The Region 25* Career and Technical Education Program Descriptions

(*Wayne & Monroe Counties, Michigan—excludes Detroit Public Schools, which has its own region and funding)

The purpose of “The Region 25 Career and Technical Education (CTE) Program Descriptions” is to guide and assist students, parents, and counselors regarding Career and Technical Education program opportunities within Region 25 (Wayne and Monroe Counties).

In most if not all cases, students have the opportunity to attend programs within their district and neighboring districts.

All CTE programs are designed to prepare students for internships, apprenticeships, and entry-level career opportunities within their CTE program of study and/or continued postsecondary education.
**Region 25 CTE Focus: Careers and College**

**CTE Mission:** Prepare and support high school students for a smooth transition into high-skill, high-wage, and/or high-demand careers and appropriate postsecondary education.

**CTE Programs:** Provide students instruction and experience in the real-world application of academic skills, industry-based skill standards, and interpersonal workplace skills and behaviors in order to become intern-ready for employment and/or postsecondary education. These programs also provide students the opportunity to earn college credit while in secondary CTE programs.

---

**Region 25 Members and Partners**

- **2 Counties (Wayne and Monroe)**
- **39 School Districts**
- **4 Career and Technical Centers**
- **3 Consortia**
- **30 Choices of Career Cluster Pathway Programs**

**REGIONAL EDUCATIONAL SERVICE AGENCIES (ESA)**

- Monroe County Intermediate School District (Monroe ISD)
- Wayne County Regional Educational Service Agency (Wayne RESA)

**EDUCATION, BUSINESS, AND COMMUNITY PARTNERS**

- Baker College
- Botsford Hospital
- Davenport University
- Eastern Michigan University
- Employment Training and Designs Incorporated
- Ferris State University
- Henry Ford Community College
- Henry Ford Wyandotte Hospital
- Local Business Advisory for each CTE program
- Local Chambers of Commerce
- Michigan Advanced Technician Training Program (MAT2)
- MIAT College of Technology
- Michigan Department of Education
- Monroe County Community College
- Regional Business Advisory for each of the Career Clusters
- Regional St. Clair STEM Hub
- Schoolcraft College
- SEMCA Region 25 Workforce Development Board Education Advisory Group and Education Council
- University of Michigan–Dearborn
- Wayne Community College
- Wayne State University
- WIN (Workforce Intelligence Network)

**SECONDARY SCHOOL DISTRICTS** *(Includes Public School Academies)*

- Advanced Technology Academy
- Airport
- Allen Park
- Bedford
- Chandler Park Academy
- Crestwood
- Dearborn
- Dearborn Heights #7
- Dundee
- Flat Rock
- Garden City
- Gibraltar
- Grosse Ile
- Grosse Pointe
- Hamtramck
- Harper Woods
- Huron
- Ida
- Jefferson
- Lincoln Park
- Livonia
- Mason
- Melvindale
- Monroe
- Melvindale
- Northville
- Plymouth–Canton
- Redford Union
- River Rouge
- Riverview
- Romulus
- South Redford
- Southgate
- Summerfield
- Taylor
- Trenton
- Van Buren
- Wayne-Westland
- Westwood
- Whiteford

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**Preparing today's students for tomorrow's world**

**Monroe County ISD**

1101 S. Raisinville Road • Monroe, MI 48161
734.242.5799 • www.monroeisd.us

**Board of Education**

Russell Bless • Dale DeSloover • Renee Larzelere
Paul Miller • Linda Stiegel
Stephen J. McNew, Ed.D., Superintendent

