dispositions needed to be successful in obtaining an entry-level job and continued training in a specific craft and/or higher education that all lead to gainful employment. Policy 2520.13 establishes a set of knowledge and skills that are needed to transition into the workplace or higher education, as both realms share many expectations. All students, throughout their educational experience, should develop a full understanding of the career opportunities available and the education necessary to be successful in their chosen pathway and a plan to attain their goals.

Committees of educators and representatives from business and industry from across West Virginia were convened to revise the specific standards for each CTE program of study. The overarching goal was to build a rigorous, dynamic, and challenging CTE career pathway that would prepare students for the workforce and/or postsecondary education. The committees focused their efforts on shaping the pathways to align with industry standards, industry-recognized certifications, research, and best practice in the field of CTE. The contribution of these professionals was critical in creating pathways that further define the College- and Career-Readiness Programs of Study/Standards and are meaningful to classroom teachers.

Policy 2520.13 assures the delivery of rigorous and relevant CTE pathways to all West Virginia students. These elements, when used to guide the instructional process and delivered with the creativity and instructional expertise of West Virginia teachers, will become a powerful resource for preparing students to meet today's challenges.

## Alphabetical Listing of State-Approved CTE Programs of Study and Clusters

Program of Study (POS)	POS #	Cluster
Advanced Medical Preparedness	HE1010	Health Science
Aerospace Engineering	ST2200	Science, Technology, Engineering, and Mathematics
Agribusiness Systems	AG0120	Agriculture, Food, and Natural Resources
Allied Health Sciences	HE0715	Health Science
Animal Processing	AG0230	Agriculture, Food, and Natural Resources
Animal Systems	AG0220	Agriculture, Food, and Natural Resources
Automotive Technology	TR1620	Transportation, Distribution, and Logistics
Aviation Maintenance Technician	MA1601	Manufacturing
Baking and Pastry	HO1015	Hospitality and Tourism
Biomedical Science	HE0780	Health Science
Broadcasting Technology	AV1680	Arts, A/V Technology, and Communications
Building Maintenance and Operations	AR1800	Architecture and Construction
Business Enterprise	BM1965	Business Management and Administration
Career and Work Skills Training (CWST)	BM0510	Business Management and Administration
Carpentry	AR1820	Architecture and Construction
Cisco Networking Academies	IT1640	Information Technology
Coding, AI and Game Design	IT1470	Information Technology
Collision Repair Technology	TR1670	Transportation, Distribution, and Logistics
Computer Aided Drafting and Design	AR1720	Architecture and Construction
Computer Science	IT2215	Information Technology
Computer Systems Repair Technology	IT1680	Information Technology
Dental Assisting	HE0700	Health Science
Diesel Equipment Technology	TR1740	Transportation, Distribution, and Logistics
Early Childhood Classroom Assistant Teacher	ED1320	Education and Training
E-Commerce	BM1960	Business Management and Administration
Electrical Technician	AR1760	Architecture and Construction
Emergency and Firefighting Management Services	LA2200	Law, Public Safety, Corrections, and Security
Energy and Power	ST2175	Science, Technology, Engineering, and Mathematics
Entrepreneurship and Innovation	BM1950	Business Management and Administration
Financial Management	FI1420	Finance
Forest Industry	AG0130	Agriculture, Food, and Natural Resources
Global Logistics and Supply Chain Management	TR2215	Transportation, Distribution, and Logistics
Graphic Design and Illustration	AV1840	Arts, A/V Technology, and Communications
HVAC Technician	AR1600	Architecture and Construction
Individual Work Ready Competencies (IWRC)	WV5502	West Virginia Specific Career
Industrial Equipment Maintenance	MA1870	Manufacturing
Industrial Robotics	MA1650	Manufacturing

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Information Management	IT1450	Information Technology
JROTC	GO1070	Government and Public Administration
Law and Public Safety	LA1020	Law, Public Safety, Corrections, and Security
Machine Tool Technology	MA1900	Manufacturing
Manufacturing: Production and Design	MA1910	Manufacturing
Marketing Management	MK0420	Marketing
Masonry	AR1910	Architecture and Construction
Millwork and Cabinetmaking	MA2120	Manufacturing
Multimedia Publishing	AV1684	Arts, A/V Technology, and Communications
Natural Resources Management	AG0170	Agriculture, Food, and Natural Resources
Pet Grooming	AG0223	Agriculture, Food, and Natural Resources
Plant Systems	AG0210	Agriculture, Food, and Natural Resources
Plumbing	AR2140	Architecture and Construction
Power Equipment Systems	TR1960	Transportation, Distribution, and Logistics
Power, Structural and Technical Systems	AG0110	Agriculture, Food, and Natural Resources
Pre-Cosmetology	HU2311	Human Services
Pre-Engineering	ST2460	Science, Technology, Engineering, and Mathematics
ProStart Restaurant Management	HO1010	Hospitality and Tourism
Robotics	MA1630	Manufacturing
School Service Personnel	HU2335	Human Services
Sign Language Translator	HU1038	Human Services
Social Journalism	AV1690	Arts, A/V Technology, and Communications
Social Services	HU2330	Human Services
Sports Medicine	HE0800	Health Science
Therapeutic Services	HE0723	Health Science
Tourism	HO1220	Hospitality and Tourism
Virtual Simulation and Game Development	IT1445	Information Technology
Welding	MA1980	Manufacturing

## Definitions

**Advanced Career Education (ACE).** Programs designed to provide adult students with specific workforce training. ACE programs offer credentials, certifications, and licenses at nationally accredited career centers.

**Advisory Councils.** Comprised of two to five members external to the institution. Each member shall have knowledge and expertise in the occupational field represented. The advisory committee meets twice annually (in-person or virtually), with two external members present at each meeting. The advisory committee must follow an agenda and maintain typed minutes.

**Alternate CTE Pathways.** These pathways are intended to offer at-risk students additional flexibility while meeting their career aspirations by providing them with marketable job skills and opportunities to test for nationally recognized certifications.

- Career Integrated Experiential Learning (CIEL) – See W. Va. 126CSR32, Policy 2444.4, Issuance of the State of West Virginia High School Equivalency Diploma and Option Pathway.
- Individual Work Read Competencies (IWRC) – A state-approved CTE career pathway that provides students with a current Individualized Education Program (IEP) the opportunity to gain valuable work readiness and occupational skills as determined by the Student Assistance Team.

**Career Technical Education (CTE).** Provides an important pathway to success for secondary students and offers students an opportunity to personalize their education based on career interests and unique learning needs.

**Career Technical Standards.** A set of rigorous, high-quality pathway standards that define what students should know and be able to do after completing instruction in a related CTE program.

**Career Clusters.** Broad groupings of related careers as defined by the United States Department of Education (ED) and United States (U.S.) Department of Labor – Occupational Classification.

**Career Experience.** On-the-job training (OJT) experiences with an evaluation component that is designed to enhance technical instruction and academic competencies. Each industry training shall have an annually signed agreement between the school and the participating business.

**Career Learning.** Connects meaningful community service experiences with classroom learning and civic responsibility, allowing students to apply academic concepts to authentic projects in the community.

**Career Pathways.** Subcategories of closely related careers under each of the 16 Career Clusters.

**Career Preparation.** Blends classroom instruction with work experience where students work with an employer for a specific period. Career Preparation experiences are paid or unpaid, curriculum-driven, work-based learning opportunities established by a CTE program of study or courses.

**Career Simulation.** Implements workplace protocols in the classroom that align with the West Virginia workforce requirements, including random drug testing, professionalism, attendance, and safety.

**Career Technical Student Organizations (CTSO).** CTSOs are integrated into programs of study as co-curricular activities and designated as nonprofit organizations. CTSOs are authorized by the U.S. Congress in Perkins V.

