

**Career and Technical Education – State Approved Clusters, Pathways, Embedded Credit, and Programs of Study – Alphabetical**

| <b>Program of Study</b>                  | <b>Cluster #</b> | <b>Cluster</b>                             | <b>Pathway</b>                               | <b>Academic Embedded Credit OR Course Substitution (See Section Below)</b> |
|--|------------------|--|--|--|
| Accounting                               | BM1410           | Business Management and Administration     | Business Finance and Accounting              |  |
| Advanced Manufacturing (Advanced Career) | MA2235           | Manufacturing                              | Manufacturing Production Process Development |  |
| Aerospace Engineering (Advanced Career)  | ST2200           | Science, Technology, Engineering and Math  | Engineering & Technology                     |  |
| Aesthetics                               | HU2315           | Human Services                             | Personal Care Services                       |  |
| Agribusiness Systems                     | AG0120           | Agriculture, Food and Natural Resources    | Agribusiness Systems                         |  |
| Allied Health                            | HE0715           | Health Science                             | Therapeutic Services                         | Transition ELA for Seniors (Embedded Credit)                               |
| Animal Processing                        | AG0230           | Agriculture, Food and Natural Resources    | Food Products & Processing Systems           |  |
| Animal Systems                           | AG0220           | Agriculture, Food and Natural Resources    | Animal Systems                               |  |
| Automotive Technology                    | TR1620           | Transportation, Distribution and Logistics | Facility & Mobile Equipment Maintenance      | Transition Math for Seniors (Embedded Credit)                              |
| Baking and Pastry                        | HO1015           | Hospitality and Tourism                    | Restaurants & Food/ Beverage Services        |  |
| Barbering                                | HU2305           | Human Services                             | Personal Care Services                       |  |
| Barbering Apprenticeship                 | HU2050           | Human Services                             | Personal Care Services                       |  |
| Biomedical Science (PLTW)                | HE0780           | Health Science                             | Biotechnology Research & Development         | Transition ELA for Seniors (Embedded Credit)                               |
| Broadcast Journalism                     | AV1682           | Arts, A/V Technology and Communications    | Journalism & Broadcasting                    |  |
| Broadcasting Technology                  | AV1680           | Arts, A/V Technology and Communications    | Journalism & Broadcasting                    |  |
| Building Maintenance and Operations      | AR1800           | Architecture and Construction              | Maintenance/Operations                       | Transition Math for Seniors (Embedded Credit)                              |
| Business Finance                         | FI1430           | Finance                                    | Business Finance                             |  |
| Career and Work Skills Training (CWST)   | BM0510           | Business Management and Administration     | Administrative Support                       |  |

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|--|------------------|--|---|---|
| Career Integrated Experiential Learning (CIEL) | WV5501           | West Virginia Specific Career              | Career Integrated Experiential Learning     |   |
| Careers in Education                           | ED1300           | Education and Training                     | Teaching/Training                           | Transition ELA for Seniors (Embedded Credit)  |
| Carpentry                                      | AR1820           | Architecture and Construction              | Construction                                | Transition Math for Seniors (Embedded Credit)   |
| CASE Animal Science                            | AG0221           | Agriculture, Food and Natural Resources    | Animal Systems                              | 3rd Science - ANIMAL AND PLANT BIOTECHNOLOGY Course (0164)  |
| CASE Plant Science                             | AG0215           | Agriculture, Food and Natural Resources    | Plant Systems                               | 3rd Science - ANIMAL AND PLANT BIOTECHNOLOGY Course (0164)<br>3rd Science - PRINCIPLES OF AGRICULTURAL SCIENCE- PLANT Course (0166) |
| Chemical Energy and Mechanical Technologies    | AG2185           | Agriculture, Food and Natural Resources    | Natural Resources Systems                   |   |
| Cisco Networking Academies                     | IT1640           | Information Technology                     | Network Systems                             |   |
| Clean Energy (Advanced Career)                 | ST2225           | Science, Technology, Engineering and Math  | Engineering & Technology                    |   |
| Coding, App and Game Design                    | IT1442           | Information Technology                     | Interactive Media                           |   |
| Collision Repair Technology                    | TR1670           | Transportation, Distribution and Logistics | Facility & Mobile Equipment Maintenance     |   |
| Computer Science (Project Lead the Way)        | IT2215           | Information Technology                     | Computer Programming & Software Development |   |
| Computer Systems Repair Technology             | IT1680           | Information Technology                     | Network Systems                             |   |
| Diagnostics Services                           | HE0718           | Health Science                             | Diagnostic Services                         | Transition ELA for Seniors (Embedded Credit)  |
| Diesel Equipment Technology                    | TR1740           | Transportation, Distribution and Logistics | Facility & Mobile Equipment Maintenance     |   |