**Wayne RESA**

33500 Van Born Road • Wayne, MI 48184
734.334.1300 • 734.334.1620 fax • www.resa.net

**Board of Education**

James S. Beri • Mary E. Blackmon • Danielle Funderburg
Lynda S. Jackson • James Petrie
Randy A. Liepa, Ph.D., Superintendent
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<th>Descriptions</th>
<th>Sample Careers*</th>
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</thead>
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<tr>
<td>Agricultural, Food &amp; Natural Resources</td>
<td>• Food Products &amp; Processing Systems • Plant Systems • Animal Systems • Power, Structural &amp; Technical Systems • Natural Resource Systems • Environmental Service Systems • Agribusiness Systems</td>
<td>This Cluster prepares students for careers in the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.</td>
<td>• Food Scientist • Environmental Engineer • Agriculture Teacher • Animal Scientist • Biochemist • Veterinarian</td>
</tr>
<tr>
<td>Architecture &amp; Construction</td>
<td>• Design/Pre-Construction • Construction • Maintenance/Operations</td>
<td>This Cluster prepares students for careers in designing, planning, managing, building and maintaining the built environment.</td>
<td>• Contractor • Architect • Electrician • Civil Engineer • Carpenter • Plumber • Interior Designer</td>
</tr>
<tr>
<td>Arts, A/V Technology &amp; Communications</td>
<td>• Audio &amp; Video Technology &amp; Film • Printing Technology • Visual Arts • Performing Arts • Journalism &amp; Broadcasting • Telecommunications</td>
<td>This Cluster prepares students for careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.</td>
<td>• Actor-Actress • Media Producer • Radio and TV Announcer • Audio Engineer • Tele-Communications Technologist • Multimedia Artist and Animator</td>
</tr>
<tr>
<td>Business Management &amp; Administration</td>
<td>• General Management • Business Information Management • Human Resources Management • Operations Management • Administrative Support</td>
<td>This Cluster prepares students for careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Career opportunities in this cluster are available in every sector of the economy.</td>
<td>• Human Resources Administrator • Public Relations Specialist • Auditor • Accountant • Operations Manager • Transportation Manager</td>
</tr>
<tr>
<td>Education &amp; Training</td>
<td>• Administration &amp; Administrative Support • Professional Support Services • Teaching/Training</td>
<td>This Cluster prepares students for careers in planning, managing and providing education and training services, and related learning support services such as administration, teaching/training, administrative support, and professional support services.</td>
<td>• Teacher • Principal • School Counselor • College Professor • Corporate Trainer • Interpreters and Translators</td>
</tr>
</tbody>
</table>

Page number corresponds to Career Cluster CTE program.
### Career Clusters and Career Pathways with Descriptions and Sample Careers—Continued

<table>
<thead>
<tr>
<th>Career Cluster</th>
<th>Career Pathway</th>
<th>Descriptions</th>
<th>Sample Careers*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securities &amp; Investments</td>
<td>Business Finance</td>
<td>This Cluster prepares students for careers in the planning of and related services for financial and investment planning, banking, insurance, and business financial management.</td>
<td>Stock Broker</td>
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<tr>
<td></td>
<td>Accounting</td>
<td></td>
<td>Financial Specialist</td>
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<tr>
<td></td>
<td>Insurance</td>
<td></td>
<td>Insurance Agent</td>
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<tr>
<td></td>
<td>Banking Services</td>
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<td>Financial Planner</td>
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<td></td>
<td></td>
<td></td>
<td>Loan Officer</td>
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<td></td>
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<td>Tax Preparer</td>
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<tr>
<td>Finance</td>
<td>Governance</td>
<td>This Cluster prepares students for careers in executing governmental functions at the local, state and federal levels, including governance, national security, foreign service, planning, revenue and taxation, and regulations.</td>
<td>Legislator</td>
</tr>
<tr>
<td></td>
<td>National Security</td>
<td></td>
<td>City Manager</td>
</tr>
<tr>
<td></td>
<td>Foreign Service</td>
<td></td>
<td>Detective and Criminal Investigator</td>
</tr>
<tr>
<td></td>
<td>Planning</td>
<td></td>
<td>Operations Manager</td>
</tr>
<tr>
<td></td>
<td>Revenue &amp; Taxation</td>
<td></td>
<td>State/Federal Agency Director</td>
</tr>
<tr>
<td></td>
<td>Regulation</td>
<td></td>
<td>Urban/Regional Planner</td>
</tr>
<tr>
<td></td>
<td>Public Management &amp; Administration</td>
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</tr>
<tr>
<td>Government &amp; Public Administration</td>
<td>Therapeutic Services</td>
<td>This Cluster prepares students for careers in planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.</td>
<td>Pediatrician</td>
</tr>
<tr>
<td></td>
<td>Diagnostic Services</td>
<td></td>
<td>Physical Therapist</td>
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<tr>
<td></td>
<td>Health Informatics</td>
<td></td>
<td>Pharmacist</td>
</tr>
<tr>
<td></td>
<td>Support Services</td>
<td></td>
<td>Occupational Therapist</td>
</tr>
<tr>
<td></td>
<td>Biotechnology Research &amp; Development</td>
<td></td>
<td>Hospital Administrator</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Biomedical Engineer</td>
</tr>
<tr>
<td>Health Science</td>
<td>Restaurants &amp; Food/Beverage Services</td>
<td>This Cluster prepares students for careers in the management, marketing and operations of restaurants and other food services, lodging, attractions and recreational events and tourism-related services.</td>
<td>Event Planner</td>
</tr>
<tr>
<td></td>
<td>Travel &amp; Tourism</td>
<td></td>
<td>Chef</td>
</tr>
<tr>
<td></td>
<td>Lodging</td>
<td></td>
<td>Travel and Tourism Manager</td>
</tr>
<tr>
<td></td>
<td>Recreation, Amusements &amp; Attractions</td>
<td></td>
<td>Food Service Manager</td>
</tr>
<tr>
<td>Hospitality &amp; Tourism</td>
<td>Early Childhood Development &amp; Services</td>
<td></td>
<td>Sports Official</td>
</tr>
<tr>
<td></td>
<td>Counseling &amp; Mental Health Services</td>
<td></td>
<td>Leisure and Entertainment Manager</td>
</tr>
<tr>
<td>Human Services</td>
<td>Family &amp; Community Services</td>
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<tr>
<td></td>
<td>Personal Care Services</td>
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<tr>
<td></td>
<td>Consumer Services</td>
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</tbody>
</table>


