

Occupational Information

External Resources by National Career Cluster

School: [Fannett-Metal School District](#)

ADVANCED MANUFACTURING

The Advanced Manufacturing Career Cluster blends innovative technologies and practices to enhance design and production. It covers areas such as engineering, research and development, automation and artificial intelligence, equipment maintenance, safety protocols, and quality control. This Cluster aims to increase efficiency, reduce waste, ensure safety, and produce high-quality goods, driving the industry's growth and adapting to modern demands.

Engineering

- Engineering & Technology
- Pre-Engineering
- Semiconductor Manufacturing
- Engineering Technology

Industrial Machinery

- Industrial Machine Mechanics
- Precision Machining

Safety & Quality Assurance

Production & Automation

- Apparel & Textile Production
- Manufacturing Production Process Development

Robotics

- Industry 4.0
- Robotics Technology

Safety & Quality Assurance

- Safety & Environmental Assurance

Career Information:

- [Advanced Manufacturing Career Cluster](#)
- [Machinists and Tool and Die Makers: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Production Occupations: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)

Employers:

- APX
- Burnside America
- Dawson Performance
- Leshner Machine
- Olympic Steel
- CNC Custom Machine
- Manitowoc
- Penn College of Technology

Education:

Lackawanna College
Thaddeus Stevens College of Technology
Mifflin County Academy of Science & Technology

AGRICULTURE

The Agriculture Career Cluster concentrates on scientific advancement of agriscience, cultivation, processing, and distribution of agricultural products, employing advanced technologies and sustainable practices to optimize global food systems. This Cluster also supports other plant- and animal-based industries including regenerative agriculture, sustainable logging, and fisheries. This Cluster has meaningful connections with the Energy and Natural Resources Cluster, highlighting a symbiotic relationship that emphasizes stewardship and resilient communities.

Agribusiness

- Agribusiness
- Agricultural Policy
- Agricultural Finance Agricultural

Food Science & Processing

- Food Science
- Meat Science
- Sustainable Food &

Farming Plant Systems

- Horticulture
- Forestry

- Plant Science
- Aquaculture
- Marine Biology

Technology & Automation

- Agricultural Technology
- Precision Agriculture
- Urban Farming
- Agricultural Mechanics

Animal Systems

- Animal Nutrition
- Livestock Management
- Veterinary Science

Career Information:

- [Agriculture Career Cluster](#)
- [Forest and Conservation Workers : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Farming, Fishing, and Forestry Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Building and Grounds Cleaning Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Life, Physical, and Social Science Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Agriculture, Food & Natural Resources career cluster | Explore Careers | CareerOneStop](#)

Employers:

- Fayetteville Contractors
- Hooper, Inc.
- Schaeffer Equipment
- Stoneham’s Power Sports
- Truck Mounts

Education:

Penn State College of Agricultural Sciences
University of Maryland College of Agriculture and Natural Resources
Delaware Valley University

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ARTS, ENTERTAINMENT, & DESIGN

The Arts, Entertainment, & Design Career Cluster combines creative roles in visual and performing arts, film, journalism, fashion, interior design, and creative technologies. This Cluster focuses on creating, producing, and sharing artistic and design work across multiple platforms, aiming to entertain, inform, beautify, and inspire.

Design & Digital Arts

- Digital Animation
- Graphic Arts

Fashion & Interiors

- Apparel & Textiles
- Fashion Design
- Interior Design

Fine Arts

- Fine Arts
- Museum Studies
Lighting & Sound
Technology

- Audio & Visual Technology

- Sound Engineering

Media Production & Broadcasting

- Broadcasting Technology
- Filmmaking: Production & Managerial Arts
- Journalism
- Video Production

Performing Arts

- Performing Arts
- Stage Design & Management

Career Information:

- [Arts, Entertainment, & Design Career Cluster](#)
- [Arts and Design Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Media and Communication Occupations: Occupational Outlook Handbook](#)
- [Arts, audio/video and communications career cluster Explore Careers CareerOne Stop](#)

Employers:

- Advanced Graphix
- Art Sign Company
- C-Ely Signs
- CopyQuik
- Graphics Universal
- Printaway

Education:

Pennsylvania College of Art and Design
Performing Arts School of Central Pennsylvania
Susquehanna University

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CONSTRUCTION

The Construction Career Cluster focuses on professions involved in designing, planning, managing, and executing projects in the built environment. It emphasizes sustainable building practices to ensure that structures are both environmentally responsible and resilient. Careers in this Cluster are pivotal in creating durable infrastructure that meets present needs without compromising future generations' ability to meet their own, covering a range of roles from architects and engineers to construction managers and skilled tradespeople.