**Carl D. Perkins Career and Technical Education Act of 2006, as amended by the Strengthening Career and Technical Education for the 21<sup>st</sup> Century Act (Perkins V).** Develops the academic knowledge and technical/employability skills of secondary and postsecondary education students who elect to enroll in CTE programs. Perkins V requires secondary, postsecondary, and business/industry to work together to strengthen CTE for students. Funding may be used for occupationally relevant equipment, vocational curriculum materials, materials for learning labs, curriculum development or modification, professional learning, career counseling and guidance activities, efforts for academic-vocational integration, supplemental services for special populations, recruit and retain vocational staff, support student organizations, and the expansion of middle school vocational programs. Funds are allocated to county boards of education, multi-county vocational centers, schools of diversion and transition, and postsecondary institutions with CTE programs. State Determined Levels of Performance are utilized to assess the effectiveness of Perkins at the state, county, and school levels.

**Certification.** A designation earned by a person to assure qualification to perform a particular job or task and is approved by a recognized credentialing agency.

**Civil Rights.** Overseen by the U. S. Department of Education’s Office of Civil Rights (OCR) to assure the civil rights compliance programs of state agencies that administer CTE. Pursuant to federal guidelines, entitled Guidelines for Eliminating Discrimination and Denial of Services on the Basis of Race, Color, National Origin, Sex and Handicap in Vocational Education Programs (34 C.F.R. Part 100, Appendix B), state agencies are required to collect and analyze civil rights-related data, conduct periodic civil rights compliance reviews of selected subrecipients, notify subrecipients of violations and steps they must take to remedy unlawful discrimination, provide technical assistance upon request to subrecipients, and report these Methods of Administration (MOA) compliance activities and findings periodically to OCR.

**CTE Completer.** A student who has transcribed a full credit for each of the four core courses as defined within a state-approved CTE program of study and has completed the state-approved technical assessment.

**CTE Concentrator.** A student who has received at least two transcribed credits for core or survey courses in a state-approved or WVDE-recognized CTE program of study (grades 9-12).

**CTE Course Types:**

- **CTE Core Courses.** State-approved courses that appear as a primary or specialized course in a program of study.
- **CTE Enrichment Course.** State-approved optional courses provide enhanced opportunities to build upon CTE courses to meet student needs, interests, abilities, and goals.
- **CTE Exploratory Course.** A state-approved middle school non-credit-bearing course for exploring careers.
- **CTE Survey Course.** A WVDE-recognized experiential learning course.

**CTE Multi-Completer.** A student who has transcribed a full credit for each of the four core courses as defined within a state-approved CTE program of study and has completed the state-approved technical assessment for more than one CTE program of study.

**CTE Participant.** A student who receives a minimum of one transcribed credit for a state-approved CTE-core or enrichment, or a WVDE-recognized survey course.

**CTE Portfolio.** A resume and a collection of documents showcasing an individual's learning experiences, goals, and achievements.

**CTE Program Categories:**

- CTE Concentration. A locally approved sequence of four CTE courses.
- State-approved CTE program of study. Four CTE courses, as defined within a CTE program of study, that address state economic labor market needs as verified by Workforce data and lead to an industry-recognized credential/certificate or postsecondary education.
- CTE Survey program of study. A WVDE-recognized experiential learning program of study. Survey programs of study are made up of survey courses and do not include a state-approved technical assessment. Students taking a survey program of study are not eligible for completer status.

**CTE School Types:**

- CTE in High School. A high school offering four or fewer career clusters.
- Comprehensive High School. A high school offering career clusters based on the student population. Schools with a population of:
  - 0-400 students must offer a minimum of three career clusters,
  - 401-800 students must offer a minimum of four career clusters, or
  - 801+ students must offer a minimum of five career clusters.
- County Career Center. A career center that services students from the county in which it is located.
- Multi-county Career Center. Two or more contiguous counties joined together to provide programs at a CTE center that serves students from all participating counties. Refer to W. Va. 126CSR71, Policy 3232, Establishment Procedures and Operating Policies for Multi-county Career and Technical Education Centers.
- CTE in Specialized Facilities. A state-approved facility (e.g., West Virginia Schools for the Deaf and Blind, West Virginia Schools of Diversion and Transition) offering students CTE opportunities.

**Earn a Degree-Graduate Early (EDGE).** An opportunity that provides students with both high school and college technical education credit at the discretion of the postsecondary institution. Such an opportunity must meet both the specified content standards for the secondary offerings and the college course requirements.

**Embedded Credit.** Definition found in Policy 2510, Glossary of Terms.

**Fulfillment Credit.** A state-approved CTE course or courses that fulfill a graduation requirement as outlined in Policy 2510.

**Industry Recognized Credentials/Certificates.** Certifications, licenses, or certificates business and industry recognize as valuable and illustrate an individual's understanding and/or mastery of technical knowledge.

**Personal Protective Equipment (PPE).** Appropriate industrial-quality protective-ware provided, used, and maintained in a sanitary and reliable condition where it is necessary by reason of hazards processes/environments, chemical and radiological hazards, or mechanical irritants encountered in a manner capable of causing injury/impairment to any part of the body. Types of protective-ware include, but are not limited to, protective clothing, respiratory devices, and protective shields and barriers used to protect eyes, ears, face, head, and extremities. PPE shall be worn by every student, instructor, or any other person in educational programs, laboratories, or shops in the public schools of West Virginia when instructional/observational activities are such that students, instructors, or other persons are exposed to:

- a. flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation;
- b. air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, with the primary objective being the prevention of atmospheric contamination;
- c. powered milling, sawing, turning, shaping, cutting, sanding, grinding, or stamping of any solid materials;
- d. hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes;
- e. foot injuries due to falling or rolling objects, or objects piercing the sole, or when the use of protective footwear will protect the affected individual from an electrical hazard, such as a static-discharge or electric-shock hazard, that remains after the employer takes other necessary protective measures;
- f. potential for injury to the head from falling objects;
- g. heat treatment, tempering, or kiln firing of any metal or other materials;
- h. gas or electric arc welding or other forms of welding processes and injurious radiations or other hazards not enumerated;
- i. caustic or explosive materials and hot liquids or solids; and
- j. occupational noise at or above 85 decibels for an extended period of time (National Institute for Occupational Safety and Health [NIOSH]).

**Positive Job Placement.** CTE completers who secure a job, continue their education, or join the military.

**Safety Assessment.** An instructor-developed and administered general and equipment specific safety exam. The general safety exam covers generalities across the spectrum for each program and is a written exam. The equipment specific exam has both a written and performance component for each piece of equipment to which the student has access. EVERY student must pass ALL safety exams with a score of 100 percent before having access to available equipment.

**Safety Environment.** Requires that equipment and devices shall meet or exceed the minimum requirements under Section 6 of the Occupational Safety and Health Standards Act of 1970, specifically Subpart I of 29-CFR1910 and the appropriate standards published by the American National Standards Institute, the National Fire Prevention Association, and the National Institute for Occupational Safety and Health. The selection, maintenance, and use of this equipment shall be governed as incorporated under Section 6 of the Act (OSHA).

**State-Approved CTE Programs List.** Identifies the programs of study recognized by the WVDE for accountability and funding.

**Supervised Agricultural Experience (SAE).** A unique aspect of agricultural education providing students an opportunity to apply knowledge and skills gained in the classroom to authentic work experiences

outside the classroom in Exploratory, Research, Work Placement, and Entrepreneurship areas. Every student enrolled in an agriculture program of study is required to develop an SAE. To complete the program of study, the student must implement an SAE and keep online financial records of all transactions for two years using a state-approved data system. To best accommodate the SAE process, county boards of education may extend teacher contracts to ensure proper student supervision during summer months, thus extending work-based learning opportunities.

**Technical Assessment.** A business/industry-designed assessment given to CTE students to measure the attainment of career-related technical skills as it relates to their program of study.

**West Virginia College- and Career-Readiness Programs of Study/Content Standards.** The culminating collection of specific technical skills students should be able to accomplish after completing instruction from a state-approved CTE course, to include the particular category of craft knowledge, abilities, and experience required to perform the necessary tasks within a specific profession.

**Work-Based Learning.** Provides students with authentic work experience related to technical instruction and academic competencies.



## CTE Initiatives

### **Classroom 2 Career**

Work-based learning opportunities categorized by Career Simulation, Career Learning, Career Preparation, and Career Experience to include, but are not limited to, service-learning projects, co-curricular work experience, entrepreneurial experiences, externships, internships, and apprenticeships.