Page number corresponds to Career Cluster CTE program.
### Career Clusters and Career Pathways with Descriptions and Sample Careers—Continued

<table>
<thead>
<tr>
<th>Career Cluster</th>
<th>Career Pathway</th>
<th>Descriptions</th>
<th>Sample Careers*</th>
</tr>
</thead>
</table>
| Information Technology | • Network Systems  
• Information Support & Services  
• Web & Digital Communications  
• Health, Safety & Environmental Assurance  
• Programming & Software Development | This Cluster prepares students for careers related to the design, development, support and management of hardware, software, multimedia and systems integration services. | • Software Engineer  
• Computer and Information Systems Manager  
• Videogame Designer  
• Database Administrator  
• Business Intelligence Analyst |
| Law, Public Safety, Corrections & Security | • Correction Services  
• Emergency & Fire Management Services  
• Law Enforcement Services  
• Legal Services  
• Security & Protective Services | This Cluster prepares students for careers in planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services. | • Attorney  
• Fire Fighter  
• Police Officer  
• Judge  
• Paramedic  
• Paralegal  
• Corrections Officer |
| Manufacturing | • Production  
• Manufacturing Production Process Development  
• Maintenance, Installation & Repair  
• Quality Assurance  
• Logistics & Inventory Control  
• Health, Safety & Environmental Assurance | This Cluster prepares students for careers in 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/process engineering. | • Machinist  
• Manufacturing Engineer  
• Electronics Engineering Technician  
• Production Engineer  
• Welding Technician  
• Automotive Specialty Technician  
• Robotics Technician |
| Marketing | • Marketing Management  
• Professional Sales  
• Merchandising  
• Marketing Communications  
• Marketing Research | This Cluster prepares students for careers in planning, managing, and performing marketing activities to reach organizational objectives such as brand management, professional sales, merchandising, marketing communications and market research. | • Sales Manager  
• Marketing Director  
• Real Estate Broker  
• Customer Service Representative |

Page number corresponds to Career Cluster CTE program.
### Career Clusters and Career Pathways with Descriptions and Sample Careers—Continued

<table>
<thead>
<tr>
<th>Career Cluster</th>
<th>Career Pathway</th>
<th>Descriptions</th>
<th>Sample Careers*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>• Science</td>
<td>This Cluster prepares students for careers in planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.</td>
<td>• Chemical Engineer</td>
</tr>
<tr>
<td></td>
<td>• Technology</td>
<td></td>
<td>• Aerospace Engineer</td>
</tr>
<tr>
<td></td>
<td>• Engineering</td>
<td></td>
<td>• Biomedical Engineer</td>
</tr>
<tr>
<td></td>
<td>• Mathematics</td>
<td></td>
<td>• Electrical Engineer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Biologist</td>
</tr>
<tr>
<td>Transportation, Distribution &amp; Logistics</td>
<td>• Transportation Operations</td>
<td>This Cluster prepares students for careers in the planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.</td>
<td>• Pilot</td>
</tr>
<tr>
<td></td>
<td>• Logistics Planning &amp; Management Services</td>
<td></td>
<td>• Automotive Technician</td>
</tr>
<tr>
<td></td>
<td>• Warehouse &amp; Distribution Center Operations</td>
<td></td>
<td>• Logistics Manager</td>
</tr>
<tr>
<td></td>
<td>• Facility &amp; Mobile Equipment Maintenance</td>
<td></td>
<td>• Transportation Manager</td>
</tr>
<tr>
<td></td>
<td>• Transportation Systems/Infrastructure</td>
<td></td>
<td>• Warehouse Manager</td>
</tr>
<tr>
<td></td>
<td>• Planning, Management &amp; Regulation</td>
<td></td>
<td>• Truck Driver</td>
</tr>
<tr>
<td></td>
<td>• Health, Safety &amp; Environmental Management</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>• Sales &amp; Service</td>
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</tbody>
</table>

In Michigan, all high school state-approved CTE programs are required to incorporate the state’s industry-based standards for their specific career cluster pathway/CIP code. The consistency of program standards supports continuous program improvement.

