

POLICY 2520.13

West Virginia's  
College-and-Career  
Readiness Programs of  
Study/Standards for  
Career and Technical  
Education

Guidance Document

December 12, 2016



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2016-2017**

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## Agriculture, Food & Natural Resources Career Cluster™ (AG)

<b>Agribusiness Systems Career Pathway</b>
<b>WV CTE Program of Study:</b> AG0120 Agribusiness Systems
<i>Recommended Program Electives:</i>
<b>0133</b> Agricultural Cooperative Education <b>2007</b> Equine Science <b>0201</b> Grounds Maintenance <b>0146</b> Leadership Development <b>0184</b> Timber Management <b>0520</b> Work-Based Integration and Transition
<b>Animal Systems Career Pathway</b>
<b>WV CTE Program of Study:</b> AG0220 Animal Systems
<i>Recommended Program Electives:</i>
<b>0133</b> Agricultural Cooperative Education <b>0146</b> Leadership Development <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> AG0221 CASE Animal Science
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> AG0223 Pet Grooming
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> AG0224 Taxidermy
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> AG0222 Animal Science (Virtual)
<i>Recommended Program Electives:</i>
N/A
<b>Food Products &amp; Processing Systems Career Pathway</b>
<b>WV CTE Program of Study:</b> AG0230 Animal Processing
<i>Recommended Program Electives:</i>
<b>0133</b> Agricultural Cooperative Education <b>0146</b> Leadership Development <b>0520</b> Work-Based Integration and Transition
<b>Natural Resources Systems Career Pathway</b>
<b>WV CTE Program of Study:</b> AG2185 Chemical Energy and Mechanical Technologies
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition

**WV CTE Program of Study: AG0130 Forest Industry**

*Recommended Program Electives:*

**0520** Work-Based Integration and Transition

**WV CTE Program of Study: AG0170 Natural Resources Management**

*Recommended Program Electives:*

**0133** Agricultural Cooperative Education

**0146** Leadership Development

**0184** Timber Management

**0520** Work-Based Integration and Transition

**Plant Systems Career Pathway**

**WV CTE Program of Study: AG0210 Plant Systems**

*Recommended Program Electives:*

**0133** Agricultural Cooperative Education

**0201** Grounds Maintenance

**0146** Leadership Development

**0520** Work-Based Integration and Transition

~~**WV CTE Program of Study: AG0214 Turf and Landscape Systems**~~

~~*Recommended Program Electives:*~~

~~**0520** Work-Based Integration and Transition~~

**WV CTE Program of Study: AG0215 CASE Plant Science**

*Recommended Program Electives:*

**0520** Work-Based Integration and Transition

**Power, Structural & Technical Systems Career Pathway**

**WV CTE Program: AG0110 Power, Structural and Technical Systems**

*Recommended Program Electives:*

**2004** Agriculture Blueprint/Cad

**0133** Agricultural Cooperative Education

**2006** Agriculture Intro To Oxy-Acetylene/Arc Welding

**2002** Agriculture Small Engine Repair

**0146** Leadership Development

**0520** Work-Based Integration and Transition

## Architecture & Construction Career Cluster™ (AR)

Construction Career Pathway
<b>WV CTE Program of Study: AR1820 Carpentry</b>
<i>Recommended Program Electives:</i>
<b>1769</b> Residential Wiring <b>1803</b> Basic Plumbing and Electricity <b>1820</b> Applications in Commercial Construction <b>1822</b> Blueprint Reading For Construction <b>1821</b> Concrete Finishing <b>1828</b> Building Construction Applications <b>1829</b> Masonry and Plumbing <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study: AR1760 Electrical Technician</b>
<i>Recommended Program Electives:</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>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study: AR1910 Masonry</b>
<i>Recommended Program Electives:</i>
<b>1911</b> Block and Rock Laying <b>1913</b> Bricklaying <b>1914</b> Bricklaying Applications <b>1821</b> Concrete Finishing <b>1916</b> Decorative Masonry Work <b>1917</b> Foundation and Footings <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study: AR2140 Plumbing</b>
<i>Recommended Program Electives:</i>
<b>2147</b> Cast-Iron Piping <b>2148</b> Drains, Waste and Vent Systems <b>2146</b> Gas Piping <b>2149</b> Plumbing Fixtures <b>2145</b> Soldering and Flaring Copper Pipe <b>0520</b> Work-Based Integration and Transition