### **Governor's Workforce Credential**

A credential awarded by West Virginia's Governor to CTE completers who achieve a rigorous set of standards within their state-approved CTE program of study and demonstrate exemplary performance within the emerging workforce. Graduating completers must successfully meet the established criteria as referenced in the Guidance Document of Policy 2520.13.

### **Middle School CTE**

Middle school CTE allows students to navigate a variety of career-focused programs through engaging, hands-on activities. The WVDE offers three initiatives that allow students to explore CTE in their classroom: Discover Your Future, PLTW Gateway, and Empowerment Collaborative.

### **Simulated Workplace**

An instructional environment that creates a high-quality workplace culture, providing students with opportunities to learn business/industry processes and procedures.

All state-approved secondary CTE programs require a shift to a workplace environment exposing students enrolled in the first and second program courses and fully implementing the following required protocols in the third and fourth program courses.

- Student Led Companies
- Application/Interview Structure
- Formal Attendance System
- Drug-Free Work Zone
- 6S Environments
- Safe Work Areas
- Workplace Teams
- Project Based Learning/Student Engagement
- Company Name and Handbook
- Company Meetings
- Onsite Business Reviews
- Accountability (Data review, report, and technical assessments.)

## CTE Middle School Courses

**CTE Exploratory Courses**

<b>0159</b>	Case AgXplore
<b>0700</b>	Exploring Health Professions
<b>0970</b>	Future Careers
<b>0971</b>	Regional Careers
<b>0972</b>	Discover Your Future
<b>0975</b>	Exploring Touring in West Virginia
<b>1893</b>	Gateway Automation and Robotics
<b>1894</b>	Gateway Design and Modeling
<b>1895</b>	Gateway Energy and Environment
<b>1896</b>	Gateway Flight and Space
<b>1897</b>	Gateway Green Architecture
<b>1898</b>	Gateway Magic of Electrons
<b>1899</b>	Gateway Science of Technology
<b>1900</b>	Gateway Medical Detectives
<b>1918</b>	Gateway App Creators
<b>1920</b>	Gateway Computer Science for Innovators and Makers
<b>2406</b>	Middle Exploring Technology 6
<b>2407</b>	Middle Exploring Technology 7
<b>2408</b>	Middle Exploring Technology 8
<b>7630</b>	Career Exploration

**CTE courses that 8<sup>th</sup> grade students may take for high school graduation credit.**

<b>0101</b>	Introduction to Agriculture Food and Natural Resources
<b>0766</b>	Human Body Systems
<b>0903</b>	Parenting and Strong Families
<b>0954</b>	Foundational Food Preparation
<b>1211</b>	Introduction to Tourism
<b>1411</b>	Business Computer Applications 1
<b>1441</b>	Keyboarding
<b>1700</b>	Technical Computer Application 1
<b>2458</b>	Engineering Essentials
<b>2811</b>	Basic Computer
<b>2816</b>	Basic Programming

## CTE High School Enrichment Courses

**CTE High School Enrichment Courses**

<b>0133</b>	Agricultural Cooperative Education
<b>0146</b>	Leadership Development
<b>0201</b>	Grounds Maintenance
<b>0234</b>	Agricultural Experience Program 2
<b>0434</b>	Sports, Entertainment, and Recreation Marketing
<b>0520</b>	Work-Based Integration and Transition 1
<b>0522</b>	Ready to Work 1
<b>0523</b>	Entrepreneurial Preparedness
<b>0524</b>	Ready to Work 2
<b>0525</b>	Classroom 2 Career
<b>0615</b>	Certified Nursing Assistant
<b>0617</b>	Certified Patient Care Technician
<b>0710</b>	Employment in Health Occupation
<b>0720</b>	ECG/Phlebotomy
<b>0725</b>	Understanding Human Behavior
<b>0730</b>	Health Science Clinical Experience
<b>0736</b>	Medical Assistant Administrative Procedures 2
<b>0739</b>	Nutrition and Wellness
<b>0742</b>	Dental Assistant Practices
<b>0745</b>	Dental Assisting Clinical Mentoring
<b>0747</b>	Dental Specialties
<b>0749</b>	Supervised Dental Clinical Experience
<b>0929</b>	Learning for Independence Family and Employment
<b>0950</b>	Nutrition and Foods Foundation
<b>0954</b>	Foundational Food Preparation
<b>0973</b>	Practical Know-How
<b>0974</b>	Career Connection
<b>1016</b>	Food Service Management Practices
<b>1017</b>	Culinary Nutrition and the Menu
<b>1018</b>	Baking and Pastry Applications
<b>1032</b>	Principles of Investigation
<b>1055</b>	Public Safety and Wellness
<b>1060</b>	Addition and Prevention
<b>1062</b>	JROTC 5
<b>1063</b>	JROTC 6
<b>1064</b>	JROTC Internship
<b>1116</b>	Event Production Operations
<b>1212</b>	Event and Project Planning and Management
<b>1221</b>	Leisure Behavior
<b>1222</b>	Introduction to Recreation and Leisure
<b>1441</b>	Keyboarding
<b>1451</b>	Personal Finance
<b>1472</b>	Principles of Entrepreneurship
<b>1518</b>	Fundamentals of Media Writings
<b>1519</b>	Information Graphics

**CTE High School Enrichment Courses (Continued)**

<b>1601</b>	Basic Control Circuits
<b>1602</b>	Air Conditioning Applications
<b>1603</b>	Domestic Refrigeration
<b>1604</b>	Fossil Fuel Heating Systems
<b>1607</b>	Heating Systems
<b>1608</b>	Commercial Air Conditioning
<b>1609</b>	Ductwork Fabrication
<b>1661</b>	Blueprint Reading
<b>1672</b>	Detailing and Interior Parts
<b>1673</b>	Mechanical and Electrical Components
<b>1674</b>	Refinishing Techniques
<b>1676</b>	Custom Finishing Processes
<b>1692</b>	PC Essentials Hardware
<b>1706</b>	Imaging for the Web
<b>1718</b>	Introduction to Computer Aided Drafting
<b>1722</b>	Piping Systems
<b>1723</b>	Civil Drafting
<b>1726</b>	Structural Steel Drafting
<b>1728</b>	Advanced Computer Aided Drafting
<b>1742</b>	Diesel Equipment Electrical Systems
<b>1743</b>	Diesel Engine Tune-Up and Troubleshooting
<b>1745</b>	Diesel Preventative Maintenance and Inspection
<b>1749</b>	Diesel Truck Chassis Concepts
<b>1763</b>	Fundamentals of Electricity
<b>1803</b>	Basic Plumbing and Electricity
<b>1805</b>	Fundamentals of Facilities Maintenance
<b>1820</b>	Applications in Commercial Construction
<b>1821</b>	Concrete Finishing
<b>1822</b>	Blueprint Reading for Construction
<b>1823</b>	Finishing Carpentry
<b>1824</b>	Framing Practices and Applications
<b>1828</b>	Building Construction Applications
<b>1829</b>	Masonry and Plumbing
<b>1853</b>	Fundamentals of Computer Graphics
<b>1854</b>	Computer Graphics
<b>1855</b>	Fundamentals of Desktop Publishing
<b>1856</b>	Desktop Publishing/Page Layout
<b>1901</b>	Engine Machining
<b>1902</b>	Machine Tool Technology
<b>1904</b>	Integrated Machine Processes
<b>1906</b>	Machining Processes and Applications
<b>1908</b>	CNC Machining
<b>1911</b>	Block and Rock Laying
<b>1912</b>	Advanced Masonry Procedures
<b>1913</b>	Bricklaying
<b>1914</b>	Bricklaying Applications
<b>1916</b>	Decorative Masonry Work