Page number corresponds to Career Cluster CTE program.
## CTE Programs by Career Cluster

### Agriculture, Food & Natural Resources

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Agriculture, Agricultural Operations and Related Sciences CIP# 1.0000 | This program focuses on the general principles and practice of agricultural research and production designed to prepare students to apply this knowledge to the solution of practical agricultural problems. It includes instruction in basic animal, plant, and soil science; animal husbandry and plant cultivation; soil conservation; natural resources and agricultural operations such as farming, ranching, and agricultural business. | • Science  
• Visual, Performing and Applied Arts  
• On-line Learning                                                                  | • Animal Systems                   |

**Offered by:** Airport • Dundee • Lincoln Park • Whiteford

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Applied Horticulture and Horticultural Operations CIP# 1.0601 | This program focuses on the general production and processing of domesticated plants, shrubs, flowers, foliage, trees, ground cover, and related plant materials; the management of technical and business operations connected with horticultural services; and the basic scientific principles needed to understand plants and their management and care. | • Science  
• Visual, Performing and Applied Arts  
• On-line Learning                                                                  | • Plant Systems                   |

**Offered by:** Wyandotte: Roosevelt

### Architecture & Construction

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Construction Trades CIP# 46.0000 | This program prepares students to apply technical knowledge and skills in the building, inspection, and maintenance of structures and related properties. It includes instruction in carpentry; electrical and power transmission installation; building/construction finishing; management, inspection; lay out; cut, fabrication, erection, installation, and repair of wooden structures and fixtures using hand and power tools; technical Mathematics; framing construction materials and selection; job estimating; blueprint reading; foundations and roughing-in; finishing carpentry techniques; and applicable codes and standards. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning                                                                  | • Construction                   |

**Offered by:** Allen Park • Bedford • Dundee • Garden City • Gibraltar: Carlson • Jefferson • Lincoln Park • Mason • Monroe • Southgate: Anderson • Taylor: Taylor Career TC • Wayne-Westland: Wm. Ford Career TC • Whiteford
<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| **Drafting and Design Technology**   | This program prepares students to apply technical knowledge and skills to create products using techniques of precision craftsmanship or technical illustration. It provides a broad foundation of applied academics and transferable basic skills, plus occupationally-specific technical skills required to function in an increasingly complex and highly technological society and workplace. It includes instruction in technical skills and advanced computer software and hardware; creation of graphic representations and simulations in support of engineering projects; engineering graphics; two-dimensional and three-dimensional engineering design; solid modeling; engineering animation; computer-aided drafting (CAD) and auto-CAD techniques; and manufacturing design projects. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Design/Pre-Construction |
| **Offered by:** Airport • Bedford • Dearborn Hgts. #7: Annapolis • Hamtramck • Lincoln Park  
Livonia: Livonia Career TC • Monroe • Southgate: Anderson • Trenton  
Wayne-Westland: John Glenn • Wyandotte: Roosevelt |                                                                                                                                          |                                                                                                           |                              |
| **Heating, Air Conditioning, Ventilation and Refrigeration** | This program prepares students to apply technical knowledge and skills to repair, install, service and maintain the operating condition of heating, air conditioning, and refrigeration systems. It includes instruction in diagnostic techniques; the use of testing equipment; and the principles of mechanics, electricity, and electronics as they relate to the repair of heating, air conditioning and refrigeration systems. | • Mathematics  
• Online Learning | • Construction |
| **Offered by:** Wayne-Westland: Wm. Ford Career TC |                                                                                                                                         |                                                                                                           |                              |
# CTE Programs by Career Cluster

## Arts, A/V Technology & Communications

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fashion Design</strong></td>
<td>This program prepares students in the construction of a major product from a commercial pattern and to assist in apparel and fashion selection; style coordination; customer sales and consulting; fabric selection; and clothing specifications. It includes instruction in garment construction; clothing color and design; pattern reading; symbols; and interpreting terms.</td>
<td>• Visual, Performing and Applied Arts • On-line Learning</td>
<td>• Visual Arts</td>
</tr>
<tr>
<td>CIP# 19.0906</td>
<td><strong>Offered by:</strong> Monroe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Graphics and Printing Technology and Communications** | This program prepares students to apply technical knowledge and skills in the manufacturing and distribution or transmission of graphic communications products. This includes instruction in the pre-press, press, and post-press phases of production operations; and processes such as offset lithography, flexography, gravure, letterpress, screen printing, foil stamping, digital imaging, and other reproduction methods. | • Mathematics • Visual, Performing and Applied Arts • On-line Learning | • Printing Technologies |
| CIP# 10.0301 | **Offered by:** Dearborn Hgts. #7: Annapolis • Garden City • Hamtramck • Harper Woods Livonia: Livonia Career TC • Plymouth-Canton Educational Park • Romulus • Southgate: Anderson Wayne-Westland: Wm. Ford Career TC • Woodhaven–Brownstown: Woodhaven | | |

| **Radio & TV Broadcasting Technology** | This program prepares students to apply technical knowledge and skills to the production of radio and television programs; and related operations under the supervision of broadcast and studio managers, directors, editors, and producers. This program includes instruction in sound; lighting; camera operation and maintenance; power and feed control; studio operations; production preparation; broadcast engineering; related computer applications; and specialized applications such as news, entertainment, live talk, sports, commercials, and taping. This course links to the knowledge and skills critical in Broadcast, Film and Journalism; and Audio Video Communication Technology. | • Visual, Performing and Applied Arts • On-line Learning | • Audio & Video Technology |
| CIP# 10.0202 | **Offered by:** Bedford • Gibraltar: Carlson • Grosse Pointe: North, South • Harper Woods • Trenton Wayne-Westland: Wm. Ford Career TC | | |
## CTE Programs by Career Cluster

