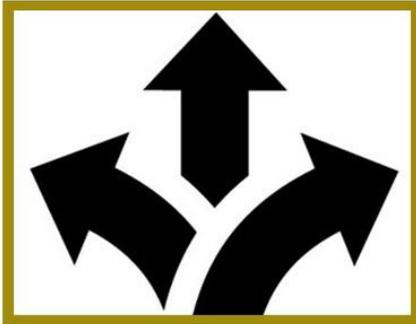


**CAREER CONNECTIONS**  
**CAREERS CLUSTERS**  
**& PATHWAYS**  
**HANDBOOK**



**STUDENTS ABILITIES**  
**CONFIDENCE ADAPT PLAN**  
**SKILLS TRANSITION**  
**CLEAR WORLD IMPLEMEN**

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## **Career Clusters & Pathways Handbook**

Choosing the best career path is an important decision that involves your skills, educational background and interests. Knowing the sixteen career clusters can help you choose the most appropriate path, which can guide you from your education through retirement.

This handbook does not include every single potential career pathway in existence. We based these lists off of the Government of Canada Career Clusters and felt that this was a good place to start. This list should provide Career Connections team members and students with a starting point for exploring various career pathways within different sectors.

Also, we've done our best to indicate which level of education is ideal for each job listed in this handbook, but some jobs may be open to various levels of education and experience, so this is not guaranteed to be accurate in all instances.

Finally, we've linked as many of the jobs as possible to ALIS and other career profiles, to help with further exploration for staff and students. Any Occupation that is underlined has a hyperlink to a profile.

### **General Career Exploration Links:**

#### **General:**

[ALIS - Occupations in Alberta](#)  
[CareerProfiles - Career Search \(USA\)](#)  
[CareerExplorer](#)

#### **Skilled Trades:**

[Trade Secrets - Trades & Occupations List](#)  
[Careers in Construction - Career Finder](#)

#### **Agriculture:**

[Ag for Life - ThinkAg](#)  
[AgCareers.com - Career Profiles](#)

#### **Health:**

[AB Health Services - Career Profiles](#)

#### **Science:**

[Science Buddies - Science Careers](#)  
[Let's Talk Science - Career Search](#)

#### **Technology:**

[Skill Crush - 41 Tech Job Titles](#)

#### **Military:**

[Canadian Armed Forces - Career Profiles](#)

#### **Film:**

[Gov't of AB - Get into the Film Industry](#)

### **Levels of Education Legend**

**HSD** - High School Diploma  
**APP** - Apprenticeship  
**CRT** - Certificate  
**DIP** - Diploma  
**DEG** - Undergraduate/Bachelor's Degree  
**PRF** - Professional Program  
**MST** - Master's Degree  
**PHD** - Doctoral Degree

## 1. Agriculture, Food and Natural Resources

**Description:** This cluster includes everything on the creation of agricultural products, This includes Farmers, Ranchers, Scientists, Engineers and Veterinarians. The work environment is mostly outdoors, most people who work in this field enjoy being outside.

Career Pathway	Occupation	Level of Education
Agribusiness Systems	<ul style="list-style-type: none"> <li>• <u>Buyers and Purchasing Agents, Farm production</u></li> <li>• <u>Farm Labor contractors</u></li> <li>• <u>Famers, Ranchers, and other Agricultural managers</u></li> </ul>	<ul style="list-style-type: none"> <li>• DIP, DEG</li> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP, DEG</li> </ul>
Animal Systems	<ul style="list-style-type: none"> <li>• <u>Animal Breeders</u></li> <li>• <u>Animal Caretakers</u></li> <li>• <u>Animal Scientists</u></li> <li>• <u>Farmworkers, Farm, Ranch and Aquacultural Animals</u></li> </ul>	<ul style="list-style-type: none"> <li>• CRT, DIP, DEG</li> <li>• HSD, CRT, DIP</li> <li>• DEG, MST, PHD</li> <li>• HSD, CRT, DIP</li> </ul>
Environmental Service Systems	<ul style="list-style-type: none"> <li>• <u>Environmental Engineering Technologists and Technicians</u></li> <li>• <u>Environmental Engineers</u></li> <li>• <u>Environmental Science and Protection Technicians, Including Health</u></li> <li>• <u>Hazardous Materials Removal Workers</u></li> <li>• <u>Pest Control Workers</u></li> <li>• <u>Refuse and Recyclable Material Collectors</u></li> <li>• <u>Water and Wastewater Treatment Plant and System Operators</u></li> <li>• <u>Water/Wastewater Engineers</u></li> </ul>	<ul style="list-style-type: none"> <li>• DIP</li> <li>• DEG</li> <li>• DIP</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• HSD</li> <li>• CRT, DIP</li> <li>• DEG</li> </ul>
Food Products & Processing Systems	<ul style="list-style-type: none"> <li>• <u>Agricultural Technicians</u></li> <li>• <u>Supervisors of Farming, Fishing, and Forestry Workers</u></li> <li>• <u>Food Science Technicians</u></li> <li>• <u>Food Scientists and Technologists</u></li> <li>• <u>Graders and Sorters, Agricultural Products</u></li> </ul>	<ul style="list-style-type: none"> <li>• CRT, DIP, DEG</li> <li>• DIP, DEG</li> <li>• DIP</li> <li>• DEG, MST, PHD</li> <li>• HSD, CRT</li> </ul>
Natural Resources Systems	<ul style="list-style-type: none"> <li>• <u>Clinical Research Coordinators</u></li> <li>• <u>Fallers</u></li> <li>• <u>Fishing and Hunting Workers</u></li> <li>• <u>Forest and Conservation Technicians/Workers</u></li> <li>• <u>Foresters</u></li> <li>• <u>Geological Technicians</u></li> <li>• <u>Hydrologist</u></li> <li>• <u>Log Graders and Scalers</u></li> <li>• <u>Logging Equipment Operators</u></li> <li>• <u>Logging Workers, All Other</u></li> <li>• <u>Natural Science Managers</u></li> <li>• <u>Water Resource Specialists</u></li> <li>• <u>Zoologists and Wildlife Biologists</u></li> </ul>	<ul style="list-style-type: none"> <li>• DIP, DEG</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• DIP, DEG</li> <li>• DEG, MST</li> <li>• DIP</li> <li>• DEG, MST</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT</li> <li>• HSD, CRT</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• DEG, MST, PHD</li> </ul>
Plant Systems	<ul style="list-style-type: none"> <li>• <u>Agricultural Workers, All Other</u></li> <li>• <u>Biological Technicians</u></li> <li>• <u>Farmworkers and Laborers, Crop, Nursery, and Greenhouse</u></li> <li>• <u>Pesticide Handlers, Sprayers, and Applicators, Vegetation</u></li> <li>• <u>Soil and Plant Scientists</u></li> <li>• <u>Tree Trimmers and Pruners</u></li> </ul>	<ul style="list-style-type: none"> <li>• HSD, CRT, DIP</li> <li>• DIP</li> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP</li> <li>• DEG, MST, PHD</li> <li>• HSD, CRT</li> </ul>
Power, Structural & Technical Systems	<ul style="list-style-type: none"> <li>• <u>Agricultural Engineers</u></li> <li>• <u>Agricultural Equipment Operators</u></li> <li>• <u>Farm Equipment Mechanics and Service Technicians</u></li> </ul>	<ul style="list-style-type: none"> <li>• DEG</li> <li>• HSD, CRT</li> <li>• APP, CRT, DIP</li> </ul>

## 2. Architecture and Construction

**Description:** The Architecture and Construction cluster includes designing, industrial facilities, building and maintaining homes, carpentry. Students interested in this cluster have strong skills in math and are passionate about design, home improvement and decor.