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|---|------------------|--|---|---|
| Drafting  | AR1720           | Architecture and Construction                | Design/Pre-construction   | <ul style="list-style-type: none"> <li>Transition Math for Seniors (Embedded Credit)</li> <li>Art - Drafting Techniques course (1727)</li> </ul>                                  |
| Early Childhood Education                                     | HU1000           | Human Services                               | Early Childhood Development & Services                                    | Transition ELA for Seniors (Embedded Credit)  |
| Electrical Technician   | AR1760           | Architecture and Construction                | Construction  | Transition Math for Seniors (Embedded Credit)   |
| Electronics Technician  | MA1780           | Manufacturing                                | Maintenance, Installation, & Repair                                       |   |
| Emergency and Firefighting Management Services                | LA2200           | Law, Public Safety, Corrections and Security | Emergency and Firefighting Management Services                            | Transition Math for Seniors (Embedded Credit)   |
| Energy, Power and Engineered Systems (Advanced Careers)       | ST2175           | Science, Technology, Engineering and Math    | Engineering & Technology  | <ul style="list-style-type: none"> <li>Transition Math for Seniors (Embedded Credit)</li> <li>Advanced Math Modeling (Embedded Credit)</li> <li>3<sup>rd</sup> Science</li> </ul> |
| Environmental Technology and Management                       | AG2190           | Agriculture, Food and Natural Resources      | Natural Resources Systems   |   |
| Food Science and Nutrition                                    | HE1215           | Health Science                               | Support Services  |   |
| Forest Industry   | AG0130           | Agriculture, Food and Natural Resources      | Natural Resources Systems   |   |
| Global Logistics and Supply Chain Management (Advance Career) | TR2215           | Transportation, Distribution and Logistics   | Transportation Systems / Infrastructure Planning, Management & Regulation |   |
| Graphic Communications  | AV1830           | Arts, A/V Technology and Communications      | Printing Technology   |   |
| Graphic Design  | AV1850           | Arts, A/V Technology and Communications      | Visual Arts   | Art - Fundamentals of Graphic Design course (1857) OR Advanced Graphic Design (1859)  |

| <b>Program of Study</b>   | <b>Cluster #</b> | <b>Cluster</b>                               | <b>Pathway</b>                        | <b>Academic Embedded Credit OR Course Substitution (See Section Below)</b> |
|---|------------------|--|---------------------------------------|--|
| Hair Stylist  | HU2310           | Human Services                               | Personal Care Services                |  |
| Health and Safety Leadership                                      | HU2320           | Human Services                               | Family & Community Services           |  |
| Health Informatics (Advanced Career)                              | HE2220           | Health Science                               | Health Informatics                    |  |
| Health Informatics-Pilot  | HE0742           | Health Science                               | Health Informatics                    | Transition ELA for Seniors (Embedded Credit)                               |
| Hospitality and Tourism Concentration                             | HO1210           | Hospitality and Tourism                      | Travel & Tourism                      |  |
| HVAC Technician   | AR1600           | Architecture and Construction                | Maintenance/Operations                | Transition Math for Seniors (Embedded Credit)                              |
| Individual Work Readiness Certificate (IWRC)                      | WV5502           | West Virginia Specific Career                | Individual Work Readiness Certificate |  |
| Industrial Equipment Maintenance                                  | MA1870           | Manufacturing                                | Maintenance, Installation, & Repair   |  |
| Informatics (Advanced Career)                                     | IT2210           | Information Technology                       | Information Support & Services        |  |
| Information Management/Microsoft Computer Applications Specialist | IT1450           | Information Technology                       | Interactive Media                     |  |
| Innovations in Science and Technology (Advanced Career)           | ST2205           | Science, Technology, Engineering and Math    | Engineering & Technology              |  |
| JROTC   | GO1070           | Government and Public Administration         | National Security                     | PE – Completion of JROTC I and JROTC II                                    |
| Law and Public Safety   | LA1020           | Law, Public Safety, Corrections and Security | Law Enforcement Services              | Transition ELA for Seniors (Embedded Credit for Law Enforcement)           |
| Machine Tool Technology   | MA1900           | Manufacturing                                | Production                            | Transition Math for Seniors (Embedded Credit)                              |
| Management and Administrative Support                             | BM1465           | Business Management and Administration       | Administrative Support                |  |
| Marketing Management  | MK0420           | Marketing                                    | Marketing Management                  | Transition ELA for Seniors (Embedded Credit)                               |
| Masonry   | AR1910           | Architecture and Construction                | Construction                          |  |
| Metals Technology   | MA2110           | Manufacturing                                | Production                            |  |
| Millwork and Cabinetmaking  | MA2120           | Manufacturing                                | Production                            |  |