**Design/Pre-construction Career Pathway**

**WV CTE Program of Study:** AR1720 Drafting

*Recommended Program Electives:*

- 1661** Blueprint Reading
- 1723** Civil Drafting
- 1728** Computer Aided Drafting
- 1718** Introduction to CAD
- 1722** Piping Systems Drafting
- 1726** Structural Steel Drafting
- 0520** Work-Based Integration and Transition

**Maintenance/Operations Career Pathway**

**WV CTE Program of Study:** AR1800 Building Maintenance and Operations

*Recommended Program Electives:*

- 1803** Basic Plumbing and Electricity
- 1605** Fundamentals of Air Conditioning Refrigeration
- 1763** Fundamentals of Electricity
- 1805** Fundamentals of Facilities Maintenance
- 1829** Masonry and Plumbing
- 1769** Residential Wiring
- 0520** Work-Based Integration and Transition

**WV CTE Program of Study:** AR1600 HVAC Technician

*Recommended Program Electives:*

- 1602** Air Conditioning Applications
- 1601** Basic Control Circuits
- 1608** Commercial Air Conditioning
- 1603** Domestic Refrigeration
- 1604** Fossil Fuel Heating Systems
- 1607** Heating Systems
- 0520** Work-Based Integration and Transition

## Arts, A/V Technology & Communications Career Cluster™ (AV)

### Journalism & Broadcasting Career Pathway

**WV CTE Program of Study:** AV1682 Broadcast Journalism

*Recommended Program Electives:*

**0520** Work-Based Integration and Transition

**WV CTE Program of Study:** AV1680 Broadcasting Technology

*Recommended Program Electives:*

**2421** Communication Systems

**0520** Work-Based Integration and Transition

**WV CTE Program of Study:** AV1684 Multimedia Publishing

*Recommended Program Electives:*

**1518** Fundamentals of Media Writing

**1519** Information Graphics

**0520** Work-Based Integration and Transition

### Printing Technology Career Pathway

**WV CTE Program of Study:** AV1830 Graphic Communications

*Recommended Program Electives:*

**1837** Applications in Graphic Communications

**1832** Color Processing

**1834** Digital Prepress

**1855** Fundamentals of Desktop Publishing

**1859** Graphic Design Applications

**1831** Photography and Dark Room Procedures

**0520** Work-Based Integration and Transition

### Visual Arts Career Pathway

**WV CTE Program of Study:** AV1850 Graphic Design

*Recommended Program Electives:*

**1854** Computer Graphics

**1856** Desktop Publishing/Page Layout

**1853** Fundamentals of Computer Graphics

**1855** Fundamentals of Desktop Publishing

**0520** Work-Based Integration and Transition

## Business Management & Administration Career Cluster™ (BM)

Administrative Support Career Pathway
<b>WV CTE Program of Study:</b> BM0510 Career and Work Skills Training (CWST)
<i>Recommended Program Electives:</i>
<b>1401</b> Accounting Principles I <b>1439</b> Business and Marketing Essentials <b>1411</b> Business Computer Applications I Microsoft IT Word and PowerPoint <b>1413</b> Business Computer Applications II Microsoft IT Excel and Microsoft Access <b>1512</b> Workplace Practicum <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> BM1465 Management and Administrative Support
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> BM1465 Management and Administrative Support (Virtual)
<i>Recommended Program Electives:</i>
N/A
Business Finance and Accounting Career Pathway
<b>WV CTE Program of Study:</b> BM1410 Accounting
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> BM1410 Accounting (Virtual)
<i>Recommended Program Electives:</i>
N/A



## Education & Training Career Cluster™ (ED)

<b>Teaching/Training Career Pathway</b>
<b>WV CTE Program of Study:</b> ED1300 Careers in Education
<i>Recommended Program Electives:</i>
<b>0904</b> Human Development <b>0903</b> Parenting and Strong Families <b>0928</b> Fundamentals of Human Services <b>0520</b> Work-Based Integration and Transition

## Finance Career Cluster™ (FI)

<b>Business Finance Career Pathway</b>
<b>WV CTE Program of Study:</b> FI1430 Finance
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition

## Government & Public Administration Career Cluster™ (GO)

<b>National Security Career Pathway</b>
<b>WV CTE Program of Study:</b> GO1070 JROTC
<i>Recommended Program Electives:</i>
<b>1062</b> JROTC V <b>1063</b> JROTC VI <b>1064</b> JROTC - Internship <b>0520</b> Work-Based Integration and Transition

## Health Science Career Cluster™ (HE)

<b>Biotechnology Research &amp; Development Career Pathway</b>
<b>WV CTE Program of Study:</b> HE0780 Biomedical Science (PLTW)
<i>Recommended Program Electives:</i>
<b>1060</b> Essentials of Addiction and Prevention <b>0730</b> Health Science Clinical Experience <b>0721</b> Medical Terminology <b>0739</b> Nutrition and Wellness <b>0725</b> Understanding Human Behavior
<b>Diagnostic Services Career Pathway</b>
<b>WV CTE Program of Study:</b> HE0718 Diagnostic Services
<i>Recommended Program Electives:</i>
<b>0716</b> Body Structures and Functions <b>1060</b> Essentials of Addiction and Prevention <b>0730</b> Health Science Clinical Experience <b>0721</b> Medical Terminology <b>0739</b> Nutrition and Wellness <b>0725</b> Understanding Human Behavior <b>0520</b> Work-Based Integration & Transition
<b>Health Informatics Career Pathway</b>
<b>WV CTE Program of Study:</b> HE0742 Health Informatics
<i>Recommended Program Electives:</i>
<b>0716</b> Body Structures and Functions <b>1060</b> Essentials of Addiction and Prevention <b>0739</b> Nutrition and Wellness <b>0725</b> Understanding Human Behavior <b>0520</b> Work-Based Integration & Transition
<b>WV CTE Program of Study:</b> HE2220 Health Informatics (Advanced Career)
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration & Transition
<b>Support Services Career Pathway</b>
<b>WV CTE Program of Study:</b> HE1215 Food Science and Nutrition
<i>Recommended Program Electives:</i>
<b>1017</b> Culinary Nutrition and the Menu <b>1411</b> Business Computer Applications I Microsoft Word and PowerPoint <b>1413</b> Business Computer Applications 2 Microsoft Excel and Access <b>0739</b> Nutrition and Wellness <b>0520</b> Work-Based Integration & Transition
<b>WV CTE Program of Study:</b> HE1095 Personal Fitness and Wellness Training

<i>Recommended Program Electives:</i>
<b>6921</b> Community Health <b>6709</b> Fitness/Conditioning Activities <b>1050</b> Wellness Issues For Special Populations <b>0520</b> Work-Based Integration & Transition
<b>WV CTE Program of Study:</b> HE0728 Support Services
<i>Recommended Program Electives:</i>
<b>0716</b> Body Structures and Functions <b>1060</b> Essentials of Addiction and Prevention <b>0730</b> Health Science Clinical Experience <b>0721</b> Medical Terminology <b>0739</b> Nutrition and Wellness <b>0725</b> Understanding Human Behavior <b>0520</b> Work-Based Integration & Transition
<b>WV CTE Program of Study:</b> HE1095 Personal Fitness and Wellness Training (Virtual)
<i>Recommended Program Electives:</i>
N/A
<b>WV CTE Program of Study:</b> HE0728 Support Services (Virtual)
<i>Recommended Program Electives:</i>
N/A

<b>Therapeutic Services Career Pathway</b>
<b>WV CTE Program of Study:</b> HE0715 Allied Health Sciences
<i>Recommended Program Electives for Dental Assisting:</i>
<b>0748</b> Dental Assisting II <b>0745</b> Dental Assisting Clinical Mentoring <b>0742</b> Dental Assistant Clinical Practice <b>0747</b> Dental Specialties <b>1060</b> Essentials of Addiction and Prevention <b>0749</b> Supervised Dental Clinical Experience <b>0520</b> Work-Based Integration & Transition
<i>Recommended Program Electives for EMT-B:</i>
<b>0720</b> ECG/Phlebotomy <b>0793</b> Emergency Response to Terrorism <b>1060</b> Essentials of Addiction and Prevention <b>0730</b> Health Science Clinical Experience <b>0721</b> Medical Terminology <b>0739</b> Nutrition and Wellness <b>0520</b> Work-Based Integration & Transition
<i>Recommended Program Electives for Medical Assisting:</i>