Career Pathway	Occupation	Level of Education
Construction	<ul style="list-style-type: none"> <li>• <u>Brickmasons</u></li> <li>• <u>Carpenters</u></li> <li>• <u>Carpet Installers</u></li> <li>• <u>Cement Masons and Concrete Finishers</u></li> <li>• <u>Construction Laborers</u></li> <li>• <u>Construction Managers</u></li> <li>• <u>Continuous Mining Machine Operators</u></li> <li>• <u>Conveyor Operators and Tenders</u></li> <li>• <u>Crane and Tower Operators</u></li> <li>• <u>Derrick Operators, Oil and Gas</u></li> <li>• <u>Dredge Operators</u></li> <li>• <u>Drywall and Ceiling Tile Installers</u></li> <li>• <u>Earth Drillers, Except Oil and Gas</u></li> <li>• <u>Electricians</u></li> <li>• <u>Excavating and Loading Machine and Dragline Operators, Surface Mining</u></li> <li>• <u>Explosive Workers, Ordnance Handling Experts, and Blasters</u></li> <li>• <u>Fence Erectors</u></li> <li>• <u>First-Line Supervisors of Construction Trades and Extraction Workers</u></li> <li>• <u>Floor Layers, Except Carpet, Wood, and Hard Tiles</u></li> <li>• <u>Glaziers</u></li> <li>• <u>Helpers-Carpenters</u></li> <li>• <u>Helpers- Electricians</u></li> <li>• <u>Helpers- Extraction Workers</u></li> <li>• <u>Helpers- Painters, Paperhangers, Plasters, and Stucco Masons</u></li> <li>• <u>Helpers- Pipelayers, Plumbers, Pipefitters, and Steamfitters</u></li> <li>• <u>Helpers- Roofers</u></li> <li>• <u>Hoist and Winch Operators</u></li> <li>• <u>Insulation Workers</u></li> <li>• <u>Loading and Moving Machine Operators, Underground Mining</u></li> <li>• <u>Manufacturing Building and Mobile Home Installers</u></li> <li>• <u>Operating Engineers and other Construction Equipment Operators</u></li> <li>• <u>Painters, Construction and Maintenance</u></li> <li>• <u>Paperhangers</u></li> <li>• <u>Paving, Surfacing, and Tamping Equipment Operators</u></li> <li>• <u>Pile Driver Operators</u></li> <li>• <u>Pipelayers</u></li> <li>• <u>Plasterers and Stucco Masons</u></li> <li>• <u>Plumbers, Pipefitters, and Steamfitters</u></li> <li>• <u>Reinforcing Iron and Rebar Workers</u></li> <li>• <u>Riggers</u></li> <li>• <u>Rock Splitters, Quarry</u></li> <li>• <u>Roof Bolters, Mining</u></li> <li>• <u>Roofers</u></li> <li>• <u>Rotary Drill Operators, Oil and Gas</u></li> <li>• <u>Roustabouts, Oil and Gas</u></li> <li>• <u>Sheet Metal Workers</u></li> <li>• <u>Solar Energy Installation Managers</u></li> <li>• <u>Solar Photovoltaic Installers</u></li> <li>• <u>Stonemasons</u></li> <li>• <u>Structural Iron Steel Workers</u></li> </ul>	<ul style="list-style-type: none"> <li>• APP</li> <li>• APP</li> <li>• APP</li> <li>• APP</li> <li>• HSD</li> <li>• APP</li> <li>• HSD, CRT</li> <li>• HSD, CRT</li> <li>• APP</li> <li>• HSD, CRT</li> <li>• HSD, CRT</li> <li>• APP</li> <li>• HSD, APP, CRT</li> <li>• APP</li> <li>• HSD, CRT</li> <li>• HSD, APP, CRT</li> <li>• HSD</li> <li>• APP, CRT, DIP</li> <li>• APP</li> <li>• APP</li> <li>• HSD</li> <li>• APP</li> <li>• APP</li> <li>• HSD, CRT</li> <li>• HSD, APP, CRT</li> <li>• HSD, CRT</li> <li>• APP</li> <li>• HSD, APP, CRT</li> <li>• HSD, CRT</li> <li>• HSD, CRT</li> <li>• HSD</li> <li>• APP</li> <li>• APP</li> <li>• APP</li> <li>• HSD, APP</li> <li>• HSD</li> <li>• HSD, CRT</li> <li>• APP</li> <li>• HSD, CRT</li> <li>• HSD, APP, CRT</li> <li>• APP</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP</li> <li>• APP</li> <li>• APP</li> </ul>

	<ul style="list-style-type: none"> <li>• <u>Structural Metal Fabricators and Fitters</u></li> <li>• Tapers</li> <li>• <u>Terrazzo Workers and Finishers</u></li> <li>• <u>Tile and Stone Setters</u></li> <li>• Underground Mining Machine Operators, All Other</li> </ul>	<ul style="list-style-type: none"> <li>• APP</li> <li>• APP</li> <li>• APP</li> <li>• APP</li> <li>• HSD, CRT</li> </ul>
<p><b>Design / Pre-Construction</b></p>	<ul style="list-style-type: none"> <li>• <u>Architects, First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping workers Except Landscape and Naval</u></li> <li>• <u>Architectural and Civil Drafters</u></li> <li>• <u>Civil Engineering Technologists and Technicians</u></li> <li>• <u>Civil Engineers</u></li> <li>• <u>Cost Estimators</u></li> <li>• <u>Geodetic Surveyors</u></li> <li>• <u>Interior Designers</u></li> <li>• <u>Landscape Architects</u></li> <li>• <u>Surveying and Mapping Technicians</u></li> <li>• <u>Surveyors</u></li> <li>• <u>Transportation Engineers</u></li> </ul>	<ul style="list-style-type: none"> <li>• MST</li> <li>• CRT, DIP</li> <li>• DIP</li> <li>• DEG, MST</li> <li>• APP, DIP, DEG</li> <li>• DIP</li> <li>• DIP, DEG</li> <li>• DEG, MST</li> <li>• DIP</li> <li>• DIP, DEG</li> <li>• DEG</li> </ul>
<p><b>Maintenance / Operations</b></p>	<ul style="list-style-type: none"> <li>• Boilermakers</li> <li>• <u>Commercial Drivers</u></li> <li>• <u>Construction and Related Workers, All Other</u></li> <li>• <u>Control and Valve Installers and Repairers, Except Mechanical Door</u></li> <li>• <u>Electrical Power-Line Installers and Repairers</u></li> <li>• <u>Elevator and Escalator Installers and Repairers</u></li> <li>• <u>Supervisors of Landscaping, Lawn Service, &amp; Groundskeeping workers</u></li> <li>• Grounds Maintenance Workers, All Other</li> <li>• <u>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</u></li> <li>• Helpers-Installation, Maintenance and Repair Workers</li> <li>• Highway Maintenance Workers</li> <li>• <u>Landscaping and Groundskeeping Workers</u></li> <li>• <u>Mechanical Door Repairs</u></li> <li>• <u>Millwrights</u></li> <li>• Refractory Materials Repairers, Except Brickmasons</li> <li>• Septic Tank Servicers and Sewer Pipe Cleaners</li> <li>• Solar Thermal Installers and Technicians</li> <li>• Stationary Engineers and Boiler Operators</li> <li>• Weatherization Installers and Technicians</li> </ul>	<ul style="list-style-type: none"> <li>• APP</li> <li>• HSD, CRT</li> <li>• HSD, APP</li> <li>• APP</li> <li>• APP</li> <li>• APP</li> <li>• APP, CRT, DIP</li> <li>• HSD, APP</li> <li>• APP</li> <li>• HSD</li> <li>• HSD, CRT</li> <li>• HSD, APP</li> <li>• APP</li> <li>• APP</li> <li>• HSD</li> <li>• HSD</li> <li>• APP</li> <li>• CRT, DIP</li> <li>• HSD, CRT</li> </ul>

### 3. Arts, Audio/Video Technology and Communication

**Description:** The Arts, A/V technology and communications cluster may be the best career cluster for creative people. It includes journalists, actors, dancers, singers, radio announcers and behind the scenes workers.