Architecture & Civil Engineering:

- Architectural Design
- Drafting
- Landscape Architecture

Construction Planning & Development

- Construction Management
- Surveying

Equipment Operation & Maintenance

- Diesel Mechanics
 - Heavy Machine Operation
- #### Skilled Trades

- Carpentry
- Electrical Systems
- Green Construction
- HVAC-R
- Welding Technology

Career Information:

- o [Construction Career Cluster](#)
- o [Construction and Extraction Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- o [Architecture and Engineering Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- o [Architecture and construction career cluster |Explore Careers |CareerOneStop](#)

Employers:

- B&D Masonry
- Bradley Angle
- DLG Plumbing & Heating
- Ed Twine Construction
- McLaughlin Energy Services
- Mike Green
- Nitterhouse Concrete
- Sam Gardner
- Stouffer Mechanical Contractor

Education:

Central Pennsylvania Institute of Science and Technology
Job Corp
Local 26 IBEW

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DIGITAL TECHNOLOGY

The Digital Technology Career Cluster focuses on developing digital systems for communication and data storage using critical technologies such as artificial intelligence (AI), data analytics, and cybersecurity. This Cluster builds skills necessary for all careers to navigate and lead in the constantly evolving tech landscape and drives innovation across all industries to tackle complex challenges and opportunities in communities and economies.

Data Science & A.I.

- Applied Data Science & Analytics

Network Systems & Cybersecurity

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| <ul style="list-style-type: none"> • Computer Networking • Cybersecurity • IT Systems • Software Solutions | <ul style="list-style-type: none"> • App Design • Computer Simulation • Game Development |
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Career Information:

- [Digital Technology Career Cluster](#)
- [Computer and Information Technology Occupations: Occupational Outlook Handbook::](#)
- [U.S. Bureau of Labor Statistics](#)
- [Information Security Analysts: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Network and Computer Systems Administrators: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Information Technology career cluster Explore Careers CareerOne Stop](#)

Employers:

- ATA Security
- Danfoss
- Letterkenny Army Depot
- Niche Electronics Technologies

Education:

South Hills School of Business and Technology
Pennsylvania College of Technology
Harrisburg University of Science and Technology

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EDUCATION

The Education Career Cluster spans careers aimed at fostering learning from early childhood to adulthood, including teaching, instructional design, counseling services, community engagement, learner support, and educator training. This Cluster emphasizes quality education standards and lifelong learning.

Early Childhood Development

- Early Childhood Education

Developmental Education

- Education Administration & Leadership
- Educational Leadership

Learner Support & Community Engagement

Professional Support Services

- Library Science
- Teaching, Training & Facilitation
- Principles of Teaching

Career Information:

- [Education Career Cluster](#)
- [Educational Instruction and Library Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Bureau of Labor Statistics](#)
- [School and Career Counselors and Advisors : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Education & Training career cluster | Explore Careers | CareerOneStop](#)

Employers:

- Fannett-Metal SD
- Southern Huntington SD
- James Buchanan SD
- Chambersburg SD
- Franklin County Career & Technical School
- IU 12

Education:

Shippensburg University
Wilson College
Messiah University

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ENERGY & NATURAL RESOURCES

The Energy & Natural Resources Career Cluster spans careers in traditional and renewable fuel production, power generation and energy conversion, utilities, environmental preservation, ecological research, and resource extraction. These industries focus on efficient and responsible resource management, including conservation, transmission, distribution and storage, to minimize environmental impacts and meet global energy needs. Careers in this Cluster are dedicated to creating a sustainable future.

Clean & Alternative Energy

- Renewable Energy
- Solar System Design

Conservation & Land Management

- GIS Mapping
- Wildlife Management

Ecological Research & Development

- Environmental

Engineering

- Environmental Management

Resource Extraction

- Mining Technologies
- Energy Transfer

Utilities

- Telecommunications
- Utility Management and Repair

Career Information:

- [Energy and Natural Resources Career Cluster](#)
- [Power Plant Operators, Distributors, and Dispatchers Occupations: Occupational Outlook Handbook::](#)
- [Electrical Powerline Installers and Repairers U.S. Bureau of Labor Statistics](#)

Employers:

- AAIM Controls
- Conner Electrical Co. Inc.
- Edwin L Heim Co.
- Ellsworth Electric
- Frank B Leshner Co., Inc.
- Glen L. Myers
- Letterkenny Army Depot
- Tele-Plus Corporation

Education:

West Virginia University
Pennsylvania College of Technology
Northern Virginia Community College

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FINANCIAL SERVICES

The Financial Services Career Cluster encompasses careers in managing and advising financial transactions, including banking, lending, corporate finance, debt management, accounting, insurance, and real estate. These careers contribute to economic stability and growth by supporting the financial health of individuals and organizations.