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|---|------------------|--|--|---|
| Multimedia Publishing                   | AV1684           | Arts, A/V Technology and Communications      | Journalism & Broadcasting                    |   |
| Nail Technology                         | HU2055           | Human Services                               | Personal Care Services                       |   |
| Natural Resources Management            | AG0170           | Agriculture, Food and Natural Resources      | Natural Resources Systems                    |   |
| Paralegal Assistant                     | LA1490           | Law, Public Safety, Corrections and Security | Legal Services                               |   |
| Personal Fitness and Wellness Training  | HE1095           | Health Science                               | Support Services                             |   |
| Pet Grooming                            | AG0223           | Agriculture, Food and Natural Resources      | Animal Systems                               |   |
| Plant Systems                           | AG0210           | Agriculture, Food and Natural Resources      | Plant Systems                                | Art –Floriculture course (0213)   |
| Plumbing                                | AR2140           | Architecture and Construction                | Construction                                 |   |
| Power Equipment Systems                 | TR1960           | Transportation, Distribution and Logistics   | Facility & Mobile Equipment Maintenance      |   |
| Power, Structural and Technical Systems | AG0110           | Agriculture, Food and Natural Resources      | Power, Structural & Technical Systems        |   |
| Pre-Engineering – Project Lead the Way  | ST2460           | Science, Technology, Engineering and Math    | Engineering & Technology                     | Advanced Math Modeling (Embedded Credit)<br><br>3rd Science - PRINCIPLES OF ENGINEERING Course 2463 OR HUMAN BODY SYSTEMS Course 0766 |
| Prevention Support Specialist           | HU1015           | Human Services                               | Counseling & Mental Health Services          |   |
| ProStart Restaurant Management          | HO1010           | Hospitality and Tourism                      | Restaurants & Food/ Beverage Services        |   |
| Rehabilitation Specialist               | HU1080           | Human Services                               | Family & Community Services                  |   |
| Robotics                                | MA1630           | Manufacturing                                | Manufacturing Production Process Development |   |
| Social Services Assistant               | HU1025           | Human Services                               | Family & Community Services                  |   |