Career Pathway	Occupation	Level of Education
<b>Journalism &amp; Broadcasting</b>	<ul style="list-style-type: none"> <li>• <u>Audio and Video Technicians</u></li> <li>• <u>Broadcast Announcers and Radio Disc Jockeys</u></li> <li>• <u>Broadcast Technicians</u></li> <li>• <u>Camera Operators, Television, Video, and Film</u></li> <li>• <u>Editors</u></li> <li>• Film and Video Editors</li> <li>• <u>Lighting Technicians</u></li> <li>• <u>Media and Communication Equipment Workers, All Other</u></li> <li>• <u>News Analysts, Reporters and Journalists</u></li> <li>• <u>Photographers</u></li> <li>• <u>Poets, Lyricists and Creative Writers</u></li> <li>• <u>Sound Engineering Technicians</u></li> <li>• <u>Technical Writers</u></li> <li>• Writers and Authors</li> </ul>	<ul style="list-style-type: none"> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• DIP</li> <li>• CRT, DIP</li> <li>• DEG, MST</li> <li>• DIP, DEG</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• DIP, DEG, MST</li> <li>• HSD, CRT, DIP</li> <li>• HSD, DIP, DEG</li> <li>• CRT, DIP</li> <li>• CRT, DIP, DEG</li> <li>• HSD, DIP, DEG</li> </ul>
<b>Performing Arts</b>	<ul style="list-style-type: none"> <li>• <u>Actors</u></li> <li>• Agents and Business Managers of Artists, Performers, and Athletes</li> <li>• <u>Choreographers</u></li> <li>• <u>Costume Attendants</u></li> <li>• <u>Dancers</u></li> <li>• <u>Disc Jockeys, Except Radio</u></li> <li>• Entertainers and Performers, Sports and Related Workers, All Other</li> <li>• <u>Makeup Artists, Theatrical and Performance</u></li> <li>• Media and Communications Workers, All Other</li> <li>• <u>Media Programming Directors</u></li> <li>• Media Technical Directors/Managers</li> <li>• <u>Music Directors and Composers</u></li> <li>• <u>Musicians and Singers</u></li> <li>• <u>Producers and Directors</u></li> <li>• <u>Talent Directors</u></li> </ul>	<ul style="list-style-type: none"> <li>• HSD, DIP, DEG</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• HSD, CRT, DIP</li> <li>• HSD, DIP, DEG</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• HSD, DIP, DEG</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> </ul>
<b>Printing Technology</b>	<ul style="list-style-type: none"> <li>• Desktop Publishers</li> <li>• <u>Prepress Technicians and Workers</u></li> <li>• <u>Print Binding and Finishing Workers</u></li> <li>• <u>Printing Press Operators</u></li> <li>• Proofreaders and Copy Makers</li> </ul>	<ul style="list-style-type: none"> <li>• DEG, MST</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP, DEG</li> </ul>
<b>Telecommunications</b>	<ul style="list-style-type: none"> <li>• <u>Telecommunications Equipment Installers and Repairers</u></li> <li>• <u>Telecommunications Line Installers and Repairers</u></li> </ul>	<ul style="list-style-type: none"> <li>• APP</li> <li>• APP</li> </ul>
<b>Visual Arts</b>	<ul style="list-style-type: none"> <li>• <u>Art Directors</u></li> <li>• <u>Artists and Related Workers, All Other</u></li> <li>• <u>Commercial and Industrial Designers</u></li> <li>• <u>Craft Artists</u></li> <li>• Designers, All Other</li> <li>• <u>Fashion Designers</u></li> <li>• <u>Fine Artists, Including Painters, Sculptors, and Illustrators</u></li> <li>• <u>Floral Designers</u></li> <li>• <u>Graphic Designers</u></li> <li>• <u>Set and Exhibit Designers</u></li> <li>• <u>Special Effects Artists and Animators</u></li> </ul>	<ul style="list-style-type: none"> <li>• DEG, MST</li> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP, DEG</li> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP, DEG</li> <li>• HSD, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• HSD, CRT</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> </ul>

#### 4. Business, Management and Administration

**Description:** The business, management and administration cluster includes business analysts, accountants, HR professionals and managers, and many entry- level positions, like receptionists, secretaries and typists. Students who are interested in this cluster have strong communication and business skills.

Career Pathway	Occupation	Level of Education
<b>Administrative Support</b>	<ul style="list-style-type: none"> <li>• <u>Bookkeeping, Accounting, and Auditing Clerks</u></li> <li>• Correspondence Clerks</li> <li>• <u>Customer Service Representatives</u></li> <li>• Data Entry Keyers</li> <li>• <u>Executive Secretaries and Executive Administrative Assistants</u></li> <li>• <u>File Clerks</u></li> <li>• <u>First-Line Supervisors of Office and Administrative Support Workers</u></li> <li>• <u>Human Resources Assistants, Except Payroll and Timekeeping</u></li> <li>• <u>Information and Record Clerks, All Other</u></li> <li>• <u>Library Assistants, Clerical</u></li> <li>• Meter Readers, Utilities</li> <li>• Office and Administrative Support Workers</li> <li>• Order Clerks</li> <li>• <u>Payroll and Timekeeping Clerks</u></li> <li>• Postal Service Clerks</li> <li>• Postal Service Mail Carriers</li> <li>• Postal Service Mail Sorters, Processors, and Processing Machine Operators</li> <li>• Procurement Clerks</li> <li>• <u>Receptionists and Information Clerks</u></li> <li>• <u>Secretaries and Administrative Assistants, Except Legal, Medical and Executive</u></li> <li>• Shipping, Receiving and Inventory Clerks</li> <li>• <u>Stockers and Order Fillers</u></li> <li>• <u>Switchboard operators, Including Answering Service</u></li> <li>• Telephone Operators</li> </ul>	<ul style="list-style-type: none"> <li>• CRT, DIP</li> <li>• HSD, CRT</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP</li> <li>• DIP, DEG</li> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• HSD</li> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• HSD</li> <li>• HSD</li> <li>• HSD</li> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• HSD, CRT</li> <li>• HSD</li> <li>• HSD, CRT</li> <li>• HSD, CRT</li> </ul>
<b>Business Information Management</b>	<ul style="list-style-type: none"> <li>• <u>Computer and Information Systems Managers</u></li> </ul>	<ul style="list-style-type: none"> <li>• DIP, DEG, MST</li> </ul>
<b>General Management</b>	<ul style="list-style-type: none"> <li>• Chief Executives</li> <li>• <u>Chief Sustainability Officers</u></li> <li>• Compliance Managers</li> <li>• <u>Entertainment and Recreation Managers, Except Gambling</u></li> <li>• Operations Managers</li> <li>• Investment Fund Manager</li> <li>• Loss Prevention Managers</li> <li>• Personal Service Managers</li> <li>• Project Management Specialists</li> <li>• Regulatory Affairs Managers</li> <li>• Security Managers</li> <li>• Supply Chain Managers</li> <li>• Wind Energy Development Managers</li> <li>• Wind Energy Operations Managers</li> </ul>	<ul style="list-style-type: none"> <li>• DEG, MST</li> <li>• DEG, MST</li> <li>• DEG, MST</li> <li>• DIP, DEG</li> <li>• DEG, MST</li> <li>• DEG, MST</li> <li>• DEG, MST</li> <li>• DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG, MST</li> </ul>
<b>Human Resource Management</b>	<ul style="list-style-type: none"> <li>• Compensation and Benefits and Job Analysis Specialists</li> <li>• <u>Human Resources Managers</u></li> <li>• <u>Human Resources Specialists</u></li> <li>• Labor Relations Specialists</li> <li>• Training and Development Managers</li> <li>• Training and Development Specialists</li> </ul>	<ul style="list-style-type: none"> <li>• DIP, DEG</li> <li>• DEG, MST</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• DEG, MST</li> <li>• DIP, DEG</li> </ul>

<b>Operations Management</b>	<ul style="list-style-type: none"> <li>• <u>Administrative Services Managers</u></li> <li>• Biofuels Production Managers</li> <li>• Biomass Power Plant Managers</li> <li>• Business Continuity Planners</li> <li>• Business Operations Specialists, All Other</li> <li>• <u>Customs Brokers</u></li> <li>• Energy Auditors</li> <li>• Facilities Managers</li> <li>• <u>Fundraisers</u></li> <li>• Geothermal Production Managers</li> <li>• Hydroelectric Production Managers</li> <li>• Management Analysts</li> <li>• Meeting, Convention, and Event Planners</li> <li>• Online Merchants</li> <li>• Operations Research Analysts</li> <li>• Purchasing Managers</li> <li>• Quality Control Systems Managers</li> <li>• Security Management Specialists</li> <li>• <u>Sustainability Specialists</u></li> </ul>	<ul style="list-style-type: none"> <li>• DIP, DEG, MST</li> <li>• DEG, MST, PHD</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• CRT, DIP, DEG</li> <li>• HSD, CRT, DIP</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG</li> <li>• DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG, MST</li> </ul>
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## 5. Education and Training

**Description:** This cluster includes teacher, tutor and instructor roles. This area also employs counsellors, school psychologists and speech-language pathologists who offer and support students. Students who are interested in this field have strong leadership skills or want to act as role models for young people.

