

ONE WORKFORCE INDUSTRY INFINITY

CAREER PATHWAYS



WIN WORKFORCE
INTELLIGENCE
NETWORK

**Macomb
Community College**
Education • Enrichment • Economic Development
Discover. Connect. Advance.

**MICHIGAN
WORKS!**
MACOMB/ST. CLAIR

DESC
Detroit Employment
Solutions Corporation

**HENRY
FORD
COLLEGE**
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**Jackson
COLLEGE**

**OAKLAND
COMMUNITY
COLLEGE**

**Capital Area
MICHIGAN
WORKS!**

**WC
CC
D** Wayne
County
Community
College
District

**MICHIGAN
WORKS!**
SOUTHEAST

**MONROE COUNTY
COMMUNITY COLLEGE**

**MOTT
COMMUNITY
COLLEGE**

**LANSING
COMMUNITY
COLLEGE**

**Oakland County
MICHIGAN
WORKS!**

**Schoolcraft
College**

**SEMCA MICHIGAN
WORKS!**

**Washtenaw
Community College**



OCCUPATION SUMMARY

Involved in nearly every aspect of the supply chain. Their primary responsibilities are to coordinate and facilitate the movement of goods between various modes of transportation. This can include airline, train and trucking terminals as well as sea and ocean ports. They work with customers by arranging pickups and deliveries, in addition to preparing bills of lading and coordinating shipping charges and tariffs.

Learn more at onetonline.org.

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$14.31	\$18.21	\$29.61
Annually	\$29,764	\$37,876	\$61,588

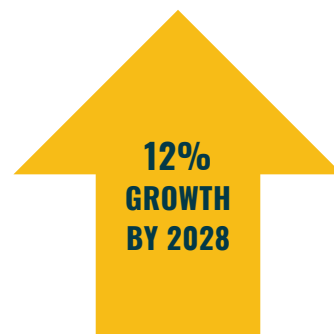
JOB TITLES

The Cargo and Freight Agent occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Freight Coordinators*
- *Export Specialists*
- *Cargo Agents*
- *Logistics Assistants*
- *Load Planners*

OCCUPATIONAL GROWTH

Projected to grow faster than average (12%); 390 annual job openings are predicted.



Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Hazardous Materials Certification
- Microsoft Certified Systems Engineer
- Chauffer License
- Cisco Certified Network Associate
- FAA Aircraft Dispatcher Certification
- ITIL Foundation Certificate

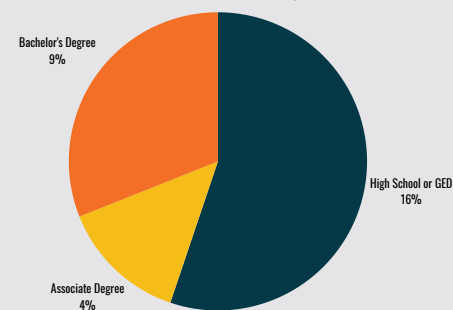
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration
- Management

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

PROFESSIONAL LEVEL COMPETENCIES (7+ YEARS EXPERIENCE)

Employers value staff that stay relevant and gain new skills.

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Invoicing
- Merchandise Management
- Sensors
- Merchandising
- Point of Sale

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Sensormatic
- Data Entry
- Logistics
- Auditing
- Bill of Lading
- Microsoft Suite

Qualifications:

- Hazardous Materials Certification

Skills/knowledge in:

- Freight Forwarding
- Supply Chain
- Business Correspondence
- Customs Broking
- Quotations
- Order Management Systems

Qualifications:

- Commercial Driver's License (CDL)

Skills/knowledge in:

- Accounting
- Customer Support
- Business Operations
- Track and Trace
- Billing
- Calculations
- Geography
- Booking (Sales)
- Supply Chain Management
- Google Maps
- Transportation Management Systems
- Spreadsheets

Skills/knowledge in:

- Computer Science
- Workflow Management
- Business Metrics
- Data Lakes
- Azure Data Factory
- Java (Programming Language)
- Active Directory

Skills/knowledge in:

- Operational Efficiency
- Management Reporting
- Six Sigma Methodology
- Dashboard
- Apache Hadoop
- Information Technology Infrastructure Library

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CIVIL ENGINEERING TECHNOLOGISTS AND TECHNICIANS

TRANSPORTATION INDUSTRY

OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Utilize the principles and theories of civil engineering to plan, design, and supervise the construction and maintenance of structures and facilities while working under the guidance of engineering staff or physical scientists. Primary responsibilities include gathering and processing information, working with computers, and communicating with individuals at every level within the organization.

Learn more at onetonline.org.

JOB TITLES

The Civil Engineering Technologists and Technicians occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Design Technicians*
- *Engineering Technicians*
- *Civil Engineering Technicians*
- *Occupancy Planners*
- *Field Technicians*

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

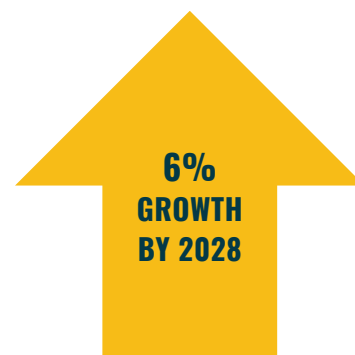
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michiganworks.org/michigan-works-network

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$17.18	\$28.79	\$35.92
Annually	\$35,734	\$59,883	\$74,714

OCCUPATIONAL GROWTH

Projected to grow faster than average (6%); 209 annual job openings are predicted.