Accounting

- Business Finance
- Economics

Real Estate

Banking & Credit

Financial Strategy and Investments

Insurance

Career Information:

[Financial Services Career Cluster](#)

[Accountants and Auditors : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)

[Financial Managers : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)

[Insurance Sales Agents : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)

[Business and Financial Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor](#)

Employers:

- Juniata Valley Bank
- Brown and Walters
- RKL, LLC
- PDM Insurance

Education:

Elizabethtown College
York College of PA
CCCS of Western Pennsylvania

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HEALTHCARE & HUMAN SERVICES

The Healthcare & Human Services Career Cluster promotes whole health in individuals and communities through a diverse array of services. This sector includes technical, mental, and therapeutic services and personal care, supported by medical and social sciences. By addressing social determinants of health and leveraging health data and science, this Cluster aims to enhance the overall health and resilience of individuals, families, and communities.

- Behavioral & Mental Health
- Biotechnology Research & Development
 - Biomedical Science
 - Biotechnology Research & Development
- Community & Social Services
 - Community Health
 - Human Services
 - Social Work
- Health Data & Administration
 - Health Informatics
 - Medical Assisting

- Personal Care Services
 - Barbering
 - Cosmetology
 - Massage & Spa Services
- Physical Health
 - Allied Health
 - Nursing
 - Pharmacy Tech
 - Physical Therapy
 - Radiology
 - Sports Medicine

Career Information:

- o [Personal Care and Service Occupations: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- o [Health science career cluster Explore Careers CareerOneStop](#)
- o [Human Services career cluster Explore Careers CareerOneStop](#)
- o [Healthcare & Human Services Career Cluster](#)

Employers:

- Golden Heart
- Home Healthcare
- Menno Haven
- Shook Home
- SpiriTrust Lutheran

Education:

Harrisburg Area Community College
Temple University, Harrisburg Campus
Wilson College

HOSPITALITY, EVENTS, AND TOURISM

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The Hospitality, Events, & Tourism Career Cluster encompasses a broad range of services and experiences related to food and beverage, lodging, travel, events, and conferences. This Cluster focuses on delivering quality customer service, memorable experiences, and seamless logistics to cater to the needs and preferences of guests, tourists, and event participants. The Cluster is characterized by its diversity, including everything from luxury hotels and international travel to local dining, cultural events, and business conferences, aiming to enhance the overall experience of visitors and attendees.

Accommodations

- Hospitality Management
- Hotel & Resort Management

Culinary & Food Services

- Culinary Services
- Nutrition
- Pastry Arts
- Restaurant Management

Conferences & Events

- Hospitality Management
- Hotel & Resort Management

Travel & Leisure

- Outdoor Recreation
- Tourism Management

Career Information:

- [Hospitality, Events, & Tourism Career Cluster](#)
- [Chefs and Head Cooks: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)

Employers:

- Chambersburg Country
- Menno Haven
- OMNI Bedford Springs

Education:

Penn State School of Hospitality Management
York College of PA
Messiah University
Indiana University of Pennsylvania

MANAGEMENT & ENTREPRENEURSHIP

The Management & Entrepreneurship Career Cluster involves skills and occupations that are essential

Career Clusters, Cluster Definition, Sub-Clusters and Example Programs of Study obtained from [Career Clusters -Advance CTE](#)

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across all industries, focusing on business administration, operations optimization, strategic planning, workforce management, and entrepreneurship. It merges key areas such as data management and analysis, human resources, general operations, administrative support, project management, and organizational leadership. This Cluster ensures that businesses across all industries efficiently meet their goals, adapt to market changes, and maintain competitive advantage. By emphasizing entrepreneurship, this Cluster supports the creation of new ventures, driving economic growth and innovation and making it a cornerstone of modern economies.

This Career Cluster is also a Cross-Cutting Cluster as the skills gained through this Career Clusters area are applicable across all Career Clusters. Practitioners are encouraged to combine content from this Cluster across other CTE programs.