Career Pathway	Occupation	Level of Education
<b>Administrations &amp; Administrative Support</b>	<ul style="list-style-type: none"> <li>• Education Administrators, Kindergarten, Elementary, Middle and Secondary School</li> <li>• Education Administrators, Post Secondary</li> <li>• Education and Childcare Administrators, Preschool and Daycare</li> <li>• Fitness and Wellness Coordinators</li> </ul>	<ul style="list-style-type: none"> <li>• DEG/PRF, MST, PHD</li> <li>• DEG, MST, PHD</li> <li>• DIP, DEG</li> <li>• DIP, DEG, MST</li> </ul>
<b>Professional Support Services</b>	<ul style="list-style-type: none"> <li>• Archivists</li> <li>• Curators</li> <li>• Educational, Guidance, and Career Counselors and Advisors</li> <li>• Instructional Coordinators</li> <li>• Interpreters and Translators</li> <li>• Librarians and Media Collections Specialists</li> <li>• Library Technicians</li> <li>• Museum Technicians and Conservators</li> </ul>	<ul style="list-style-type: none"> <li>• DEG, MST, PHD</li> <li>• MST, PHD</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> </ul>
<b>Teaching &amp; Training</b>	<ul style="list-style-type: none"> <li>• Adapted Physical Education Specialists</li> <li>• Adult Basic Education, Adult Secondary Education, and English as a Second Language Instructors</li> <li>• Instructors - Post Secondary - University</li> <li>• Instructors - Post Secondary - College</li> <li>• Career/Technical Education Teachers</li> <li>• Coaches and Scouts</li> <li>• Educational Instruction and Library Workers, All Other</li> <li>• Elementary School Teachers</li> <li>• Kindergarten Teachers</li> <li>• Middle School Teachers</li> <li>• Preschool Teachers</li> <li>• Secondary School Teachers</li> <li>• Special Education Teachers</li> <li>• Substitute Teachers, Short-Term</li> <li>• Teaching Assistant</li> <li>• Tutors</li> </ul>	<ul style="list-style-type: none"> <li>• DEG, MST, PHD</li> <li>• DEG, MST, PHD</li> <li>• MST, PHD</li> <li>• DEG, MST, PHD</li> <li>• DEG, MST, PHD</li> <li>• HSD, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• DEG/PRF, MST</li> <li>• DEG/PRF, MST</li> <li>• DEG/PRF, MST</li> <li>• CRT, DIP, DEG</li> <li>• DEG/PRF, MST</li> <li>• DEG/PRF, MST</li> <li>• DEG/PRF, MST</li> <li>• CRT, DIP</li> <li>• CRT, DIP, DEG</li> </ul>



## 7. Government and Public Administration

**Description:** Jobs in the government and public administration career cluster involve planning, managing, and providing government legislative and administrative and regulatory services and related general purpose government services at the federal, state, and local levels.

Career Pathway	Occupation	Level of Education
<b>Governance</b>	<ul style="list-style-type: none"> <li>Aviation Inspectors</li> <li>Compliance Officers</li> <li>Coroners</li> <li>Environmental Compliance Inspectors</li> <li>Equal Opportunity Representatives and Officers</li> <li>Financial Examiners</li> <li>Government Property Inspectors and Investigators</li> <li>Legislators</li> <li>Regulatory Affairs Specialists</li> <li>Transportation Inspectors</li> <li>Transportation Vehicle, Equipment and System Inspectors</li> </ul>	<ul style="list-style-type: none"> <li>HSD, CRT, DIP</li> <li>DIP, DEG</li> <li>DEG &amp; PRF</li> <li>DIP, DEG</li> <li>DIP, DEG</li> <li>DEG</li> <li>DIP, DEG</li> <li>HSD, DIP, DEG</li> <li>DEG</li> <li>DIP, DEG</li> <li>APP, DIP, DEG</li> </ul>
<b>National Security</b>	<ul style="list-style-type: none"> <li>Air Crew Members &amp; Officers</li> <li>Aircraft Launch and Recovery Officers &amp; Specialists</li> <li>Armored Assault Vehicle Crew Members &amp; Officers</li> <li>Artillery and Missile Crew Members &amp; Officers</li> <li>Command and Control Center Officers &amp; Specialists</li> <li>Engineering Technologist and Technicians</li> <li>Infantry &amp; Officers</li> <li>Special Forces &amp; Officers</li> <li>Transportation Security Screeners</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG</li> <li>CRT, DIP, DEG</li> <li>HSD, DIP, DEG</li> <li>HSD, DIP, DEG</li> <li>CRT, DIP, DEG</li> <li>CRT, DIP</li> <li>HSD, CRT, DIP</li> <li>HSD, DIP, DEG</li> <li>CRT, DIP, DEG</li> </ul>
<b>Planning</b>	<ul style="list-style-type: none"> <li>Bioinformatics Technicians</li> <li>Statistical Assistants</li> <li>Urban and Regional Planners</li> </ul>	<ul style="list-style-type: none"> <li>CRT, DIP</li> <li>CRT, DIP, DEG</li> <li>DIP, DEG, MST</li> </ul>
<b>Public Management &amp; Administration</b>	<ul style="list-style-type: none"> <li>Court, Municipal, and License Clerks</li> <li>Eligibility Interviewers, Government Programs</li> <li>Emergency Management Directors</li> <li>Postmasters and Mail Superintendents</li> </ul>	<ul style="list-style-type: none"> <li>CRT, DIP, DEG</li> <li>HSD, CRT, DIP</li> <li>DIP, DEG, MST</li> <li>DIP, DEG</li> </ul>
<b>Regulation</b>	<ul style="list-style-type: none"> <li>Agricultural Inspectors</li> <li>Construction and Building Inspectors</li> <li>Occupational Health and Safety Specialists &amp; Technicians</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG</li> <li>APP, DIP, DEG</li> <li>CRT, DIP, DEG</li> </ul>
<b>Revenue &amp; Taxation</b>	<ul style="list-style-type: none"> <li>Appraisers and Assessors of Real Estate</li> <li>Appraisers of Personal and Business Property</li> <li>Tax Examiners and Collectors, and Revenue Agents</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG</li> <li>DIP, DEG</li> <li>DIP, DEG</li> </ul>

## 8. Health and Science

**Description:** Delivery of health care ranges from small private practice offices of physicians and dentists to busy hospitals with diverse career opportunities, from medevac units to cruise ships, from schools to sports arenas. Careers in this cluster promote health, wellness, and diagnosis, and treat injuries and diseases. Some work directly with patients while others conduct research or collect data and information.