**CTE High School Enrichment Courses (Continued)**

<b>1917</b>	Foundation and Footings
<b>1919</b>	Fundamentals of Masonry
<b>1970</b>	Power Equipment Systems Applications
<b>1972</b>	Recreational Applications
<b>1973</b>	Compact Diesels
<b>1974</b>	Generators
<b>1982</b>	Ornamental Metalwork
<b>1983</b>	Blueprint Reading and Metallurgy
<b>1987</b>	Gas Metal Arc Welding
<b>1989</b>	Gas Tungsten Arc Welding
<b>2004</b>	Agriculture Blueprint/CAD
<b>2006</b>	Agriculture Intro to Oxy-Acetylene/Arc Welding
<b>2124</b>	Cabinet Construction
<b>2145</b>	Smoldering and Flaring Copper Pipe
<b>2146</b>	Gas Piping
<b>2148</b>	Drains, Waste, and Vent Systems
<b>2149</b>	Plumbing Fixtures
<b>2202</b>	Fire Science Technology
<b>2207</b>	Telecommunicator
<b>2208</b>	Auto Extrication
<b>2209</b>	Drive/Pump Operator
<b>7664</b>	Touring West Virginia

## CTE High School Programs of Study

<b>Agriculture, Food, and Natural Resources Career Cluster™ (AG)</b>	
<b>WV CTE Program of Study:</b>	<b>AG0120 Agribusiness Systems</b>
<b>Primary Courses:</b>	<p><i>Must complete one of the following prerequisite courses.</i></p> <p><b>0101</b> Introduction to Agriculture, Food, and Natural Resources  <b>0161</b> CASE Intro to Agriculture, Food, and Natural Resources</p> <p><i>Must enroll in the following two courses.</i></p> <p><b>0102</b> The Science of Agriculture  <b>0134</b> Agricultural Experience Program  <i>Students shall receive one full credit based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet the requirement. Refer to the Guidelines to Awarding SAE Credit document for more information.</i></p>
<b>Specialization Courses:</b>	<p><i>Must select one of the following courses.</i></p> <p><b>0110</b> Agriculture Entrepreneurship  <b>0111</b> Food Science Technology  <b>0112</b> Fundamentals of Agriculture Mechanics  <b>0132</b> Agricultural Biotechnology  <b>0136</b> Advanced Principles of Agriculture  <b>0139</b> Fundamentals of Animal Processing  <b>0140</b> Animal Production and Management  <b>0162</b> CASE Principles of AG Science – Animal  <b>0163</b> CASE Agriculture Business, Research, and Development  <b>0164</b> CASE Animal and Plant Biotechnology  <b>0165</b> CASE Food Science and Safety  <b>0166</b> CASE Principles of AG Science – Plant  <b>0183</b> Forest Management  <b>0200</b> Natural Resource Management  <b>0212</b> Horticulture</p>
<b>WV CTE Program of Study:</b>	<b>AG0230 Animal Processing</b>
<b>Primary Courses:</b>	<p><i>Must complete one of the following prerequisite courses.</i></p> <p><b>0101</b> Introduction to Agriculture, Food, and Natural Resources  <b>0161</b> CASE Intro to Agriculture, Food, and Natural Resources</p> <p><i>Must enroll in the following two courses.</i></p> <p><b>0139</b> Fundamentals of Animal Processing  <b>0134</b> Agricultural Experience Program  <i>Students shall receive one full credit based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet the requirement. Refer to the Guidelines to Awarding SAE Credit document for more information.</i></p>
<b>Specialization Courses:</b>	<p><i>Must select one course.</i></p> <p><b>0151</b> Animal Processing – Retail  <b>0160</b> Animal Processing – Plant</p>

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<b>WV CTE Program of Study:</b>	<b>AG0220 Animal Systems</b>
<b>Primary Courses:</b>	<p><i>Must complete one of the following prerequisite courses.</i></p> <p><b>0101</b> Introduction to Agriculture, Food, and Natural Resources  <b>0161</b> CASE Intro to Agriculture, Food, and Natural Resources</p> <p><i>Must enroll in one of the following courses.</i></p> <p><b>0140</b> Animal Production and Management  <b>0162</b> CASE Principles of Agriculture Science - Animal</p> <p><i>Must enroll in the following course.</i></p> <p><b>0134</b> Agricultural Experience Program  <i>Students shall receive one full credit based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet the requirement. Refer to the Guidelines to Awarding SAE Credit document for more information.</i></p>
<b>Specialization Courses:</b>	<p><i>Must select one course.</i></p> <p><b>0141</b> Aquaculture  <b>0149</b> Companion Animal Care  <b>0164</b> CASE Animal and Plant Biotechnology  <b>0165</b> CASE Food Science and Safety  <b>0170</b> Introduction to Pet Grooming, Boarding, and Obedience  <b>0230</b> Livestock Production  <b>2007</b> Equine Science</p>
<b>WV CTE Program of Study</b>	<b>AG0130 Forest Industry</b>
<b>Primary Courses:</b>	<p><b>0812</b> Fundamentals of Forestry  <b>0183</b> Forest Management  <b>0184</b> Timber Management  <b>0185</b> Advanced Principles of Forestry</p>
<b>WV CTE Program of Study</b>	<b>AG0170 Natural Resources Management</b>
<b>Primary Courses:</b>	<p><i>Must complete one of the following prerequisite courses.</i></p> <p><b>0101</b> Introduction to Agriculture, Food, and Natural Resources  <b>0161</b> CASE Intro to Agriculture, Food, and Natural Resources</p> <p><i>Must enroll in the following courses.</i></p> <p><b>0200</b> Natural Resources Management  <b>0134</b> Agricultural Experience Program  <i>Students shall receive one full credit based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet the requirement. Refer to the Guidelines to Awarding SAE Credit document for more information.</i></p>
<b>Specialization Courses:</b>	<p><i>Must select one course.</i></p> <p><b>0183</b> Forest Management  <b>0190</b> Fish and Wildlife Management  <b>2494</b> Land Management and Surveying</p>
<b>WV CTE Program of Study:</b>	<b>AG0223 Pet Grooming</b>
<b>Primary Courses:</b>	<p><b>0170</b> Introduction to Pet Grooming, Boarding, and Obedience  <b>0173</b> Pet Grooming, Boarding, and Obedience Entrepreneurship  <b>0171</b> Pet Grooming and Understanding Personalities</p>

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<b>Specialization Courses:</b>	<p><i>Must select one course.</i></p> <p><b>1180</b> Advanced Pet Grooming and Understanding Personalities  <b>1181</b> Pet Boarding and Obedience</p>
<b>WV CTE Program of Study:</b>	<b>AG0210 Plant Systems</b>
<b>Primary Courses:</b>	<p><i>Must complete one of the following prerequisite courses.</i></p> <p><b>0101</b> Introduction to Agriculture, Food, and Natural Resources  <b>0161</b> CASE Intro to Agriculture, Food, and Natural Resources</p> <p><i>Must enroll in one of the following courses.</i></p> <p><b>0212</b> Horticulture  <b>0166</b> CASE Principles of Agricultural Science – Plant</p> <p><i>Must enroll in the following course.</i></p> <p><b>0134</b> Agricultural Experience Program  <i>Students shall receive one full credit based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet the requirement. Refer to the Guidelines to Awarding SAE Credit document for more information.</i></p>
<b>Specialization Courses:</b>	<p><i>Must select one course.</i></p> <p><b>0164</b> CASE Animal and Plant Biotechnology  <b>0165</b> CASE Food Science and Safety  <b>0213</b> Floriculture  <b>0214</b> Greenhouse Production and Management  <b>0220</b> Fruit and Vegetable Production  <b>0240</b> Turf and Landscape Systems</p>
<b>WV CTE Program of Study:</b>	<b>AG0110 Power, Structural and Technical Systems</b>
<b>Primary Courses:</b>	<p><i>Must complete one of the following prerequisite courses.</i></p> <p><b>0101</b> Introduction to Agriculture, Food, and Natural Resources  <b>0161</b> CASE Intro to Agriculture, Food, and Natural Resources</p> <p><i>Must enroll in the following courses.</i></p> <p><b>0112</b> Fundamentals of Agriculture Mechanics  <b>0134</b> Agricultural Experience Program  <i>Students shall receive one full credit based on completion of approved SAE and submission of approved documentation. Two years must be completed to meet the requirement. Refer to the Guidelines to Awarding SAE Credit document for more information.</i></p>
<b>Specialization Courses:</b>	<p><i>Must select one course.</i></p> <p><b>0113</b> Agriculture Structures  <b>0114</b> Agriculture Equipment and Repair  <b>0115</b> Agriculture Engineering  <b>2002</b> Agriculture Small Engine Repairs</p>