| <b>Program of Study</b>                        | <b>Cluster #</b> | <b>Cluster</b>                               | <b>Pathway</b>  | <b>Academic Embedded Credit OR Course Substitution (See Section Below)</b> |
|--|------------------|--|---|--|
| STEM   | ST1790           | Science, Technology, Engineering and Math    | Engineering & Technology  |  |
| Support Services                               | HE0728           | Health Science                               | Support Services  | Transition ELA for Seniors (Embedded Credit)                               |
| Taxidermy                                      | AG0224           | Agriculture, Food and Natural Resources      | Animal Systems  |  |
| Therapeutic Services                           | HE0723           | Health Science                               | Therapeutic Services  | Transition ELA for Seniors (Embedded Credit)                               |
| Transportation Technology                      | TR1625           | Transportation, Distribution and Logistics   | Transportation Systems / Infrastructure Planning, Management & Regulation |  |
| Turf and Landscape Systems                     | AG0214           | Agriculture, Food and Natural Resources      | Plant Systems   |  |
| Virtual Accounting                             | BM1410           | Business Management and Administration       | Business Finance and Accounting   |  |
| Virtual Animal Science                         | AG0222           | Agriculture, Food and Natural Resources      | Animal Systems  |  |
| Virtual Childcare                              | HU2322           | Human Services                               | Family & Community Services   |  |
| Virtual Counseling and Mental Health           | HU2323           | Human Services                               | Counseling & Mental Health Services                                       |  |
| Virtual Criminology                            | LA1021           | Law, Public Safety, Corrections and Security | Law Enforcement Services  |  |
| Virtual Family Services                        | HU2321           | Human Services                               | Family & Community Services   |  |
| Virtual Health and Safety Leadership           | HU2320           | Human Services                               | Family & Community Services   |  |
| Virtual Management and Administrative Support  | BM1465           | Business Management and Administration       | Administrative Support  |  |
| Virtual Personal fitness and Wellness Training | HE1095           | Health Science                               | Support Services  |  |
| Virtual Prevention Support Specialist          | HU1015           | Human Services                               | Counseling & Mental Health Services                                       |  |
| Virtual Simulation and Game Development        | IT1445           | Information Technology                       | Interactive Media   |  |
| Virtual Support Services                       | HE0728           | Health Science                               | Support Services  |  |

| <b>Program of Study</b>   | <b>Cluster #</b> | <b>Cluster</b> | <b>Pathway</b>                      | <b>Academic Embedded Credit OR Course Substitution (See Section Below)</b>                |
|---------------------------|------------------|----------------|-------------------------------------|---|
| Virtual Wellness Coaching | HU1016           | Human Services | Counseling & Mental Health Services |   |
| Welding                   | MA1980           | Manufacturing  | Production                          | Transition Math for Seniors (Embedded Credit)<br>Art - Ornamental Metalwork course (1982) |

Career and Technical Education – State Approved Clusters, Pathways and Programs of Study – Cluster/Pathway

**Agriculture, Food and Natural Resources**

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**Agribusiness Systems**

Agribusiness Systems - AG0120

**Animal Systems**

- Animal Systems - AG0220
- CASE Animal Science - AG0221
- Pet Grooming - AG0223
- Taxidermy - AG0224
- Virtual Animal Science - AG0222

**Food Products & Processing Systems**

Animal Processing - AG0230

**Natural Resources Systems**

- Chemical Energy and Mechanical Technologies - AG2185
- Environmental Technology and Management - AG2190
- Forest Industry - AG0130
- Natural Resources Management - AG0170

**Plant Systems**

- CASE Plant Science - AG0215
- Plant Systems - AG0210
- Turf and Landscape Systems - AG0214

**Power, Structural & Technical Systems**

Power, Structural and Technical Systems - AG0110

**Architecture and Construction**

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**Construction**

Carpentry - AR1820

Electrical Technician - AR1760  
Masonry - AR1910  
Plumbing - AR2140

**Design/Pre-construction**

Drafting - AR1720

**Maintenance/Operations**

Building Maintenance and Operations - AR1800  
HVAC Technician - AR1600

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**Arts, A/V Technology and Communications**

**Journalism & Broadcasting**

Broadcast Journalism - AV1682  
Broadcasting Technology - AV1680  
Multimedia Publishing - AV1684

**Printing Technology**

Graphic Communications - AV1830

**Visual Arts**

Graphic Design - AV1850

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**Business Management and Administration**

**Administrative Support**

Career and Work Skills Training (CWST) - BM0510  
Management and Administrative Support - BM1465  
Virtual Management and Administrative Support - BM1465

**Business Finance and Accounting**

Accounting - BM1410  
Virtual Accounting - BM1410

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**Education and Training**

**Teaching/Training**

Careers in Education - ED1300

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**Finance**

**Business Finance**

Business Finance - FI1430

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**Government and Public Administration**