Career Pathway	Occupation	Level of Education
<b>Biotechnology Research &amp; Development</b>	<ul style="list-style-type: none"> <li>Bioengineering and Biomedical Engineers</li> <li>Medical Scientists, Except Epidemiologists</li> </ul>	<ul style="list-style-type: none"> <li>DEG</li> <li>DEG, MST, PHD</li> </ul>
<b>Diagnostic Services</b>	<ul style="list-style-type: none"> <li>Cardiovascular Technologists and Technicians</li> <li><a href="#">Cytogenetic Technologists</a></li> <li><a href="#">Cytotechnologist</a></li> <li>Diagnostic Medical Sonographers</li> <li>Epidemiologists</li> <li>Histology Technicians</li> <li>Histotechnologists</li> <li><a href="#">Magnetic Resonance Imaging Technologists</a></li> <li>Medical and Clinical Laboratory Technicians &amp; Technologists</li> <li>Medical Dosimetrists</li> <li>Neurodiagnostic Technologist</li> <li>Nuclear Medicine Technologist</li> <li>Ophthalmic Medical Technologists</li> <li>Radiologic Technologists and Technicians</li> <li>Veterinary Technologists and Technicians</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG</li> <li>DIP, DEG</li> <li>DIP</li> <li>CRT, DIP</li> <li>DEG, MST</li> <li>CRT, DIP</li> <li>DIP, DEG</li> <li>CRT, DIP</li> <li>CRT, DIP</li> <li>DIP, DEG</li> <li>DIP</li> <li>DIP, DEG</li> <li>DIP</li> <li>CRT, DIP</li> <li>DIP</li> </ul>
<b>Health Informatics</b>	<ul style="list-style-type: none"> <li>Medical Records Specialists</li> <li>Medical Secretaries and Administrative Assistants</li> <li>Medical Transcriptionists</li> </ul>	<ul style="list-style-type: none"> <li>CRT, DIP</li> <li>CRT, DIP</li> <li>CRT, DIP</li> </ul>
<b>Support Services</b>	<ul style="list-style-type: none"> <li>Endoscopy Technicians</li> <li>Medical and Health Services Managers</li> <li>Medical Equipment Preparers</li> <li>Orderlies</li> <li>Pharmacy Aides</li> <li>Phlebotomists</li> <li>Speech-Language Pathology Assistants</li> <li>Veterinary Technical Assistants and Laboratory Animal Caretakers</li> </ul>	<ul style="list-style-type: none"> <li>DIP</li> <li>DIP, DEG</li> <li>CRT, DIP</li> <li>HSD, CRT, DIP</li> <li>CRT, DIP</li> <li>CRT, DIP</li> <li>DIP</li> <li>CRT</li> </ul>
<b>Therapeutic Services</b>	<ul style="list-style-type: none"> <li><a href="#">Acupuncturists</a></li> <li>Allergists and Immunologist</li> <li>Anesthesiologist Assistants</li> <li>Anesthesiologist</li> <li>Art Therapists</li> <li>Athletic Trainers</li> <li>Audiologist</li> <li>Cardiologists</li> <li><a href="#">Chiropractors</a></li> <li>Dental Assistants</li> <li>Dental Hygienists</li> <li>Dentist</li> <li>Dermatologists</li> <li>Dietetic Technicians</li> <li>Dietitians and Nutritionists</li> <li>Exercise Physiologists</li> <li>Genetic Counselors</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG</li> <li>DEG, MST, PHD</li> <li>DIP</li> <li>DEG &amp; PRF</li> <li>DEG, MST</li> <li>CRT, DIP, DEG</li> <li>DEG &amp; PRF</li> <li>DEG &amp; PRF</li> <li>DEG &amp; PRF</li> <li>CRT, DIP</li> <li>DIP, DEG</li> <li>DEG &amp; PRF</li> <li>DEG &amp; PRF</li> <li>CRT, DIP</li> <li>DEG &amp; PRF</li> <li>DEG &amp; PRF</li> <li>CRT, DIP</li> <li>DEG &amp; PRF</li> <li>DEG, MST, PHD</li> <li>DEG, MST, PHD</li> </ul>

- Health Information Technologists and Medical Registrars
- Hearing Aid Specialists
- Health Care Aides
- Licensed Practical Nurses
- Medical Assistants
- Midwives
- Music Therapists
- Neurologists
- Obstetricians and Gynecologists
- Occupational Therapists
- Occupational Therapy Assistants
- [Opticians](#)
- Optometrists
- Orthodontists
- Orthopedic Surgeons
- Orthoptists
- Orthotists and Prosthetists
- Pediatric Surgeons
- Pediatricians
- Pharmacists
- Pharmacy Technicians
- Physical Therapist Assistants
- Physical Therapist
- Physicians
- Podiatrists
- Psychiatric Aides & Technicians
- Psychiatrists
- Radiation Therapists
- Radiologists
- Recreational Therapists
- Registered Nurses
- Respiratory Therapists
- Speech-Language Pathologists
- Surgeons
- Surgical Assistants & Technologists
- Urologists
- Veterinarians

- DIP, DEG, MST
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## 9. Hospitality and Tourism

**Description:** The hospitality and tourism cluster includes jobs you can do in restaurants, bars, tourist attractions, resorts, hotels and travel agencies. Students interested in this field have a passion for working with people, culture, arts and travel.

Career Pathway	Occupation	Level of Education
<b>Lodging</b>	<ul style="list-style-type: none"> <li>• Baggage Porters and Bellhops</li> <li>• Building Cleaning Workers, All Other</li> <li>• Concierges</li> <li>• First-Line Supervisors of Housekeeping and Janitorial Workers</li> <li>• Hotel, Motel, and Resort Desk Clerks</li> <li>• Janitors and Cleaners, Except Maids and Housekeeping Cleaners</li> <li>• Lodging Managers</li> <li>• Maids and Housekeeping Cleaners</li> </ul>	<ul style="list-style-type: none"> <li>• HSD, CRT, DIP</li> <li>• HSD</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• HSD</li> <li>• CRT, DIP</li> <li>• HSD</li> </ul>
<b>Recreation, Amusements &amp; Attractions</b>	<ul style="list-style-type: none"> <li>• Amusement and Recreation Attendants</li> <li>• Animal Trainers</li> <li>• Athletes and Sports Competitors</li> <li>• Entertainment Attendants and Related Workers, All Other</li> <li>• First-Line Supervisors of Gambling Service Workers</li> <li>• Gambling and Sports Book Writers and Runners</li> <li>• Gambling Cage Workers</li> <li>• Gambling Change Persons and Booth Cashiers</li> <li>• Gambling Dealers</li> <li>• Gambling Managers</li> <li>• Gambling Service Workers, All Other</li> <li>• Motion Pictures Projectionists</li> <li>• Recreation Workers</li> <li>• Umpires, Referees, and Other Sports Officials</li> <li>• Ushers, Lobby Attendants, and Ticket Takers</li> </ul>	<ul style="list-style-type: none"> <li>• HSD</li> <li>• HSD, CRT, DIP</li> <li>• HSD</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• HSD</li> </ul>
<b>Restaurant &amp; Food / Beverage Services</b>	<ul style="list-style-type: none"> <li>• Bakers</li> <li>• Baristas</li> <li>• Bartenders</li> <li>• Chefs and Head Cooks</li> <li>• Cooks</li> <li>• Dining Room and Cafeteria Attendants and Bartender Helpers</li> <li>• Dishwashers</li> <li>• Fast Food and Counter Workers</li> <li>• First-Line Supervisors of Food Preparation and Serving Workers</li> <li>• Food Preparation and Serving Related Workers, All Other</li> <li>• Food Preparation Workers</li> <li>• Food Servers, Nonrestaurant</li> <li>• Food Service Managers</li> <li>• Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop</li> <li>• Waiters and Waitresses</li> </ul>	<ul style="list-style-type: none"> <li>• APP, CRT, DIP</li> <li>• HSD</li> <li>• HSD, CRT</li> <li>• APP, CRT, DIP</li> <li>• HSD, APP</li> <li>• HSD</li> <li>• HSD</li> <li>• HSD</li> <li>• HSD</li> <li>• HSD, CRT, DIP</li> <li>• HSD</li> <li>• HSD</li> <li>• HSD</li> <li>• HSD, CRT, DIP</li> <li>• HSD</li> <li>• HSD</li> </ul>
<b>Travel &amp; Tourism</b>	<ul style="list-style-type: none"> <li>• Reservation and Transportation Ticket Agents and Travel Clerks</li> <li>• Tour Guides and Escorts</li> <li>• Travel Agents</li> <li>• Travel Guides</li> </ul>	<ul style="list-style-type: none"> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP</li> <li>• CRT, DIP, DEG</li> </ul>

## 10. Human Services

**Description:** The human services cluster is related to counseling and mental health. Students interested in this field have strong interpersonal and listening skills with patience and empathy towards others.