**Architecture and Construction Career Cluster™ (AR)**

**WVDE requirement to be eligible to sit for the Electrical Journeyman License.**

- Attain an overall grade of “B” or better in the four required state-approved CTE *Electrical Technician* program of study core courses **AND** four specialized courses used to meet the 1080-hours needed to sit for the Journeyman License as stated in the *Electrical Licensing Rules* from the Office of the West Virginia State Fire Marshal;
- Attain a verified school attendance record of no more than six-days absent in a one year (1080-hour)



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<ul style="list-style-type: none"> <li>program or 12-days absent in a two year (1080-hour) program;</li> <li>Earn the OSHA 10 certification;</li> <li>Pass a minimum of two documented drug screenings; AND</li> <li>Score at or above the Workforce Entry-Level cut score on the industry-recognized written <b>AND</b> satisfactorily pass a school-identified performance assessment.</li> </ul>	
<b>WV CTE Program of Study:</b>	<b>AR1800 Building Maintenance and Operations</b>
<b>Primary Courses:</b>	<b>1774</b> Building Maintenance and Operations 1 <b>1775</b> Building Maintenance and Operations 2 <b>1776</b> Building Maintenance and Operations 3 <b>1777</b> Building Maintenance and Operations 4
<b>WV CTE Program of Study:</b>	<b>AR1820 Carpentry</b>
<b>Primary Courses:</b>	<b>1842</b> Carpentry 1 <b>1843</b> Carpentry 2 <b>1844</b> Carpentry 3 <b>1845</b> Carpentry 4
<b>WV CTE Program of Study:</b>	<b>AR1720 Computer Aided Drafting and Design</b>
<b>Primary Courses:</b>	<b>1729</b> Fundamentals of Drafting <b>1727</b> Drafting Techniques <b>1725</b> Mechanical Drafting <b>1721</b> Architectural Drafting
<b>WV CTE Program of Study:</b>	<b>AR1760 Electrical Technician</b>
<b>Primary Courses:</b>	<b>1756</b> Electrical Trades 1 <b>1757</b> Electrical Trades 2 <b>1758</b> Electrical Trades 3 <b>1759</b> Electrical Trades 4
<b>Journeyman Required Courses:</b>	<i>Must complete at least four of the courses listed below to meet the 1080-hour requirement and be recommended to sit for the Journeyman Electrician License exam.</i> <b>1762</b> Blueprint Reading for Electricians <b>1765</b> Industrial and Commercial Wiring <b>1766</b> Integrated Electrical Lab <b>1767</b> National Electrical Code <b>1769</b> Residential Wiring <b>1771</b> Rotating Devices and Control Circuitry
<b>WV CTE Program of Study:</b>	<b>AR1600 HVAC Technicians</b>
<b>Primary Courses:</b>	<b>1752</b> HVAC 1 <b>1753</b> HVAC 2 <b>1754</b> HVAC 3 <b>1755</b> HVAC 4
<b>WV CTE Program of Study:</b>	<b>AR1910 Masonry</b>
<b>Primary Courses:</b>	<b>1846</b> Masonry 1 <b>1847</b> Masonry 2 <b>1848</b> Masonry 3 <b>1849</b> Masonry 4
<b>WV CTE Program of Study:</b>	<b>AR2140 Plumbing</b>
<b>Primary Courses:</b>	<b>2081</b> Plumbing 1 <b>2082</b> Plumbing 2

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	<b>2083</b> Plumbing 3
	<b>2084</b> Plumbing 4

<b>Arts, A/V Technology, and Communications Career Cluster™ (AV)</b>	
<b>WV CTE Program of Study:</b>	<b>AV1680 Broadcasting Technology</b>
<b>Primary Courses:</b>	<b>1681</b> Fundamentals of Broadcasting <b>1683</b> Radio Broadcasting Presentations <b>1685</b> Television Production Applications
<b>Specialized Courses:</b>	<i>Must select one course.</i> <b>1687</b> Broadcast Operations <b>1689</b> Producing Live TV <b>1684</b> Video Editing
<b>WV CTE Program of Study:</b>	<b>AV1840 Graphic Design and Illustration</b>
<b>Primary Courses:</b>	<b>1851</b> Fundamentals of Illustration <b>1861</b> Illustration
<b>Specialized Courses:</b>	<i>Must select a specialization program and complete both courses.</i> <b>Graphic Design</b> <b>1857</b> Fundamentals of Graphic Design <b>1859</b> Graphic Design Applications <b>Illustration</b> <b>3221</b> AP Art History <b>3222</b> AP Drawing
<b>WV CTE Program of Study:</b>	<b>AV1684 Multimedia Publishing</b>
<b>Primary Courses:</b>	<b>1514</b> Introduction to Visual Communication <b>1515</b> Digital Photography <b>1516</b> Videography <b>1517</b> Cross-media Publishing
<b>WV CTE Program of Study:</b>	<b>AV1690 Social Journalism</b>
<b>Primary Courses</b>	<i>Must complete the following courses.</i> <b>1518</b> Fundamentals of Media Writing <b>1517</b> Cross-Media Publishing <i>Must enroll in one of the following courses.</i> <b>4011</b> Dual Credit English Language Arts 11 <b>4041</b> AP English Language and Composition <i>Must enroll in one of the following courses.</i> <b>4012</b> Dual Credit English Language Arts 12 <b>4042</b> AP English Literature and Composition

<b>Business Management and Administration Career Cluster™ (BM)</b>	
<b>Note:</b> *Business Computer Applications 1 (1411) is a prerequisite for Business Computer Communications (1422).	
<b>WV CTE Program of Study:</b>	<b>BM0510 Career and Work Skills Training (CWST)</b>
<b>Primary Courses:</b>	<b>0511</b> Career and Work Skills Training 1 <b>0512</b> Career and Work Skills Training 2 <b>0513</b> CWST Work Experience 1 <b>0514</b> CWST Work Experience 2

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<b>WV CTE Program of Study:</b>	<b>BM1965 Business Enterprise</b>
<b>Primary Courses:</b>	<b>1411 Business Computer Application 1</b>
<b>Specialized Courses:</b>	<i>Must select three courses.</i> <b>1422 Business Computer Communications</b> <b>1417 Business Law and Ethics</b> <b>1439 Business and Marketing Essentials</b> <b>1449 Office Procedures</b> <b>1474 Entrepreneurship 1</b> <b>1504 Dual Credit Business Economics</b>
<b>WV CTE Program of Study:</b>	<b>BM1960 E-Commerce</b>
<b>Primary Courses:</b>	<b>1478 E-Commerce 1</b> <b>1479 E-Commerce 2</b> <b>1480 E-Commerce 3</b> <b>1481 E-Commerce 4</b>
<b>WV CTE Program of Study:</b>	<b>BM1950 Entrepreneurship and Innovation</b>
<b>Primary Courses:</b>	<b>1474 Entrepreneurship 1</b> <b>1475 Entrepreneurship 2</b> <b>1476 Entrepreneurship 3</b> <b>1477 Entrepreneurship 4</b>

**Education and Training Career Cluster™ (ED)**

**Note:** \*Early Learning Child Development (13211) and Early Learning Special Needs Inclusion (1322) are prerequisites for Early Learning Language and Literacy (1323) and Early Learning Numeracy (1324).