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| <p>Business Information Management</p> <ul style="list-style-type: none"> • Business Technology Applications <p>Entrepreneurship & Small Business</p> <ul style="list-style-type: none"> • Entrepreneurship <p>Leadership & Operations</p> <ul style="list-style-type: none"> • Business Essentials | <ul style="list-style-type: none"> • Business Management • Human Resources Management <p>Project Management</p> <ul style="list-style-type: none"> • Principles of Management <p>Regulation</p> <ul style="list-style-type: none"> • Business Law |
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Career Information:

- [Management Occupations : Occupational Outlook Handbook : : U.S. Bureau of Labor Statistics](#)
- [Business Management and Administration career cluster | Explore Careers | CareerOneStop](#)

Employers:

- Blaise Alexander Collision
- Forrester’s Auto Body Shop
- Manitowac
- Brechbill and Helman
- Brian Zoeller
- Blaise Alexander Chevrolet
- Forrester Lincoln

Education:

<u>Central Penn College</u>
<u>Shippensburg University</u>
<u>Lebanon Valley College</u>

MARKETING & SALES

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The Marketing & Sales Career Cluster focuses on promoting products, understanding consumer needs, engaging with communities, and driving sales. It integrates digital marketing, data analysis, brand promotion, customer relationship management, strategic communications, human-centered design, and retail strategies to build strong customer connections and support business growth. This Cluster is essential in all industries for creating value, effectively reaching and engaging target audiences, and achieving commercial success in a competitive marketplace.

Market Research, Analytics, & Ethics

- Marketing Research
- Social Media & Analytics

Marketing & Advertising

- Marketing

- Marketing Management

Retail & Customer Experience

- Merchandising

Strategic Sales

- Business Communications

Career Information:

- [Sales Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Office and Administrative Support Occupations : Occupational Outlook Handbook: : U.S.](#)

Employers:

- Abel Castro Insurance
- Klenzing's Landscaping
- Kmart Distribution
- PA Municipal Code Alliance

Education:

University of Pittsburgh
American Graphics Institute

PUBLIC SERVICE & SAFETY

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The Public Service & Safety Career Cluster encompasses roles in local, state, and federal government; legal and justice systems; security; and military operations, all aimed at promoting civic responsibility and ensuring the well-being, security, functionality, and resilience of communities, states, and countries.

Emergency Response

- Emergency & Fire Management Services
- Fire Science

- Economics
- Public Management & Administration
- Regional & Urban Planning

Judicial Systems

- Emergency & Fire Management Services
- Fire Science

Military & National Security

- National Security

Local, State & Federal Services

Public Safety

- Criminal Justice
- Law Enforcement Services
- Security & Protective Services

Career Information:

- [Public Service & Safety Career Cluster](#)
- [Police and Detectives: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Legal Occupations: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Protective Service Occupations: Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)
- [Employment State Police Commonwealth of Pennsylvania](#)

Employers:

- Chambersburg Hospital
- PA State Police
- G-Force Security Solutions

Education:

Harrisburg Area Community College
Mansfield Public Safety Training Institute
Pennsylvania Police Academy
Shippensburg University

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The Supply Chain & Transportation Career Cluster encompasses the transfer, coordination, and management of goods from production to consumption, ensuring efficient movement across various modes of transportation including air, ground, and water, as well as maintenance of the respective transport modes. This Cluster integrates logistics and distribution networks to facilitate the seamless flow of materials and products, playing a crucial role in global commerce, economic development, and community health.

Air & Space Transportation

- Aviation Technology
- Avionics

Ground & Rail Transportation

- Commercial Driving
- Railroad Operations

Maintenance & Repair

- Auto Body Technology
- Automotive Maintenance

- Diesel Mechanics
- Electric Vehicle Maintenance

Marine Transportation

- Marine Transport
- Vessel Operations

Planning & Logistics

- Transportation, Distribution, & Logistics Systems

Purchasing & Warehousing

- Business Administration
- Supply Chain Management

Career Information:

[Supply Chain & Transportation Career Cluster](#)

[Diesel Service Technicians and Mechanics : Occupational Outlook Handbook: : U.S. Bureau of](#)

[Installation, Maintenance, and Repair Occupations : Occupational Outlook Handbook: : U.S. Bureau of Labor Statistics](#)

Employers:

[Transportation and Material Moving Occupations : Occupational Outlook Handbook: : U.S.](#)

- Wal-Mart Distribution Center
- Proctor & Gamble
- Lowe's Distribution Center
- Penske
- Staple's Distribution Center
- FedEx
- Weaver's Bussing

Education:

Shippensburg University
Wilson College
Lehigh Career and Technical Institute