Career Pathway	Occupation	Level of Education
Consumer Services	<ul style="list-style-type: none"> <li>Credit Counselors</li> </ul>	<ul style="list-style-type: none"> <li>DEG</li> </ul>
Counseling & Mental Health Services	<ul style="list-style-type: none"> <li>Clinical and Counseling Psychologists</li> <li>Marriage and Family Therapists</li> <li>Mental Health and Substance Abuse Social Workers</li> <li>Mental Health Counselors</li> <li>Neuropsychologists</li> <li>Psychologists, All Other</li> <li>Rehabilitation Counselors</li> <li>School Psychologists</li> <li>Substance Abuse and Behavioral Disorder Counselors</li> </ul>	<ul style="list-style-type: none"> <li>DEG &amp; MST, PHD</li> <li>DEG &amp; MST, PHD</li> <li>DIP, DEG, MST</li> <li>DEG &amp; MST, PHD</li> <li>DEG &amp; MST, PHD</li> <li>DEG &amp; MST, PHD</li> <li>DEG, MST, PHD</li> <li>DEG &amp; MST, PHD</li> <li>DEG, MST, PHD</li> </ul>
Early Childhood Development Services	<ul style="list-style-type: none"> <li>Childcare Workers</li> <li>Nannies</li> </ul>	<ul style="list-style-type: none"> <li>HSD, CRT, DIP</li> <li>HSD, CRT, DIP</li> </ul>
Family & Community Services	<ul style="list-style-type: none"> <li>Child, Family, and School Social Workers</li> <li>Clergy</li> <li>Community and Social Service Specialists, All Other</li> <li>Community Health Workers</li> <li>Directors, Religious Activities and Education</li> <li>Health Education Specialists</li> <li>HealthCare Social Workers</li> <li>Religious Workers, All Other</li> <li>Social and Community Service Managers</li> <li>Social and Human Service Assistants</li> <li>Social Workers, All Other</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG, MST</li> <li>DIP, DEG, MST</li> <li>DIP, DEG</li> <li>DIP, DEG, MST</li> <li>DEG, MST, PHD</li> <li>DIP, DEG</li> <li>DIP, DEG, MST</li> <li>HSD, CRT, DIP</li> <li>DIP, DEG</li> <li>CRT, DIP</li> <li>DIP, DEG, MST</li> </ul>
Patient Care Services	<ul style="list-style-type: none"> <li>Barbers</li> <li>Crematory Operators</li> <li>Embalmers</li> <li>Exercise Trainers and Group Fitness Instructors</li> <li>Funeral Attendants</li> <li>Funeral Home Managers</li> <li>Hairdressers, Hairstylists, and Cosmetologists</li> <li>Laundry and Dry-Cleaning Workers</li> <li>Locker Room, Coatroom, and Dressing Room Attendants</li> <li>Manicurists and Pedicurists</li> <li>Massage Therapists</li> <li>Morticians, Undertakers, and Funeral Arrangers</li> <li>Personal Care Aides &amp; Service Workers</li> <li>Pressers, Textile, Garment, and Related Materials</li> <li>Residential Advisors</li> <li>Skincare Specialists</li> <li>Spa Managers</li> <li>Tailors, Dressmakers, and Custom Sewers</li> </ul>	<ul style="list-style-type: none"> <li>APP</li> <li>CRT</li> <li>CRT</li> <li>HSD, CRT, DIP</li> <li>HSD, CRT, DIP</li> <li>CRT, DIP, DEG</li> <li>APP, CRT, DIP</li> <li>HSD, CRT</li> <li>HSD</li> <li>CRT, DIP</li> <li>DIP</li> <li>CRT, DIP</li> <li>HSD, CRT, DIP</li> <li>HSD, CRT</li> <li>CRT, DIP</li> <li>HSD, CRT, DIP</li> <li>CRT, DIP, DEG</li> <li>CRT, DIP</li> </ul>

## 11. Information Technology

**Description:** The information technology cluster is for web designers, aspiring developers, network administrators and computer support specialists. Students interested in this field have initiative, are self-directed learners, and enjoy being on the cutting edge of technology.

Career Pathway	Occupation	Level of Education
<b>Information Support Services</b>	<ul style="list-style-type: none"> <li>• Business Intelligence Analysts</li> <li>• Computer Systems Engineers/Architects</li> <li>• Computer User Support Specialists</li> <li>• Data Warehousing Specialists</li> <li>• Document Management Specialists</li> <li>• Geographic Information Systems Technologists and Technicians</li> <li>• Information Technology Project Managers</li> <li>• Search Marketing Strategists</li> <li>• Software Quality Assurance Analysts and Testers</li> <li>• Video Game Designers</li> <li>• Web Administrators</li> <li>• Web and Digital Interface Designers</li> </ul>	<ul style="list-style-type: none"> <li>• DEG, MST</li> <li>• DEG, MST</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• DIP, DEG</li> <li>• DIP, DEG, MST</li> <li>• CRT, DIP, DEG</li> </ul>
<b>Network Systems</b>	<ul style="list-style-type: none"> <li>• Computer Network Architects</li> <li>• Computer Network Support Specialists</li> <li>• Database Administrators</li> <li>• Database Architects</li> <li>• Information Security Analysts</li> <li>• Network and Computer Systems Administrators</li> <li>• Telecommunications Engineering Specialists</li> </ul>	<ul style="list-style-type: none"> <li>• DIP, DEG, MST</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• DIP, DEG, MST</li> <li>• CRT, DIP, DEG</li> <li>• DIP, DEG, MST</li> <li>• CRT, DIP, DEG</li> </ul>
<b>Programming &amp; Software Development</b>	<ul style="list-style-type: none"> <li>• Computer Programmers</li> <li>• Computer System Analysts</li> <li>• Health Informatics Specialists</li> <li>• Software Developers</li> </ul>	<ul style="list-style-type: none"> <li>• DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• DIP, DEG, MST</li> <li>• DEG, MST</li> </ul>
<b>Web &amp; Digital Communications</b>	<ul style="list-style-type: none"> <li>• Web Developers</li> </ul>	<ul style="list-style-type: none"> <li>• CRT, DIP, DEG</li> </ul>

## 12. Law, Public Safety, Corrections and Security

**Description:** The Law, public safety, corrections and security cluster protects citizens. Students interested in this field are able to manage a fast-paced environment, are brave and have a strong desire to work with people and help/protect others.