<b>WV CTE Program of Study:</b>	<b>ED1320 Early Childhood Classroom Assistant Teacher (ECCAT)</b>
<b>Primary Courses:</b>	<b>1321 Early Learning Child Development</b> <b>1322 Early Learning Special Needs Inclusions</b> <b>1323 Early Learning Language and Literacy*</b> <b>1324 Early Learning Numeracy*</b>

**Finance Career Cluster™ (FI)**

<b>WV CTE Program of Study:</b>	<b>FI1420 Financial Management</b>
<b>Primary Course:</b>	<b>1401 Accounting Principles 1</b>
<b>Specialized Courses:</b>	<i>Must select three courses.</i> <b>1403 Accounting Principles 2</b> <b>1436 Dual Credit Financial Markets</b> <b>1464 E-Commerce and Financials</b> <b>1470 Introduction to Finance</b> <b>1471 Business Finance</b> <b>7039 AP Microeconomics</b>

**Government and Public Administration Career Cluster™ (GO)**

<b>WV CTE Program of Study:</b>	<b>GO1070 JROTC</b>
	<b>1065 JROTC 1</b> <b>1066 JROTC 2</b> <b>1080 JROTC 3</b> <b>1081 JROTC 4</b>

<b>Health Science Career Cluster™ (HE)</b>	
<b>Notes:</b>	
<ul style="list-style-type: none"> <li>The WVDE recommends that each course must be passed with 80 percent or higher to move on to the next course. Each program of study should have its own grading policy listed in its handbook.</li> <li><i>Health Science Clinical Experience (0730)</i> may be scheduled in conjunction with 0756, 0772, 0732, 0733, 0789, 0790, 0810, 0825, and 0843 to create a two-block credit.</li> </ul>	
* <i>Foundations of Health Science (0711)</i> is a prerequisite for <i>Advanced Principles of Health Science (0715)</i> . These two courses provide the introductory core for all Health Science programs of study.	
** These courses required 100 percent drug testing prior to entering the clinical experiences.	
<b>WV CTE Program of Study:</b>	<b>HE1010 Advanced Medical Preparedness</b>
<b>Primary Courses:</b>	<b>0711</b> Foundations of Health Science* <b>0715</b> Advanced Principles of Health Science*
<b>Specialized Courses:</b>	<i>Must select two courses.</i> <b>0716</b> Body Structures and Functions <b>0721</b> Medical Terminology <b>0734</b> Introduction to Pharmacology <b>0850</b> Medical Math
<b>WV CTE Program of Study:</b>	<b>HE0715 Allied Health Science</b>
<b>Primary Courses:</b>	<b>0711</b> Foundations of Health Science* <b>0715</b> Advanced Principles of Health Science*
<b>Specialized Courses:</b>	<i>Must select a specialization program and complete both courses.</i> <b>Medical Laboratory Technicians</b> <b>0755</b> Medical Laboratory and Diagnostic Procedures <b>0756</b> Medical Lab Diagnostic Procedures and Applications** <b>Emergency Services</b> <b>0792</b> Emergency Services 1 <b>0732</b> Emergency Services 2** <b>Medical Assisting</b> <b>0737</b> Medical Assistant Laboratory and Diagnostic Procedures <b>0733</b> Medical Assistance Clinical** <b>Clinical Diagnostics</b> <b>0810</b> Electrocardiograph Technician <b>0825</b> Phlebotomy Skills** <b>PTCP Prep</b> <b>0771</b> PTCB Preparation <b>0772</b> PTCB Clinical Applications**
<b>WV CTE Program of Study:</b>	<b>HE0780 Biomedical Science</b>
<b>Primary Courses:</b>	<b>0727</b> Principles of Biomedical Science <b>0766</b> Human Body Systems <b>0780</b> Medical Interventions <b>0795</b> Biomedical Innovation
<b>WV CTE Program of Study:</b>	<b>HE0700 Dental Assisting</b>
<b>Primary Courses:</b>	<b>0740</b> Dental Assisting 1 <b>0748</b> Dental Assisting 2 <b>0746</b> Dental Science <b>0743</b> Dental Assisting Clinical**

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<b>WV CTE Program of Study:</b>	<b>HE0800 Sports Medicine</b>
<b>Primary Courses:</b>	<b>0840</b> Foundations of Sports Medicine <b>0841</b> Advanced Principles of Sports Medicine <b>0842</b> Athletic Injury Recognition and Prevention <b>0843</b> Practical Applications of Sports Medicine**
<b>WV CTE Program of Study:</b>	<b>HE0723 Therapeutic Services</b>
<b>Primary Courses:</b>	<b>0711</b> Foundations of Health Science* <b>0715</b> Advanced Principles of Health Science* <b>0789</b> Clinical Specialties 1** ( <i>Select one specialty below.</i> ) <b>0790</b> Clinical Specialties 2** ( <i>Select one specialty below.</i> )
<b>Specialized Courses:</b>	<i>Must select a specialty.</i> <ul style="list-style-type: none"> <li>• Health Occupations</li> <li>• Certified Nursing Assistant</li> <li>• Certified ECG Technician</li> <li>• Certified Health Unit Coordinator</li> <li>• Certified Patient Care Technician</li> <li>• Certified Phlebotomy Technician</li> <li>• Community Emergency Response Team</li> <li>• Dental Aide</li> <li>• Dietary Aide</li> <li>• Direct Care Workers</li> <li>• Electronic Health Record Specialist</li> <li>• Environmental Services</li> <li>• Orientation to Practice Nursing</li> <li>• Laundry Aide</li> <li>• Physical Therapy Aide</li> <li>• Pre-Pharmacy Technician</li> <li>• Imagery Aide</li> </ul>

<b>Hospitality and Tourism Career Cluster™ (HO)</b>	
<b>WV CTE Program of Study:</b>	<b>HO1015 Baking and Pastry</b>
<b>Primary Courses:</b>	<b>1980</b> Baking and Pastry Foundations <b>1024</b> Baking and Pastry 1 <b>1025</b> Baking and Pastry 2 <b>1026</b> Baking and Pastry Advanced
<b>WV CTE Program of Study:</b>	<b>HO1010 ProStart Restaurant Management</b>
<b>Primary Courses:</b>	<b>1013</b> Restaurant and Culinary Foundations <b>1014</b> Restaurant Management Essentials <b>1019</b> Advanced Principles in Food Production <b>1020</b> Restaurant Professional
<b>WV CTE Program of Study:</b>	<b>HO1220 Tourism</b>
<b>Primary Courses:</b>	<b>1211</b> Introduction to Tourism <b>7663</b> Travel West Virginia
<b>Specialized Courses:</b>	<i>Must select two courses.</i> <b>0437</b> Tourism Marketing

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	<p><b>0438</b> Adventure Tourism  <b>1086</b> Outdoor Education  <b>1125</b> Parks and Recreation Program Management  <b>1210</b> Tourism Internship  <b>1240</b> Tourism Leadership  <b>1241</b> Tourism Operations  <b>1242</b> Agritourism</p>
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<b>Human Services Career Cluster™ (HU)</b>	
<b>Note:</b> * <i>Social Work Advocacy (0909)</i> is a pre-requisite for <i>Legal and Practical Applications (0910)</i> .	
<b>WV CTE Program of Study:</b>	<b>HU2311 Pre-Cosmetology</b>
<b>Primary Course:</b>	<b>1737</b> Barbering and Cosmetology Foundations
<b>Specialized Courses:</b>	<p><i>Must select a specialization program and complete all courses.</i></p> <p><b>Aesthetics</b>  <b>1732</b> Skin Sciences  <b>1731</b> Aesthetics Science  <b>1714</b> General Aesthetics 1</p> <p><b>Nail Technology</b>  <b>1716</b> Nail Technology Science and Procedures  <b>1717</b> Art of Nail Technology  <b>1719</b> Nail Technology Clinical Experiences</p> <p><b>Hair Stylist</b>  <b>1734</b> Cosmetology Professional 1  <b>1735</b> Cosmetology Professional 2  <b>1736</b> Cosmetology Professional Advanced</p>
<b>Licensing Required Courses:</b>	<p><i>Select the four courses listed below to complete the minimum requirements for Hair Stylist by the Board of Barbers and Cosmetologists:</i></p> <p><b>1738</b> Cosmetology Science 1  <b>1740</b> Cosmetology Science 2  <b>1730</b> Cosmetology Chemical 1  <b>1750</b> Cosmetology Chemical 2</p> <p><i>Select the course listed below to complete the minimum requirements for Aesthetics by the Board of Barbers and Cosmetologists.</i></p> <p><b>1739</b> General Aesthetics 2</p>
<b>WV CTE Program of Study:</b>	<b>HU2335 School Service Personnel</b>
<b>Primary Courses:</b>	<p><b>0310</b> School Service Personnel 1  <b>0311</b> School Service Personnel 2  <b>0312</b> School Service Personnel Special Topics  <b>0313</b> School Service Personnel Internship</p>
<b>WV CTE Program of Study:</b>	<b>HU1038 Sign Language Translator</b>
<b>Primary Courses:</b>	<p><b>5691</b> American Sign Language 1  <b>5692</b> American Sign Language 2  <b>0304</b> Sign Language Translator 1  <b>0305</b> Sign Language Translator 2</p>
<b>WV CTE Program of Study:</b>	<b>HU2330 Social Services</b>
<b>Primary Courses:</b>	<b>0903</b> Parenting and Strong Families