### Business Management & Administration

<table>
<thead>
<tr>
<th>Program Name CIP#</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Business Administration Management and Operations CIP# 52.0299 | This program prepares students to plan, manage, supervise, and market business operations, products, and services. It includes instruction in business administration; information management; human resource management; business law; ethics; business communications utilizing application software; preparing and delivering presentations; planning and organizing projects; and decision making in a business environment. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Business Information Management |

**Offered by:** Airport • Bedford • Dearborn: Advanced Technology Academy • Dearborn: Edsel Ford, Fordson, Michael Berry Career Center • Dearborn Hgts. #7: Annapolis • Gibraltar: Carlson • Hamtramck Grosse Pointe: North, South Livonia: Livonia Career TC, Churchill, Franklin, Stevenson • Melvindale Monroe • Plymouth-Canton Educational Park • Riverview • Romulus • Southgate: Anderson Taylor: Taylor Career TC • Van Buren: Belleville • Woodhaven- Brownstown: Woodhaven

### Education & Training

<table>
<thead>
<tr>
<th>Program Name CIP#</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Education General (Teacher Cadet) CIP# 13.0000 | This program focuses on the general theory and practice of learning and teaching. It includes instruction in the basic principles of educational psychology; the art of teaching; the planning and administration of educational activities; school safety and health issues; and the social foundations of education. Possible areas of concentration include teaching and training, professional support services, administration, and administrative support. | • Mathematics  
• Science  
• Visual, Performing and Applied Arts  
• On-line Learning | • Teaching/Training |

**Offered By:** Grosse Ile • Plymouth-Canton Educational Park • Wayne-Westland Wm. Ford Career TC
## CTE Programs by Career Cluster

### Finance

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Finance and Financial Management Services | This program prepares students to plan for and evaluate a business’ operations, financial and investing decisions and how accounting systems gather and communicate financial information to internal and external decision makers. Topics include an introduction to accounting, the accounting cycles, accounting information systems, financial analysis, business law, and entrepreneurship. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Accounting |

**Offered By:** Airport • Bedford • Chandler Park Academy • Dearborn: Fordson, M. Berry Career TC  
Dearborn Hghts. #7: Annapolis • Garden City • Gibraltar: Carlson • Grosse Pointe: North, South  
Hamtramck • Huron • Melvindale • Monroe • Northville • Plymouth-Canton Educational Park  
Riverview • Romulus • Southgate: Anderson • Van Buren: Belleville •  
Woodhaven-Brownstown: Woodhaven

### Government & Public Administration

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Army JROTC  | This program prepares and refines the traits of leadership within individual students by emphasizing the qualities of a leader and the challenges to leadership. The four-year program is designed to motivate students to become better citizens. It includes instruction in the precepts of citizenship and emphasizes self-confidence, self-discipline, and community service. Students also receive CERT (Community Emergency Response Team) certification as part of this program. | • Physical Education  
• Health  
• History  
• On-line Learning (Academic credit given is dependent upon number of years in program). | • National Security |

**Offered By:** Chandler Park Academy • Southgate: Anderson
## Health Science

<table>
<thead>
<tr>
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<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Therapeutic Services                | This program provides students the needed skills in health careers which focus primarily on changing the health status of the patient over time. Careers in the Therapeutic Services course work directly with patients and may also provide care, treatment, counseling, and health education information. Additional subject areas are Nursing Occupations, Dental Occupations, Pharmacy Assisting, Medical/Rehab Services, Emergency Medical Services, Medical Services, and Veterinary Science. | • Mathematics  
• Science  
• Visual, Performing and Applied Arts  
• On-line Learning                                                                                                                                  | Therapeutic Services |

Dearborn: Michael Berry Career Center • Dearborn Hgts. #7: Annapolis • Flat Rock • Grosse Ile  
Livonia: Livonia Career TC • Monroe • Plymouth-Canton Educational Park • Romulus  
Taylor: Taylor Career TC • Trenton • Wayne-Westland: Wm. Ford Career TC  
Woodhaven-Brownstown: Woodhaven • Wyandotte: Roosevelt