Career Pathway	Occupation	Level of Education
<b>Correctional Services</b>	<ul style="list-style-type: none"> <li>• Correctional Officers and Jailers</li> <li>• First-Line Supervisors of Correctional Officers</li> <li>• Probation Officers and Correctional Treatment Specialists</li> </ul>	<ul style="list-style-type: none"> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> </ul>
<b>Emergency &amp; Fire Management Services</b>	<ul style="list-style-type: none"> <li>• Emergency Medical Technicians</li> <li>• Fire Inspectors and Investigators</li> <li>• Firefighters</li> <li>• Forest Fire Inspectors and Prevention Specialists</li> <li>• Paramedics</li> <li>• Public Safety Telecommunicators</li> </ul>	<ul style="list-style-type: none"> <li>• CRT, DIP</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• CRT, DIP, DEG</li> <li>• DIP, DEG</li> <li>• CRT, DIP</li> </ul>
<b>Law Enforcement Services</b>	<ul style="list-style-type: none"> <li>• Animal Control Workers</li> <li>• Customs and Border Protection Officers</li> <li>• Detectives and Criminal Investigators</li> <li>• Fish and Game Wardens</li> <li>• Forensic Science Technicians</li> <li>• Intelligence Analysts</li> <li>• Parking Enforcement Workers</li> <li>• Police and Sheriff's Patrol Officers</li> <li>• Police Identification and Records Officers</li> <li>• Private Detectives and Investigators</li> <li>• Transit and Railroad Police</li> </ul>	<ul style="list-style-type: none"> <li>• HSD, CRT, DIP</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• DIP, DEG</li> <li>• DEG, MST, PHD</li> <li>• HSD, CRT, DIP</li> <li>• DIP, DEG</li> <li>• CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP</li> </ul>
<b>Legal Services</b>	<ul style="list-style-type: none"> <li>• Administrative Law Judges, Adjudicators, and Hearing Officers</li> <li>• Arbitrators, Mediators, and Conciliators</li> <li>• Court Reporters and Simultaneous Captioners</li> <li>• Judges, Magistrate Judges, and Magistrates</li> <li>• Judicial Law Clerks</li> <li>• Lawyers</li> <li>• Legal Secretaries and Administrative Assistants</li> <li>• Legal Support Workers, All Other</li> <li>• Paralegals and Legal Assistants</li> <li>• Title Examiners, Abstractors, and Searchers</li> </ul>	<ul style="list-style-type: none"> <li>• DEG &amp; PRF</li> <li>• DEG, PRF</li> <li>• CRT, DIP</li> <li>• DEG &amp; PRF</li> <li>• CRT, DIP</li> <li>• DEG &amp; PRF</li> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• DIP, DEG</li> <li>• CRT, DIP, DEG</li> </ul>
<b>Security &amp; Protective Services</b>	<ul style="list-style-type: none"> <li>• Bailiffs</li> <li>• Crossing Guards and Flaggers</li> <li>• Gambling Surveillance Officers and Gambling Investigators</li> <li>• Lifeguards, Ski Patrol, and Other Recreational Protective Service Workers</li> <li>• Protective Service Workers, All Other</li> <li>• Retail Loss Prevention Specialists</li> <li>• School Bus Monitors</li> <li>• Security Guards</li> </ul>	<ul style="list-style-type: none"> <li>• DIP, DEG</li> <li>• HSD, CRT</li> <li>• CRT, DIP, DEG</li> <li>• HSD, CRT</li> <li>• CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• HSD, CRT</li> <li>• HSD, CRT, DIP</li> </ul>

### 13. Manufacturing

**Description:** This cluster is focused on planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing, and process engineering. Students entering these pathways should be interested in working with their hands, working with machinery and technology, and be OK with jobs that require repetition or little interaction with other people.

Career Pathway	Occupation	Level of Education
<b>Maintenance, Installation &amp; Repair</b>	<ul style="list-style-type: none"> <li>• Audiovisual Equipment Installers and Repairers</li> <li>• Camera and Photographic Equipment Repairers</li> <li>• Coin, Vending, and Amusement Machine Servicers and Repairers</li> <li>• Computer, Automated Teller, and Office Machine Repairers</li> <li>• Electric Motor, Power Tool, and Related Repairers</li> <li>• Geothermal Technicians</li> <li>• Home Appliance Repairers</li> <li>• Industrial Machinery Mechanics</li> <li>• Locksmiths and Safe Repairers</li> <li>• Maintenance and Repair Workers</li> <li>• Medical Appliance Technicians &amp; Equipment Repairers</li> <li>• Musical Instrument Repairers and Tuners</li> <li>• Outdoor Power Equipment and Other Small Engine Mechanics</li> <li>• Precision Instrument and Equipment Repairers, All Other</li> <li>• Radio, Cellular, and Tower Equipment Installers and Repairers</li> <li>• Security and Fire Alarm Systems Installers</li> <li>• Watch and Clock Repairers</li> <li>• Wind Turbine Service Technicians</li> </ul>	<ul style="list-style-type: none"> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• CRT, DIP, DEG</li> <li>• APP, CRT, DIP</li> <li>• CRT, DIP</li> <li>• APP</li> <li>• APP</li> <li>• APP</li> <li>• APP, CRT, DIP</li> <li>• CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• APP</li> <li>• APP, CRT, DIP</li> <li>• APP, CRT, DIP</li> <li>• CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• CRT</li> </ul>
<b>Manufacturing Product Process Development</b>	<ul style="list-style-type: none"> <li>• Aerospace Engineering and Operations Technologists and Technicians</li> <li>• Automotive Engineering Technicians</li> <li>• Calibration Technologists and Technicians</li> <li>• Chemical Technicians</li> <li>• Drafters, All Other</li> <li>• Electrical and Electronic Engineering Technologists and Technicians</li> <li>• Electrical and Electronics Drafters</li> <li>• Electro-Mechanical and Mechatronics Technologists and Technicians</li> <li>• Industrial Engineering Technologists and Technicians</li> <li>• Mechanical Drafters</li> <li>• Mechanical Engineering Technologists and Technicians</li> <li>• Nanotechnology Engineering Technologist and Technicians</li> <li>• Non-Destructive Testing Specialists</li> <li>• Nuclear Monitoring Technicians</li> <li>• Nuclear Technicians</li> <li>• Photonics Technicians</li> <li>• Purchasing Agents, Except Wholesale, Retail, and Farm Products</li> <li>• Robotics Technicians</li> </ul>	<ul style="list-style-type: none"> <li>• DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• CRT, DIP</li> <li>• DIP</li> <li>• CRT, DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• CRT, DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• CRT, DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• CRT, DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• CRT, DIP</li> <li>• DIP</li> </ul>
<b>Production</b>	<ul style="list-style-type: none"> <li>• Adhesive Bonding Machine Operators and Tenders</li> <li>• Aircraft Structure, Surfaces, Rigging, and Systems Assemblers</li> <li>• Assemblers and Fabricators, All Other</li> <li>• Biofuels Processing Technicians</li> <li>• Biomass Plant Technicians</li> <li>• Butchers and Meat Cutters</li> <li>• Cabinetmakers and Bench Carpenters</li> <li>• Chemical Equipment Operators and Tenders</li> <li>• Chemical Plant and System Operators</li> <li>• Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders</li> </ul>	<ul style="list-style-type: none"> <li>• HSD, CRT, DIP</li> <li>• CRT, DIP</li> <li>• HSD, CRT, DIP</li> <li>• DIP</li> <li>• DIP</li> <li>• CRT</li> <li>• APP</li> <li>• CRT, DIP</li> <li>• CRT, DIP</li> <li>• HSD, CRT, DIP</li> </ul>





## 14. Marketing, Sales and Service

**Description:** The Marketing, Sales and Service Cluster encompasses advertising and marketing, buying and merchandising, distribution and logistics, e-Marketing, management and entrepreneurship, marketing communications and promotion, marketing information management and research, and professional sales. Students should be creative, able to work as part of a team, and be interested in communicating and working with people.

Career Pathway	Occupation	Level of Education
Marketing Communications	<ul style="list-style-type: none"> <li>Public Relations Specialists</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG</li> </ul>
Marketing Management	<ul style="list-style-type: none"> <li>Advertising and Promotions Managers</li> <li>Fundraising Managers</li> <li>Marketing Managers</li> <li>Property, Real Estate, and Community Association Managers</li> <li>Public Relations Managers</li> <li>Sales Managers</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG, MST</li> <li>DIP, DEG, MST</li> <li>DIP, DEG, MST</li> <li>DIP, DEG</li> <li>DIP, DEG, MST</li> <li>DIP, DEG, MST</li> </ul>
Marketing Research	<ul style="list-style-type: none"> <li>Market Research Analysts and Marketing Specialists</li> </ul>	<ul style="list-style-type: none"> <li>DEG, MST</li> </ul>
Merchandising	<ul style="list-style-type: none"> <li>Merchandise Displayers and Window Trimmers</li> <li>Models</li> <li>Wholesale and Retail Buyers, Except Farm Products</li> </ul>	<ul style="list-style-type: none"> <li>HSD, CRT</li> <li>HSD</li> <li>HSD, CRT, DIP</li> </ul>
Professional Sales	<ul style="list-style-type: none"> <li>Advertising Sale Agents</li> <li>Cashiers</li> <li>Counter and Retail Clerks</li> <li>Demonstrators and Product Promoters</li> <li>Door-to-Door Sales Workers, News and Street Vendors, and Related Workers</li> <li>Driver/Sales Workers</li> <li>Parts Salespersons</li> <li>Real Estate Brokers</li> <li>Real Estate Agents</li> <li>Retail Salesperson</li> <li>Sales and Related Workers, All Other</li> <li>Sales Engineers</li> <li>Solar Sales Representatives and Assessors</li> <li>Telemarketers</li> </ul>	<ul style="list-style-type: none"> <li>DIP, DEG</li> <li>HSD</li> <li>HSD</li> <li>HSD</li> <li>HSD</li> <li>HSD</li> <li>HSD</li> <li>HSD, CRT</li> <li>CRT, DIP, DEG</li> <li>CRT, DIP, DEG</li> <li>HSD</li> <li>HSD</li> <li>DEG</li> <li>CRT, DIP, DEG</li> <li>HSD, CRT</li> </ul>