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	<b>0928</b> Fundamentals of Social Services <b>0909</b> Social Work Advocacy <b>0910</b> Legal and Practical Applications*
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<b>Information Technology Career Cluster™ (IT)</b>	
<b>WV CTE Program of Study:</b>	<b>IT1640 CISCO Networking</b>
<b>Primary Courses:</b>	<b>1654</b> CCNA1 <b>1658</b> CCNA2 <b>1659</b> CCNA3 <b>1660</b> CCNA4
<b>WV CTE Program of Study:</b>	<b>IT1470 Coding, AI and Game Design</b>
<b>Primary Courses:</b>	<b>1456</b> Coding, App and Game Design 1 <b>1457</b> Coding, App and Game Design 2
<b>Specialized Courses:</b>	<i>Must select two courses.</i> <b>1431</b> Digital Imaging / Multimedia 1 <b>1432</b> Digital Imaging / Multimedia 2 <b>1492</b> Concepts of Gaming <b>2811</b> Basic Computer <b>2816</b> Basic Programming <b>2826</b> Computer and Information Science <b>2831</b> Computer Science / Programming <b>2846</b> General Computer Applications <b>2856</b> Object-Oriented Languages <b>2872</b> Computer Science in the Modern World <b>2875</b> Foundations of Programming Part 1
<b>WV CTE Program of Study:</b>	<b>IT2215 Computer Science</b>
<b>Primary Courses:</b>	<b>1408</b> Computer Science Essentials <b>2806</b> AP Computer Science Principles <b>2801</b> AP Computer Science Applications <b>1418</b> Cybersecurity
<b>WV CTE Program of Study:</b>	<b>IT1680 Computer Systems Repair Technology</b>
<b>Primary Courses:</b>	<b>1664</b> CompTIA A+ Core 1 <b>1665</b> CompTIA A+ Core 2 <b>1694</b> Networking+
<b>Specialized Courses:</b>	<i>Must select one course.</i> <b>1598</b> Intro to Network Cabling-Fiber Optic Based Systems <b>1695</b> Server+ <b>1696</b> Security+ <b>1698</b> Linux Essentials
<b>WV CTE Program of Study:</b>	<b>IT1450 Information Management</b>
<b>Primary Courses:</b>	<b>1700</b> Technical Computer Applications 1 <b>1709</b> Technical Computer Applications 2
<b>Specialized Courses:</b>	<i>Must select two courses.</i> <b>1429</b> Desktop Publishing <b>1431</b> Digital Imaging / Multimedia 1

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	<b>1705</b> Fundamentals of Computer Science
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<b>WV CTE Program of Study:</b>	<b>IT1445 Virtual Simulation and Game Development</b>
<b>Primary Courses:</b>	<b>1462</b> Digital Imaging / Multimedia Virtual
	<b>1455</b> Web Page Publishing
	<b>1465</b> Game Design 1 Virtual
	<b>1466</b> Game Design 2 Virtual

**Law, Public Safety, Corrections, and Security Career Cluster™ (LA)**

<b>WV CTE Program of Study:</b>	<b>LA2200 Emergency and Firefighting Management Services</b>
<b>Primary Courses:</b>	<b>2203</b> Fire Fighting 1
	<b>2205</b> Fire Fighting 2
<b>Specialized Courses:</b>	<i>Must select a specialization program and complete both courses.</i>
	<b>Industrial Fire Safety</b>
	<b>2250</b> Industrial Incident Command
	<b>2251</b> Industrial Hazardous Material
	<b>Emergency Management</b>
	<b>2248</b> Emergency Medical Preparedness 1
	<b>2249</b> Emergency Medical Preparedness 2
<b>WV CTE Program of Study:</b>	<b>LA1020 Law and Public Safety</b>
<b>Primary Courses:</b>	<b>1225</b> Fundamentals of Public Safety Leadership
	<b>1226</b> Ethical Issues in Public Safety
	<b>1039</b> Practical Applications of Public Safety
<b>Specialized Courses:</b>	<i>Must select one course.</i>
	<b>1031</b> Seminar in Courts and Legal Systems
	<b>1034</b> Seminar in Corrections
	<b>1035</b> Seminar in Law Enforcement
	<b>1037</b> Strategic Security and Legal System
	<b>6044</b> Forensic Science

**Manufacturing Career Cluster™ (MA)**

<b>WV CTE Program of Study:</b>	<b>MA1601 Aviation Maintenance Technician</b>
<b>Primary Courses:</b>	<b>2012</b> Aviation Fundamentals 1
	<b>2013</b> Aviation Fundamentals 2
	<b>2014</b> Airframe Systems 1
	<b>2015</b> Airframe Systems 2
<b>WV CTE Program of Study:</b>	<b>MA1870 Industrial Equipment Maintenance</b>
<b>Primary Courses:</b>	<b>1873</b> Fundamentals of Industrial Equipment Maintenance
	<b>1875</b> Hydraulic and Pneumatic Systems
	<b>1871</b> Electrical Maintenance
	<b>1985</b> Fundamentals of Welding Technology
<b>WV CTE Program of Study:</b>	<b>MA1650 Industrial Robotics</b>
<b>Primary Courses:</b>	<b>1898</b> FANUC Operator 1
	<b>1890</b> FANUC Operator 2
	<b>1929</b> FANUC Technician 1
	<b>1930</b> FANUC Technician 2



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<b>WV CTE Program of Study:</b>	<b>MA1900 Machine Tool Technology</b>
<b>Primary Courses:</b>	<b>1903</b> Fundamentals of Machine Tool Technology <b>1905</b> Fundamentals of Machine Processes <b>1907</b> Machine Tool Operations <b>1909</b> Metal Trades Processes and Applications
<b>WV CTE Program of Study:</b>	<b>MA1910 Manufacturing: Production and Design</b>
<b>Primary Courses:</b>	<b>1579</b> Production and Design Concepts <b>1580</b> Mechanical Drive and Quality Control <b>1581</b> Special Topics in Production and Design <b>1582</b> Manufacturing Internship
<b>WV CTE Program of Study:</b>	<b>MA2120 Millwork and Cabinetmaking</b>
<b>Primary Courses:</b>	<b>2126</b> Millwork and Cabinetmaking 1 <b>2127</b> Millwork and Cabinetmaking 2 <b>2128</b> Millwork and Cabinetmaking 3 <b>2129</b> Millwork and Cabinetmaking 4
<b>WV CTE Program of Study:</b>	<b>MA1630 Robotics</b>
<b>Primary Courses:</b>	<b>1866</b> Robotics 1 <b>1867</b> Robotics 2
<b>Specialized Courses:</b>	<i>Must select a specialization program and complete both courses.</i> <b>Robotics</b> <b>1868</b> Robotics 3 <b>1869</b> Robotics 4 <b>Drones</b> <b>1887</b> FAA 107 Ground Operations <b>1888</b> FAA 107 Flight Operations
<b>WV CTE Program of Study:</b>	<b>MA1980 Welding</b>
<b>Primary Courses:</b>	<b>1862</b> Welding 1 <b>1863</b> Welding 2 <b>1864</b> Welding 3 <b>1865</b> Welding 4

**Marketing Career Cluster™ (MK)**

<b>WV CTE Program of Study:</b>	<b>MK0420 Marketing Management</b>
<b>Primary Courses:</b>	<b>0422</b> Marketing Principles <b>0425</b> Marketing Applications <b>0426</b> Cross-Media Marketing <b>0428</b> Marketing Work Experience/Internship