**1060** Essentials of Addiction and Prevention  
**0730** Health Science Clinical Experience  
**0736** Medical Assistant Administrative Procedures II  
**0734** Medical Assistant Advanced Pharmacology  
**0721** Medical Terminology  
**0739** Nutrition and Wellness  
**0520** Work-Based Integration & Transition

*Recommended Program Electives for Practical Nursing:*

**0716** Body Structures and Functions  
**1060** Essentials of Addiction and Prevention  
**0730** Health Science Clinical Experience  
**0721** Medical Terminology  
**0739** Nutrition and Wellness  
**0725** Understanding Human Behavior  
**0520** Work-Based Integration & Transition

*Recommended Program Electives for Pre-Nursing:*

**0716** Body Structures and Functions  
**1060** Essentials of Addiction and Prevention  
**0730** Health Science Clinical Experience  
**0721** Medical Terminology  
**0739** Nutrition and Wellness  
**0725** Understanding Human Behavior  
**0520** Work-Based Integration & Transition

*Recommended Program Electives for PTCP PREP:*

**0716** Body Structures and Functions  
**1060** Essentials of Addiction and Prevention  
**0730** Health Science Clinical Experience  
**0721** Medical Terminology  
**0739** Nutrition and Wellness  
**0725** Understanding Human Behavior  
**0520** Work-Based Integration & Transition

**WV CTE Program of Study: HE0723 Therapeutic Services**

*Recommended Program Electives:*

**0716** Body Structures and Functions  
**1060** Essentials of Addiction and Prevention  
**0730** Health Science Clinical Experience  
**0721** Medical Terminology  
**0739** Nutrition and Wellness  
**0616** Orientation to Practical Nursing  
**0725** Understanding Human Behavior  
**0520** Work-Based Integration & Transition

## Hospitality & Tourism Career Cluster™ (HO)

<b>Restaurants &amp; Food/ Beverage Services Career Pathway</b>
<b>WV CTE Program of Study:</b> HO1015 Baking and Pastry
<i>Recommended Program Electives:</i>
<b>1016</b> Food Service Management Practices <b>1210</b> Hospitality and Tourism Internship <b>1220</b> Hospitality Entrepreneurship Applications <b>1015</b> Hospitality Products and Services <b>7663</b> Travel West Virginia <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> HO1010 ProStart Restaurant Management
<i>Recommended Program Electives:</i>
<b>1018</b> Baking and Pastry Applications <b>1017</b> Culinary Nutrition and the Menu <b>1016</b> Food Service Management Practices <b>1210</b> Hospitality and Tourism Internship <b>1015</b> Hospitality Products and Services <b>7663</b> Travel West Virginia <b>0520</b> Work-Based Integration and Transition
<b>Travel &amp; Tourism Career Pathway</b>
<b>WV CTE Program of Study:</b> HO1210 Hospitality and Tourism
<i>Recommended Program Electives for Event Planning &amp; Design:</i>
<b>1143</b> Event Design Development <b>1144</b> Event Design Project <b>1145</b> Event Planning: Ethics, Etiquette & Entrepreneurship <b>1116</b> Event Production Operations <b>0520</b> Work-Based Integration and Transition
<i>Recommended Program Electives for Parks and Recreation:</i>
<b>1015</b> Hospitality Products and Services <b>1220</b> Hospitality Entrepreneurship Applications <b>1221</b> Leisure Behavior <b>1126</b> Parks and Facility Design <b>1222</b> Recreation and Leisure <b>0520</b> Work-Based Integration and Transition
<i>Recommended Program Electives for Hospitality, Travel and Tourism:</i>
<b>1212</b> Event and Project Planning and Management <b>1203</b> Front Office Foundations <b>1217</b> Hospitality Support Services <b>1205</b> Lodging Leadership Management <b>1445</b> Management and Entrepreneurship

<b>0520</b> Work-Based Integration and Transition
<i>Recommended Program Electives for Adventure Tourism:</i>
<b>1401</b> Accounting Principles I <b>1439</b> Business and Marketing Essentials <b>1212</b> Event and Project Planning and Management <b>1221</b> Leisure Behavior <b>0422</b> Marketing Principles <b>0520</b> Work-Based Integration and Transition
<i>Recommended Program Electives for Entrepreneurship:</i>
<b>1401</b> Accounting Principles I <b>0437</b> Hospitality and Tourism Marketing <b>1015</b> Hospitality Products and Services <b>1206</b> Lodging Support Services <b>1086</b> Outdoor Education <b>0520</b> Work-Based Integration and Transition