## Hospitality and Tourism

<table>
<thead>
<tr>
<th>Program Name</th>
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</thead>
</table>
| Cooking and Related Culinary Arts   | This program focuses on preparing students for management, marketing, and operations of restaurant and other food services; lodging, attractions, recreation events, and travel related services. Skills acquired in this program include operational and management skills; event planning and organization; customer service; aspects of the travel industry; food preparation; time management; communication; decision making; project management; and entrepreneurship. | • Mathematics  
• Visual, Performing and Applied Arts  
• Online Learning                                                                                                                                  | Travel and Tourism |

Offered By: Dearborn: Michael Berry Career Center • Livonia • Franklin • Grosse Pointe: North, South  
Plymouth-Canton Educational Park • Riverview • River Rouge • Romulus • Taylor: Taylor Career TC  
Wayne-Westland: Wm. Ford Career TC
# CTE Programs by Career Cluster

## Human Services

<table>
<thead>
<tr>
<th>Program Name CIP#</th>
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<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
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</tr>
</thead>
</table>
| **Cosmetology CIP# 12.0400** | This course prepares students to cut, trim, and style scalp, and facial hair; apply cosmetic preparations; perform manicures and pedicures; massage the head and extremities; and prepares students for practice as licensed cosmetologists in specialized or full-service salons. It includes instruction in hair shampooing, cutting and styling; manicures; pedicures; facial treatments; chemical applications; esthetics; shop management; sanitation and safety; customer service; and applicable professional and labor laws and regulations. | • Mathematics  
• Science  
• Visual, Performing and Applied Arts  
• On-line Learning | • Personal Care Services |
| **Family and Consumer Sciences CIP# 19.0000** | This course prepares students to evaluate, coordinate, and function in multiple adult roles of day-to-day living and working throughout the life cycle. Students develop an individual sense of well-being to become contributing members of society as a family member, worker, nurturer, consumer, citizen, and life-long learner. Family and Consumer Science Education promotes the growth of the individual in a holistic manner—including physical, social, emotional, and intellectual development. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Personal Care Services |

*Offered By: Monroe ISD • Woodhaven–Brownstown: Woodhaven*

*Offered By: Bedford*
## Information Technology

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
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</thead>
</table>
| Computer and Information Systems Security/Information Assurance CIP# 11.1003 | This program prepares individuals to assess the security needs of computer and network systems, recommend safeguard solutions, and manage the implementation and maintenance of security devices, systems, and procedures. Includes instruction in computer architecture, programming, and systems analysis; networking; telecommunications; cryptography; security system design; applicable law and regulations; risk assessment and policy analysis; contingency planning; user access issues; investigation techniques; and troubleshooting. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Cyber Security |

**Offered By:** Bedford • Grosse Pointe: South • Plymouth-Canton Educational Park

| Computer Programming/Programmer CIP# 11.0201 | This program prepares students to apply the knowledge and skills of general computer programming to the solution of specific operational problems and customization requirements presented by individual software and organizational users. It includes training in specific types of software, design, development, and implementation; identifying customer needs; programming tools and techniques; creating codes; testing and validation; the maintenance of computer systems and software; and project management. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Programming & Software Development |

**Offered By:** Allen Park • Bedford • Dearborn: Michael Berry Career Center  
Plymouth–Canton Educational Park Northville • Romulus • Taylor: Taylor Career TC  
Wayne-Westland: John Glenn • Wm. Ford Career TC

| Computer Systems Networking and Telecommunications CIP# 11.0901 | This program focuses on the design, implementation, and management of linked systems of computers, peripherals, and associated software to maximize efficiency and productivity. It prepares students to function as network specialists and managers at various levels. It includes instruction in operating systems and applications; systems design and analysis; networking theory and solutions; types of networks; network management and control; network and flow optimization; security; configuration; troubleshooting; project management; identifying customer needs and providing technical support. | • Mathematics  
• On-line Learning | • Network Systems |

**Offered By:** Dearborn Hgts. #7: Annapolis • Harper Woods • Livonia: Livonia Career TC
## Information Technology—continued

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Digital/Multimedia and Information Resources Design</strong>&lt;br&gt;CIP# 11.0801</td>
<td>This program prepares students to utilize programming software, graphics applications, and other authoring tools to design, edit, and publish (launching) documents, images, graphics, sound, and multimedia products on the internet. It includes instruction in internet theory; web page standards and policies; elements of web page design; web programming and hosting; databases; email and personal information management; security; as well as creating media product specifications; user interfaces; vector tools; special effects; interactive and multimedia components; search engines; navigation; e-commerce tools; emerging web technologies; project management; and providing customer support.</td>
<td>• Mathematics&lt;br&gt;• Visual, Performing and Applied Arts&lt;br&gt;• On-line Learning</td>
<td>• Interactive Media</td>
</tr>
</tbody>
</table>