**Science, Technology, Engineering, and Mathematics Career Cluster™ (ST)**

**Note:** \*New Age Engineering 1 (2459) is a prerequisite for New Age Engineering 2 (2460).

<b>WV CTE Program of Study:</b>	<b>ST220 Aerospace Engineering</b>
<b>Primary Courses:</b>	<b>1540</b> AC Aerospace Engineering 1 <b>1541</b> AC Aerospace Engineering 2 <b>1542</b> AC Aerospace Engineering 3 <b>1543</b> AC Aerospace Engineering 4

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<b>WV CTE Program of Study:</b>	<b>ST2175 Energy and Power</b>
<b>Primary Courses:</b>	<b>2485</b> AC Energy, Power, and Engineered System 1 <b>2486</b> AC Energy, Power, and Engineered System 2 <b>2487</b> AC Energy, Power, and Engineered System 3 <b>2488</b> AC Energy, Power, and Engineered System 4

<b>WV CTE Program of Study:</b>	<b>ST2460 Pre-Engineering</b>
<b>Primary Courses:</b>	<i>Must select one course.</i> <b>2458</b> Engineering Essentials <b>2461</b> Introduction to Engineering Design
<b>Specialized Courses:</b>	<i>Must select three courses.</i> <b>2457</b> Engineering Capstone <b>2459</b> New Age Engineering 1 <b>2460</b> New Age Engineering 2* <b>2462</b> Digital Electronics <b>2463</b> Principles of Engineering <b>2464</b> Engineering Design and Development <b>2465</b> Computer Integrated Manufacturing <b>2466</b> Civil Engineering and Architecture <b>2468</b> Aerospace Engineering <b>2469</b> Environmental Sustainability <b>2806</b> AP Computer Science Principles

<b>Transportation, Distribution, and Logistics Career Cluster™ (TR)</b>	
<b>WV CTE Program of Study:</b>	<b>TR1620 Automotive Technology</b>
<b>Primary Courses:</b>	<b>1631</b> Automotive Technology Maintenance and Light Repair (MLR) 1 <b>1623</b> Automotive Technology MLR 2 <b>1625</b> Automotive Technology MLR 3 <b>1637</b> Automotive Technology MLR 4
<b>Specialized Courses:</b>	<i>Select the four courses listed below to complete the Automotive Service Technician (AST).</i> <b>1629</b> Automotive Technology AST 1 <b>1633</b> Automotive Technology AST 2 <b>1635</b> Automotive Technology AST 3 <b>1627</b> Automotive Technology AST 4
<b>WV CTE Program of Study:</b>	<b>TR1670 Collision Repair Technology</b>
<b>Primary Courses:</b>	<b>1671</b> Fundamentals of Collision Repair Technology <b>1675</b> Non-Structural Analysis and Damage Repair <b>1677</b> Structural Analysis and Damage Repair <b>1679</b> Surface Preparation and Refinishing
<b>WV CTE Program of Study:</b>	<b>TR1740 Diesel Equipment Technology</b>
<b>Primary Courses:</b>	<b>1751</b> Fundamentals of Diesel Equipment Technology <b>1744</b> Electronic Engine Control <b>1741</b> Diesel Engine Components <b>1747</b> Diesel Support Systems

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<b>WV CTE Program of Study:</b>	<b>TR2215 Global Logistics and Supply Chain Management</b>
<b>Primary Courses:</b>	<b>1555</b> AC Global Logistics and Supply Chain Management 1 <b>1556</b> AC Global Logistics and Supply Chain Management 2 <b>1567</b> AC Global Logistics and Supply Chain Management 3 <b>1558</b> AC Global Logistics and Supply Chain Management 4

<b>WV CTE Program of Study:</b>	<b>TR1960 Power Equipment Systems</b>
<b>Primary Courses:</b>	<b>1962</b> Fundamentals of Power Equipment I <b>1964</b> Fundamentals of Power Equipment II <b>1966</b> Power Equipment Service I <b>1968</b> Power Equipment Service II

**West Virginia Career Cluster (WV)**

**Individual Work Ready Competencies (IWRC) Notes:**

- The IWRC pathway is designed to provide some students with an IEP who are pursuing a standards-based high school diploma the opportunity to gain occupation ready skills related to their desired CTE career programs of study during high school.
- An IWRC student must enroll in the four CTE program of study core courses as detailed in this policy and plan to enter the workforce directly after high school with OTJ training, apprenticeship, or continued technical training as an adult.
- The Personalized Education Plan (PEP) and the student’s IEP must be updated to reflect the change from state-approved CTE program of study to state-approved IWRC.
- The IEP for the student describes any specially designed instruction, support, or accommodations necessary for student success.

<b>WV CTE Program of Study:</b>	<b>WV5502 Individual Work Ready Competencies (IWRC)</b>
<b>Primary Courses:</b>	Eligibility for participation in IWRC will be based on the following: <ul style="list-style-type: none"> <li>• the student shall have a current IEP and be pursuing a standard diploma,</li> <li>• the student shall be provided accommodations and/or supports as indicated in the IEP,</li> <li>• the student must pass ALL safety exams with a score of 100 percent, and</li> <li>• the student is unable to master ALL required standards of the CTE program of study.</li> </ul>
<b>Program Evaluation:</b>	The student will: <ul style="list-style-type: none"> <li>• follow the state-approved CTE program of study</li> <li>• follow the IWRC standards established by the Student Assistance Team (SAT), and</li> <li>• complete the IWRC technical assessment for the CTE program of study with accommodations or supports as indicated in the IEP.</li> </ul>
<b>Recommended Student Certificate(s):</b>	The IWRC student will be eligible to test for all industry certifications upon meeting qualification.

### Advanced Career Education (ACE) Programs of Study

The WVDE endorses institutions that choose to offer ACE programs that provide career and technical training programs to adult postsecondary students. These institutions are governed by their local county board of education or multi-county administrative council. The institution shall maintain appropriate written policies and procedures as they pertain to the operation of postsecondary schools and programs.

All programmatic decisions such as program offerings, program length, and program modes of delivery are at the discretion of the local board of education or multi-county administrative council. The institution shall be responsible for submitting all state and federal reports to remain compliant and in good standing with accountability processes, including, but not limited to enrollment; periods of enrollment; academic progress; attendance; awarded certifications/credentials; grades; graduates/completers; community partnerships and articulation agreements; placement; licensure; tuition and additional fees; and revenue and operational expenses.

Institutions may be accredited by an agency recognized by the U.S. Department of Education (ED) and may participate in financial aid programs. The WVDE may provide institutional verification letters stating that an institution is compliant and in good standing with the state accountability processes. The local board of education or multi-county administrative council will issue verification letters of programmatic approval. Practical Nursing is the only program of study that requires national accreditation, per W. Va. Code §30-7A-8.

#### Programming

The WVDE provides a list of state-approved training programs for funding and accountability purposes. Institutions may choose to offer additional local training programs outside of the WVDE-approved list, that are deemed a local workforce need.

All postsecondary programs (state-approved or local) should include: program of study title and course plan of study/course sequence; the number of clock/credit hours of instruction to be provided; tuition, fees, and other program costs; course standards and instructional outcomes; national certifications/credentials to be earned with disclosure of any waiting periods or work requirements to sit for the exam; articulation agreements available; student performance expectations and graduation requirements; admission and academic requirements for enrollment; and definitive program start and end dates.

WVDE state-approved training programs for funding and accountability purposes include:

Program of Study Number	Program of Study Name
HU9205	American Sign Language (ASL) Translator
TR9801	Automotive Technician
MA9710	Aviation Maintenance Technology
HU9501	Barbering
HE9308	Certified Nursing Assistant
MA9704	Certified Welder
TR9803	Commercial Driving
HU9505	Cosmetology

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HO9401	Culinary Arts
HE9306	Dental Assisting
TR9802	Diesel Mechanic
ED9901	ECCAT
AR9101	Electrical Technician
HE9302	Electrocardiograph Technician
AR9107	Heavy Equipment Operator
AR9105	HVAC Technician
MA9705	Manufacturing Robotics
HE9314	Massage Therapy
HE9307	Medical Assisting
HE9301	Phlebotomy Technician
AR9103	Plumber in Training
HE9311	Practical Nursing
HE9312	Respiratory Therapy
HE9315	Sterile Processing Technician
HE9313	Surgical Technology
HE9305	Veterinary Technology