## Human Services Career Cluster™ (HU)

<b>Counseling &amp; Mental Health Services Career Pathway</b>
<b>WV CTE Program of Study:</b> HU1015 Prevention Support Specialist
<i>Recommended Program Electives:</i>
<b>0904</b> Human Development <b>0950</b> Nutrition and Foods Foundation <b>1051</b> Foundations of Wellness <b>1100</b> Best Practices in Community Support <b>0520</b> Work-Based Integration and Transition

<b>Early Childhood Development &amp; Services Career Pathway</b>
<b>WV CTE Program of Study:</b> HU1000 Early Childhood Education
<i>Recommended Program Electives:</i>
<b>1010</b> Early Childhood Classroom Assistant Teacher Internship <b>1060</b> Essentials of Addiction and Prevention <b>0927</b> Family and Community Services <b>0903</b> Parenting and Strong Families <b>0520</b> Work-Based Integration and Transition

<b>Family &amp; Community Services Career Pathway</b>
<b>WV CTE Program of Study:</b> HU2320 Health and Safety Leadership
<i>Recommended Program Electives:</i>
<b>1060</b> Essentials of Addiction and Prevention <b>0904</b> Human Development <b>0950</b> Nutrition and Foods Foundation <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> HU1025 Human Services
<i>Recommended Program Electives:</i>
<b>1050</b> Wellness in Special Populations <b>1100</b> Best Practices in Community Support <b>0721</b> Medical Terminology <b>0520</b> Work-Based Integration and Transition

<b>Personal Care Services Career Pathway</b>
<b>WV CTE Program of Study:</b> HU2315 Aesthetics
<i>Recommended Program Electives:</i>
<b>1739</b> General Aesthetics II <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> HU2305 Barbering

<i>Recommended Program Electives:</i>
<b>1155</b> Barbering Science Advanced <b>1153</b> Barbering Professional II <b>1156</b> Barbering Professional III <b>1157</b> Barbering Professional IV <b>1158</b> Barbering Professional Advanced
<b>WV CTE Program of Study: HU2310 Hair Stylist</b>
<i>Recommended Program Electives:</i>
<b>1738</b> Cosmetology Science I <b>1740</b> Cosmetology Science II <b>1730</b> Cosmetology Chemicals I <b>1750</b> Cosmetology Chemicals II <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study: HU2055 Nail Technology</b>
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition



## Information Technology Career Cluster™ (IT)

### Computer Programming & Software Development Career Pathway

**WV CTE Program of Study:** IT2215 Computer Science (PLTW)

*Recommended Program Electives:*

**0520** Work-Based Integration and Transition

### Information Support & Services Career Pathway

**WV CTE Program of Study:** IT2210 Informatics (Advanced Career)

*Recommended Program Electives:*

**0520** Work-Based Integration and Transition

### Interactive Media Career Pathway

**WV CTE Program of Study:** IT1442 Coding, App and Game Design

*Recommended Program Electives:*

**1473** Advanced Entrepreneurship

**1692** Computer Hardware

**1432** Digital Imaging/Multimedia II

**1472** Principles of Entrepreneurship

**0520** Work-Based Integration and Transition

**WV CTE Program of Study:** IT1450 Information Management/Microsoft Computer Applications Specialist

*Recommended Program Electives:*

**1453** Microsoft IT Excel Expert

**1427** Microsoft IT Outlook and OneNote

**1433** Microsoft IT Word Expert

**0520** Work-Based Integration and Transition

**WV CTE Program of Study:** IT1445 Simulation and Game Development (Virtual)

*Recommended Program Electives:*

N/A

### Network Systems Career Pathway

**WV CTE Program of Study:** IT1640 CISCO Networking Academies

*Recommended Program Electives:*

**1692** Computer Hardware

**1693** Computer Operating Systems

**1705** Fundamentals of Computer Systems

**1654** CCNA1

**1658** CCNA2

**1659** CCNA3

**1660** CCNA4

**1696** Security+

**0520** Work-Based Integration and Transition

**WV CTE Program of Study: IT1680 Computer Systems Repair Technology**

*Recommended Program Electives:*

- 1706** Imaging for the Web
- 1698** Linux Essentials
- 1715** Multimedia Applications
- 1695** Server+
- 1696** Security+
- 1709** Technical Computer Applications
- 1711** Web Development and Support
- 1697** Wireless Networking Essentials
- 0520** Work-Based Integration and Transition