- Geneticists
- Geographers
- Geoscientists, Except Hydrologists and Geographers
- Historians
- Hydrologists
- Industrial Ecologists
- Life Scientists, All Other
- Life, Physical, and Social Science Technicians, All Other
- Material Scientists
- Mathematical Scientists
- Mathematicians
- Microbiologists
- Molecular and Cellular Biologists
- Park Naturalists
- Physical Scientists, All Other
- Physicists
- Political Scientists
- Precision Agricultural Technicians
- Quality Control Analysts
- Range Managers
- Remote Sensing Scientists and Technologists
- Remote Sensing Technicians
- Social Science Research Assistants
- Social Scientists and Related Workers, All Other
- Sociologists
- Statisticians
- Survey Researchers
- Transportation Planners

- DEG, MST, PHD
- DIP, DEG
- DEG, MST, PHD
- DIP, DEG, MST
- DEG, MST, PHD
- DEG, MST, PHD
- DEG, MST, PHD
- CRT, DIP, DEG
- DIP, DEG
- DIP, DEG
- DEG, MST, PHD
- CRT, DIP, DEG
- DIP, DEG
- DEG, MST, PHD
- DEG, MST, PHD
- DEG, MST, PHD
- DIP, DEG, MST
- DIP, DEG, MST

## 16. Transportation, Distribution and Logistics

**Description:** This Career Cluster is focused on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance. Students in these careers should be interested in how things work, looking for efficiencies and improvements, and working with machinery and technology.

Career Pathway	Occupation	Level of Education
<b>Facility &amp; Mobile Equipment Maintenance</b>	<ul style="list-style-type: none"> <li>● Aircraft Mechanics and Service Technicians</li> <li>● Automotive and Warcraft Service Attendants</li> <li>● Automotive Body and Related Repairers</li> <li>● Automotive Glass Installers and Repairers</li> <li>● Automotive Service Technicians and Mechanics</li> <li>● Avionics Technicians</li> <li>● Bicycle Repairers</li> <li>● Bus and Truck Mechanics and Diesel Engine Specialists</li> <li>● Cleaners of Vehicles and Equipment</li> <li>● Electrical and Electronics Installers and Repairers, Transportation Equipment</li> <li>● Electronics Equipment Installers and Repairers, Motor Vehicles</li> <li>● Mobile Heavy Equipment Mechanics, Except Engines</li> <li>● Motorboat Mechanics and Service Technicians</li> <li>● Motorcycle Mechanics</li> <li>● Rail Car Repairers</li> <li>● Rail-Track Laying and Maintenance Equipment Operators</li> <li>● Recreational Vehicle Service Technicians</li> <li>● Signal and Track Switch Repairers</li> <li>● Tire Repairers and Changers</li> </ul>	<ul style="list-style-type: none"> <li>● APP</li> <li>● APP</li> <li>● APP</li> <li>● HSD, APP</li> <li>● APP</li> <li>● APP, CRT, DIP</li> <li>● HSD</li> <li>● APP</li> <li>● HSD</li> <li>● HSD</li> <li>● CRT, DIP</li> <li>● APP</li> <li>● APP</li> <li>● APP</li> <li>● CRT, DIP</li> <li>● CRT, DIP</li> <li>● APP</li> <li>● CRT, DIP</li> <li>● HSD, APP, CRT</li> </ul>
<b>Logistics Planning &amp; Management Services</b>	<ul style="list-style-type: none"> <li>● Dispatchers, Except Police, Fire, and Ambulance</li> <li>● Logisticians</li> <li>● Logistics Analysts</li> <li>● Logistics Engineers</li> <li>● Transportation, Storage, and Distribution Managers</li> </ul>	<ul style="list-style-type: none"> <li>● CRT, DIP</li> <li>● DEG</li> <li>● DIP</li> <li>● DEG</li> <li>● DIP, DEG</li> </ul>
<b>Sales &amp; Services</b>	<ul style="list-style-type: none"> <li>● Billing and Posting Clerks</li> <li>● Cargo and Freight Agents</li> <li>● Freight Forwarders</li> <li>● Parking Attendants</li> </ul>	<ul style="list-style-type: none"> <li>● CRT, DIP</li> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT, DIP</li> <li>● HSD</li> </ul>
<b>Transportation Operations</b>	<ul style="list-style-type: none"> <li>● Aircraft Cargo Handling Supervisors</li> <li>● Aircraft Service Attendants</li> <li>● Airline Pilots, Copilots, and Flight Engineers</li> <li>● Ambulance Drivers and Attendants, Except Emergency Medical Technicians</li> <li>● Bridge and Lock Tenders</li> <li>● Bus Drivers, School</li> <li>● Bus Drivers, Transit and Intercity</li> <li>● Captains, Mates, and Pilots of Water Vessels</li> <li>● Commercial Pilots</li> <li>● Couriers and Messengers</li> <li>● Flight Attendants</li> <li>● Gas Compressor and Gas Pumping Station Operators</li> <li>● Heavy and Tractor-Trailer Truck Drivers</li> <li>● Industrial Truck and Tractor Operators</li> <li>● Laborers and Freight, Stock, and Material Movers, Hand</li> <li>● Light Truck Drivers</li> <li>● Locomotive Engineers</li> </ul>	<ul style="list-style-type: none"> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT, DIP</li> <li>● DIP, DEG</li> <li>● CRT, DIP</li> <li>● CRT, DIP</li> <li>● HSD, CRT</li> <li>● HSD, CRT</li> <li>● CRT, DIP, DEG</li> <li>● DIP, DEG</li> <li>● HSD, CRT</li> <li>● DIP, DEG</li> <li>● CRT, DIP</li> <li>● HSD, CRT</li> <li>● HSD, CRT</li> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT, DIP</li> </ul>

	<ul style="list-style-type: none"> <li>● Motor Vehicle Operators, All Other</li> <li>● Motorboat Operators</li> <li>● Packers and Packagers, Hand</li> <li>● Passenger Attendants</li> <li>● Pump Operators, Except Wellhead Pumpers</li> <li>● Rail Transportation Workers, All Other</li> <li>● Rail Yard Engineers, Donkey Operators, and Hostlers</li> <li>● Railroad Brake, Signal, and Switch Operators and Locomotive Firers</li> <li>● Railroad Conductors and Yardmasters</li> <li>● Recycling Coordinators</li> <li>● Sailors and Marine Oilers</li> <li>● Ship Engineers</li> <li>● Shuttle Drivers and Chauffeurs</li> <li>● Subway and Streetcar Operators</li> <li>● Tank Car, truck, and Ship Loaders</li> <li>● Taxi Drivers</li> <li>● Transportation Workers, All Other</li> <li>● Wellhead Pumpers</li> </ul>	<ul style="list-style-type: none"> <li>● HSD, CRT</li> <li>● HSD, CRT</li> <li>● HSD, CRT</li> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT</li> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT, DIP</li> <li>● HSD, CRT</li> <li>● HSD, CRT, DIP</li> <li>● DIP, DEG</li> <li>● HSD, CRT</li> <li>● HSD, CRT, DIP</li> </ul>
<b>Transportation Systems / Infrastructure Planning, Management &amp; Regulation</b>	<ul style="list-style-type: none"> <li>● Air Traffic Controllers</li> <li>● Airfield Operations Specialists</li> <li>● Traffic Technicians</li> </ul>	<ul style="list-style-type: none"> <li>● CRT, DIP</li> <li>● CRT, DIP, DEG</li> <li>● CRT, DIP, DEG</li> </ul>