**Offered By:** Airport • Bedford • Dearborn: Michael Berry Career Center • Gibraltar: Carlson<br>Grosse Pointe: North • Livonia: Livonia Career TC • Melvindale • Monroe<br>Plymouth-Canton Educational Park • Romulus Taylor: Taylor Career TC

| **System Administration/ Administrator**<br>CIP# 11.1001 | This program prepares students to manage computer operations and control system configurations emanating from a specific site or network hub. It includes instruction in computer hardware and software applications; managing software systems; evaluating application software packages; basic web programming; web hosting; systems analysis and design; system installation and maintenance; local area network (LAN) and wide area (WAN) networking; principles of information systems security; disk space and traffic load monitoring; data backup; resource allocation; setup and takedown procedures; customer service, and project management.                                                                                                                                                                                                                                                                                                                                                           | • Mathematics<br>• On-line Learning                                                                                                           | • Information Support & Services                                                                                          |

**Offered By:** Airport • Livonia: Livonia Career TC • Plymouth-Canton Educational Park
## Law, Public Safety, Corrections & Security

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
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<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| Public Safety/Protective Services | This program focuses upon the principles and procedures for providing police, fire, and other safety services and managing penal institutions. | • Mathematics  
• On-line Learning | • Emergency & Fire Management Services  
• Law Enforcement |

**Offered By:** Livonia: Livonia Career TC • Wayne-Westland: Wm. Ford Career TC • Westwood: Robichaud
## Manufacturing

<table>
<thead>
<tr>
<th>Program Name CIP#***</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
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</thead>
<tbody>
<tr>
<td><strong>Electrical/Electronics Equipment, Installation and Repair</strong> CIP# 47.0101</td>
<td>This program prepares students to identify and diagnose equipment problems in order to effectively repair manufacturing equipment. Instruction includes a hands-on knowledge of equipment operation to identify maintenance needs and maximize performance; installation, customization or upgrading techniques in order to ensure the proper functioning of manufacturing equipment; creating and following a preventative maintenance schedule to maintain manufacturing equipment tools and workstations; and coordinating predictive and preventive maintenance to ensure that production process runs smoothly.</td>
<td>• Mathematics&lt;br&gt;• Visual, Performing and Applied Arts&lt;br&gt;• On-line Learning</td>
<td>• Maintenance, Installation, &amp; Repair</td>
</tr>
</tbody>
</table>

**Offered By:** Monroe • Wayne-Westland: Wm. Ford Career TC

| **Machine Tool Operation/Machine Shop** CIP# 48.0501 | This program prepares students to apply technical knowledge and skills to plan; manufacture; assemble; test and repair parts, mechanisms, machines, and structures in which materials are cast, formed, shaped, molded, heat treated, cut, twisted, pressed, fused, stamped, or worked. | • Mathematics<br>• Visual, Performing and Applied Arts<br>• On-line Learning | • Production |

**Offered By:** Bedford • Monroe • Taylor: Taylor Career TC • Wyandotte: Roosevelt
## CTE Programs by Career Cluster

### Manufacturing—continued

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Description</th>
<th>Academic Credit and/or High School Graduation Requirement Possibilities</th>
<th>Cluster Pathway Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Welding, Brazing, and Soldering</strong>&lt;br&gt;CIP# 48.0508</td>
<td>This program prepares students to apply technical knowledge and skills to join or cut metal surfaces. It includes instruction in arc and resistance welding; brazing and soldering; welding and cutting; solid state welding; ferrous and non-ferrous materials; oxidation-reduction reactions; welding metallurgy; welding processes and heat treating structural design; safety; and the applicable codes and standards.</td>
<td>• Mathematics &lt;br&gt;• Visual, Performing and Applied Arts &lt;br&gt;• On-line Learning</td>
<td>• Production</td>
</tr>
</tbody>
</table>

**Offered By:** Bedford • Dearborn: Edsel Ford • Flat Rock • Monroe • Taylor: Taylor Career TC • Wayne-Westland: Wm. Ford Career TC • Woodhaven-Brownstown: Woodhaven

| **Woodworking General**<br>CIP# 48.0701 | This program prepares students to apply technical knowledge and skills to prepare and execute furniture design projects; lay out and shape stock; assemble wooden articles or subassemblies; mark, bind, saw, carve, and sand wooden products; and repair wooden articles. Instruction also includes the use of a variety of hand and power tools. | • Mathematics <br>• Visual, Performing and Applied Arts <br>• On-line Learning | • Maintenance, Installation, & Repair |

**Offered By:** Trenton
### Marketing

<table>
<thead>
<tr>
<th>Program Name CIP#***</th>
<th>Program Description</th>
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<th>Cluster Pathway Name</th>
</tr>
</thead>
</table>
| **Marketing, Sales and Service** CIP# 52.1999 | This program focuses on planning, managing, and performing wholesaling and retailing services and related marketing and distribution support services including merchandise/product management and promotion. Various specialty areas are included. Skills acquired in this course include customer service; problem solving; process/system thinking; project management; communication; and decision making. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Marketing Management |