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

<b>Emergency and Firefighting Management Services Career Pathway</b>
<b>WV CTE Program of Study:</b> LA2200 Emergency and Firefighting Management Services
<i>Recommended Program Electives:</i>
<b>2208</b> Auto Extrication <b>2209</b> Driver/Pump Operator <b>6709</b> Fitness/Conditioning Activities <b>1037</b> Strategic Security and Protection <b>2207</b> Telecommunicator <b>0520</b> Work-Based Integration and Transition
<b>Law Enforcement Services Career Pathway</b>
<b>WV CTE Program of Study:</b> LA1020 Law and Public Safety
<i>Recommended Program Electives:</i>
<b>1060</b> Essentials of Addiction and Prevention <b>6709</b> Fitness/Conditioning Activities <b>0520</b> Work-Based Integration and Transition
<b>Legal Services Career Pathway</b>
<b>WV CTE Program of Study:</b> LA1490 Paralegal Assistant
<i>Recommended Program Electives:</i>
<b>1411</b> Business Computer Applications I <b>1417</b> Business Law <b>0520</b> Work-Based Integration and Transition

## Manufacturing Career Cluster™ (MA)

<b>Maintenance, Installation, &amp; Repair Career Pathway</b>
<b>WV CTE Program of Study:</b> MA1780 Electronics Technician
<i>Recommended Program Electives:</i>
<b>1783</b> Basic AC Circuits <b>1692</b> Computer Hardware <b>1787</b> DC Circuits and Electron Physics <b>1705</b> Fundamentals of Computer Systems <b>1763</b> Fundamentals of Electricity <b>1795</b> Wiring and Soldering <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> MA1870 Industrial Equipment Maintenance
<i>Recommended Program Electives:</i>
<b>1601</b> Basic Control Circuits <b>1605</b> Fundamentals of Air Conditioning/Refrigeration <b>1903</b> Fundamentals of Machine Tool Technology <b>1607</b> Heating Systems <b>1765</b> Industrial and Commercial Wiring <b>1771</b> Rotating Devices and Control Circuitry <b>0520</b> Work-Based Integration and Transition
<b>Manufacturing Production Process Development Career Pathway</b>
<b>WV CTE Program of Study:</b> MA2235 Advanced Manufacturing (Advanced Career)
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> MA1630 Robotics
<i>Recommended Program Electives:</i>
<b>1728</b> Advanced Computer Aided Drafting <b>2436</b> Foundations in Engineering <b>1718</b> Introduction to Computer Aided Drafting <b>1713</b> Programming Concepts <b>1875</b> Hydraulic/Pneumatic Systems <b>0520</b> Work-Based Integration and Transition
<b>Production Career Pathway</b>
<b>WV CTE Program of Study:</b> MA1900 Machine Tool Technology
<i>Recommended Program Electives:</i>
<b>1908</b> CNC Machining <b>1901</b> Engine Machining <b>1904</b> Integrated Machine Processes <b>1902</b> Machine Tool Technology

<p><b>1906</b> Machining Processes and Applications  <b>0520</b> Work-Based Integration and Transition</p>
<p><b>WV CTE Program of Study: MA2110 Metals Technology</b></p>
<p><i>Recommended Program Electives:</i></p>
<p><b>1905</b> Fundamentals of Machine Process  <b>1987</b> Gas Metal Arc Welding  <b>1989</b> Gas Tungsten Arc Welding  <b>1909</b> Metal Trades Processes And Applications  <b>0520</b> Work-Based Integration and Transition</p>
<p><b>WV CTE Program of Study: MA2120 Millwork and Cabinetmaking</b></p>
<p><i>Recommended Program Electives:</i></p>
<p><b>2124</b> Cabinet Construction  <b>2125</b> Finishing Applications  <b>1823</b> Finishing Carpentry  <b>1827</b> Fundamentals of Building Construction  <b>2122</b> Introduction to Millwork and Cabinetmaking  <b>2123</b> Machine Operations  <b>0520</b> Work-Based Integration and Transition</p>
<p><b>WV CTE Program of Study: MA1980 Welding</b></p>
<p><i>Recommended Program Electives:</i></p>
<p><b>1983</b> Blueprint Reading and Metallurgy  <b>1987</b> Gas Metal Arc Welding  <b>1989</b> Gas Tungsten Arc Welding  <b>1982</b> Ornamental Metalwork  <b>0520</b> Work-Based Integration and Transition</p>