**National Security**

JROTC - GO1070

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**Health Science**

**Biotechnology Research & Development**

Biomedical Science (PLTW) - HE0780

**Diagnostic Services**

Diagnostics Services - HE0718

**Health Informatics**

Health Informatics (Advanced Career) - HE2220  
Health Informatics-Pilot - HE0742



### **Support Services**

- Food Science and Nutrition - HE1215
- Personal Fitness and Wellness Training - HE1095
- Support Services - HE0728
- Virtual Personal fitness and Wellness Training - HE1095
- Virtual Support Services - HE0728

### **Therapeutic Services**

- Allied Health - HE0715
- Therapeutic Services - HE0723

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## **Hospitality and Tourism**

### **Restaurants & Food/ Beverage Services**

- Baking and Pastry - HO1015
- ProStart Restaurant Management - HO1010

### **Travel & Tourism**

- Hospitality and Tourism Concentration - HO1210

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## **Human Services**

### **Counseling & Mental Health Services**

- Prevention Support Specialist - HU1015
- Virtual Counseling and Mental Health - HU2323
- Virtual Prevention Support Specialist - HU1015
- Virtual Wellness Coaching - HU1016

### **Early Childhood Development & Services**

- Early Childhood Education - HU1000

### **Family & Community Services**

- Health and Safety Leadership - HU2320
- Rehabilitation Specialist - HU1080
- Social Services Assistant - HU1025
- Virtual Childcare - HU2322
- Virtual Family Services - HU2321
- Virtual Health and Safety Leadership - HU2320

### **Personal Care Services**

- Aesthetics - HU2315
- Barbering - HU2305
- Barbering Apprenticeship - HU2050
- Hair Stylist - HU2310
- Nail Technology - HU2055

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## **Information Technology**

### **Computer Programming & Software Development**

- Computer Science (Project Lead the Way) - IT2215

### **Information Support & Services**

- Informatics (Advanced Career) - IT2210

### **Interactive Media**

- Coding, App and Game Design - IT1442

Information Management/Microsoft Computer Applications Specialist - IT1450  
Virtual Simulation and Game Development - IT1445

### **Network Systems**

Cisco Networking Academies - IT1640  
Computer Systems Repair Technology - IT1680

## **Law, Public Safety, Corrections and Security**

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### **Emergency and Firefighting Management Services**

Emergency and Firefighting Management Services - LA2200

### **Law Enforcement Services**

Law and Public Safety - LA1020  
Virtual Criminology - LA1021

### **Legal Services**

Paralegal Assistant - LA1490

## **Manufacturing**

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### **Maintenance, Installation, & Repair**

Electronics Technician - MA1780  
Industrial Equipment Maintenance - MA1870

### **Manufacturing Production Process Development**

Advanced Manufacturing (Advanced Career) - MA2235  
Robotics - MA1630

### **Production**

Machine Tool Technology - MA1900  
Metals Technology - MA2110  
Millwork and Cabinetmaking - MA2120  
Welding - MA1980

## **Marketing**

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### **Marketing Management**

Marketing Management - MK0420

## **Science, Technology, Engineering and Math**

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### **Engineering & Technology**

Aerospace Engineering (Advanced Career) - ST2200  
Clean Energy (Advanced Career) - ST2225  
Energy, Power and Engineered Systems (Advanced Careers) - ST2175  
Innovations in Science and Technology (Advanced Career) - ST2205  
Pre-Engineering – Project Lead the Way - ST2460  
STEM - ST1790

## **Transportation, Distribution and Logistics**

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### **Facility & Mobile Equipment Maintenance**

Automotive Technology - TR1620  
Collision Repair Technology - TR1670  
Diesel Equipment Technology - TR1740  
Power Equipment Systems - TR1960

**Transportation Systems / Infrastructure Planning, Management & Regulation**

Global Logistics and Supply Chain Management (Advance Career) - TR2215

Transportation Technology - TR1625

**West Virginia Specific Career**

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**Career Integrated Experiential Learning**

Career Integrated Experiential Learning (CIEL) - WV5501

**Individual Work Readiness Certificate**