**Offered By:** Airport • Bedford • Chandler Park Academy  
Dearborn: Michael Berry Career Center, Dearborn HS, Fordson  
Garden City, Gibraltar: Carlson • Grosse Pointe: North, South • Hamtramck • Harper Woods • Huron  
Jefferson • Lincoln Park • Livonia: Livonia Career TC, Churchill, Franklin, Stevenson • Monroe  
Plymouth-Canton Educational Park • Romulus • Southgate: Anderson • Taylor: JF Kennedy, Truman  
Trenton • Van Buren: Belleville • Woodhaven-Brownstown: Woodhaven • Wyandotte: Roosevelt
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</thead>
<tbody>
<tr>
<td>Engineering Technology</td>
<td>This program prepares students to apply basic engineering principles and technical skills in support of engineers engaged in a wide variety of projects. It includes instruction in various engineering support functions for research, production, and operations and applications to specific engineering specialities such as component design process; two and three-dimensional object creations; parametric sketching and drawing; advanced modeling and designs; prototype creation; materials properties; stress analysis; pneumatics; power and energy and reverse engineering as well as engineering ethics.</td>
<td>• Mathematics • Visual, Performing and Applied Arts • On-line Learning</td>
<td>• Engineering &amp; Technology</td>
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<td>Offered By: Garden City • Melvindale • Plymouth-Canton Educational Park</td>
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<tr>
<td>Mechanical Drafting</td>
<td>This program prepares students to apply technical knowledge and skills to develop working drawings and electronic simulations in support of mechanical and industrial engineers and related professionals. Instruction includes manufacturing materials and processes, mechanical drafting, electrode-mechanical drafting, basic metallurgy, geometric dimensioning and tolerancing, blueprint reading, and technical communication.</td>
<td>• Mathematics • Visual, Performing and Applied Arts • On-line Learning</td>
<td>• Engineering &amp; Technology</td>
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<td></td>
<td>Offered By: Flat Rock • Hamtramck • Lincoln Park • Livonia: Livonia Career TC Southgate: Anderson • Trenton</td>
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</tr>
<tr>
<td>Mechatronics</td>
<td>This program prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of computer controlled electromechanical systems and products with embedded electronics, sensors, and actuators; and which includes, but is not limited to, automata, robots and automation systems. Includes instruction in mechanical engineering, electronic and electrical engineering, computer and software engineering, and control engineering.</td>
<td>• Mathematics • Visual, Performing and Applied Arts • On-line Learning</td>
<td>• Engineering &amp; Technology</td>
</tr>
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<tr>
<td></td>
<td>Offered By: Dearborn: Advanced Technology Academy • Southgate: Anderson</td>
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</tbody>
</table>
# Transportation, Distribution & Logistics

<table>
<thead>
<tr>
<th>Program Name</th>
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</thead>
</table>
| **Automotive Technician (NATEF Certified)**       | This instructional program prepares students to engage in the servicing, maintenance, adjustment, and repair of automotive components and systems. It also provides a sequence of learning experiences related to the National Automotive Technicians Education Foundation (NATEF) and repair categories requiring certification. This program may include diesel engine repair. Learning activities in the classroom, laboratory, shop, and actual work setting are combined to provide students with the opportunity to become knowledgeable of nomenclature; safety principles and practices; and job entry level skills in disassembling, assembling, inspecting, repairing, and replacing components or systems. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Facilities & Mobile Equipment Maintenance |
| **Collision Repair Technician (NATEF Certified)** | This program prepares students to apply technical knowledge and skills to repair, reconstruct, and finish automobile bodies, fenders, and external features. It provides a sequence of learning experiences related to the National Automotive Technicians Education Foundation (NATEF) and repair categories requiring certification. Learning activities in the classroom, laboratory, shop, and actual work setting are combined to provide students with the opportunity to become knowledgeable of nomenclature; safety principles and practices; and job-entry level skills. | • Mathematics  
• Visual, Performing and Applied Arts  
• On-line Learning | • Facilities & Mobile Equipment Maintenance |
| **Power Plant Technology (Aircraft)**             | This program prepares students to apply technical knowledge and skills to repair, service, and maintain all types of aircraft power plant and related systems. Instruction includes engine inspection and maintenance; lubrication and cooling; electrical and ignition systems; carburetion; fuels and fuel systems; and propeller and fan assemblies. | • Mathematics  
• On-line Learning | • Facilities & Mobile Equipment Maintenance |

**Offered By:**
- Airport • Bedford • Dearborn: Edsel Ford, Fordson • Huron • Jefferson
- Livonia: Livonia Career TC • Monroe • Plymouth-Canton Educational Park • Romulus • Trenton
- Wayne-Westland: Wm. Ford Career TC • Wyandotte: Roosevelt
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These materials were developed under a grant awarded by the Michigan Department of Education.

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