## Marketing Career Cluster™ (MK)

<b>Marketing Management Career Pathway</b>
<b>WV CTE Program of Study:</b> MK0420 Marketing Management
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition

## Science, Technology, Engineering & Mathematics Career Cluster™ (ST)

<b>Engineering &amp; Technology Career Pathway</b>
<b>WV CTE Program of Study:</b> ST2200 Aerospace Engineering (Advanced Career)
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> ST2225 Clean Energy (Advanced Career)
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> ST2175 Energy, Power and Engineered Systems (Advanced Career)
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> ST2205 Innovations in Science and Technology (Advanced Career)
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> ST2460 Pre-Engineering – Project Lead the Way
<i>Recommended Program Electives:</i>
<b>2436</b> Foundations in Engineering
<b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> ST1790 STEM
<i>Recommended Program Electives:</i>
<b>2436</b> Foundations in Engineering
<b>2445</b> Mechanical Services Systems
<b>2451</b> Fundamentals of Millwork and Cabinetmaking
<b>1727</b> Drafting Techniques
<b>1729</b> Fundamentals of Drafting
<b>0520</b> Work-Based Integration and Transition

## Transportation, Distribution & Logistics Career Cluster™ (TR)

Facility & Mobile Equipment Maintenance Career Pathway
<b>WV CTE Program of Study:</b> TR1620 Automotive Technology
<i>Recommended Program Electives:</i>
<b>1621</b> Alternative Fuels <b>1627</b> Automotive Technology AST-4 <b>1629</b> Automotive Technology AST-1 <b>1633</b> Automotive Technology AST-2 <b>1635</b> Automotive Technology AST-3 <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> TR1670 Collision Repair Technology
<i>Recommended Program Electives:</i>
<b>1631</b> Automotive Technology MLR-1 <b>1676</b> Custom Finishing Processes <b>1672</b> Detailing and Interior Parts <b>1673</b> Mechanical and Electrical Components <b>1674</b> Refinishing Techniques <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> TR1740 Diesel Equipment Technology
<i>Recommended Program Electives:</i>
<b>1631</b> Automotive Technology MLR-1 <b>1625</b> Automotive Technology MLR-3 <b>1637</b> Automotive Technology MLR-4 <b>1743</b> Diesel Engine Tune Up and Trouble Shooting <b>1742</b> Diesel Equipment Electrical Systems <b>1745</b> Diesel Preventive Maintenance and Inspection <b>1749</b> Diesel Truck Chassis Concepts <b>0520</b> Work-Based Integration and Transition
<b>WV CTE Program of Study:</b> TR1960 Power Equipment Systems
<i>Recommended Program Electives:</i>
<b>1973</b> Compact Diesels <b>1974</b> Generators <b>1970</b> Power Equipment Systems Applications <b>1972</b> Recreational Applications <b>0520</b> Work-Based Integration and Transition
Transportation Systems / Infrastructure Planning, Management & Regulation Career Pathway
<b>WV CTE Program of Study:</b> TR2215 Global Logistics and Supply Chain Management (Advanced Career)
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition

<b>WV CTE Program of Study:</b> TR1625 Transportation Technology
<i>Recommended Program Electives:</i>
<b>0520</b> Work-Based Integration and Transition

**West Virginia Career Cluster™ (WV)**

<b>Career Integrated Experiential Learning Career Pathway</b>
<b>WV CTE Program of Study:</b> WV5501 Career Integrated Experiential Learning (CIEL)
<i>Recommended Program Electives:</i>
N/A

<b>Individual Work Readiness Certificate Career Pathway</b>
<b>WV CTE Program of Study:</b> WV5502 Individual Work Readiness Certificate (IWRC)
<i>Recommended Program Electives:</i>
N/A