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- CompTIA Certification
- American Institute of Certified Planners (AICP) Certification
- International Software Testing Qualifications Board (ISTQB) Certification
- Project Management Professional Certification
- National Institute for Certification in Engineering Technologies (NICET) Certification

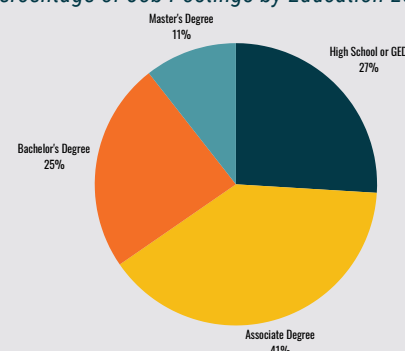
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Architecture License
- Professional Engineer License
- Business
- Planning Professional

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Civil Engineering
- Construction
- Computer-Aided Design
- AutoCAD
- Microsoft Suite

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Construction Management
- Project Management
- Construction Inspection
- MicroStation (CAD Design Software)

Qualifications:

- ACI Concrete Field Testing
- CompTIA Certification

Skills/knowledge in:

- Calculations
- Business Intelligence
- Facility Management
- Microsoft Visio
- Data Mining
- Desktop Publishing
- Surveying
- Spreadsheets

Qualifications:

- Commercial Driver's License (CDL)

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Drawing
- Financial Analysis
- Furniture Design
- Microsoft Project
- Space Planning
- Change Management
- Engineering Design Process
- SAP Applications

Qualifications:

- LEED Accredited Professional (AP)

Skills/knowledge in:

- Bill of Materials
- Architectural Drawing
- Submittals (Construction)
- Document Control
- Procurement
- Continuous Improvement Process
- Performance Management

Qualifications:

- Professional Engineer (PE) License

Skills/knowledge in:

- Project Controls
- Billing
- Construction Engineering
- Control Systems
- Information Model
- Organizational Structure
- Design Software
- Embedded Software

Qualifications:

- Pesticide Applicator License
- Cardiopulmonary Resuscitation (CPR) Certification
- First Aid Certification

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COMPLIANCE OFFICERS

TRANSPORTATION INDUSTRY

OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Examine, evaluate, and investigate compliance with laws and regulations related to contract compliance, licenses, and permits. This includes warning violators of infractions or penalties and evaluating applications, records, or documents to determine eligibility or liability issues. Additionally, providing guidance to licensees or other parties regarding regulations pertaining to licensing, permits, or passports. Learn more at onetonline.org.

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$20.09	\$31.68	\$50.38
Annually	\$41,787	\$65,894	\$104,790

JOB TITLES

The Compliance Officer occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Compliance Specialist*
- *Compliance Analyst*
- *Regulatory Affairs Specialist*
- *IT Compliance Specialist*
- *Grievance and Appeals Coordinator*

OCCUPATIONAL GROWTH

Projected to grow faster than average (7%); 830 annual job openings are predicted.

**7%
GROWTH
BY 2028**

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

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GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Enrolled Agent (EA)
- Certified Public Accountant
- Certified Fraud Examiner
- Certified Internal Auditor
- Certified Regulatory Compliance Manager
- Regulatory Affairs Certification (RAC)
- Information Systems Security Professional Certification
- Project Management Professional Certification
- Risk and Information Systems Control Certification

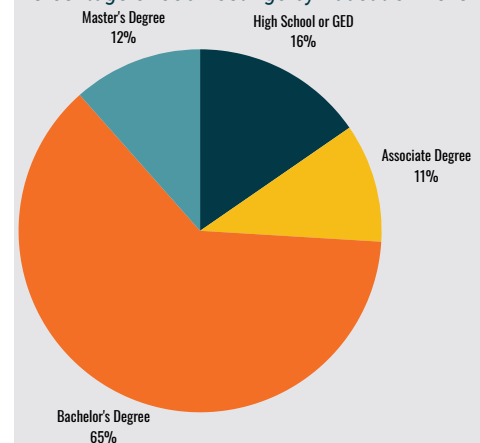
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration
- Accounting
- Health Administration
- Human Resources

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

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ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Auditing
- Regulatory Compliance
- Microsoft Suite

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Regulatory Affairs
- Accounting
- Finance
- Risk Management
- Data Entry
- Sales Prospecting
- Spreadsheets

Qualifications:

- Certified Public Accountant

Skills/knowledge in:

- Project Management
- Risk Analysis
- Process Improvement
- Data Analysis
- SAP Applications

Qualifications:

- Security Clearance

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- External Auditing
- Marketing
- Business Process
- Internal Controls
- Tableau (Business Intelligence Software)

Qualifications:

- Certified Information Systems Security Professional

Skills/knowledge in:

- Compliance Reporting
- Compliance Risk
- Compliance Management
- Regulatory Requirements
- Emerging Risk

Qualifications:

- Regulatory Affairs Certification (RAC)

Skills/knowledge in:

- Lawsuits
- Workflow Management
- New Product Development
- Internal Auditing
- Power BI

Qualifications:

- Certified Regulatory Compliance Manager

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COMPUTER NETWORK ARCHITECTS

INFORMATION TECHNOLOGY (IT) INDUSTRY OCCUPATION OUTLOOK IN MICHIGAN, 2025

OCCUPATION SUMMARY

This occupation focuses on designing and implementing computer and data communication networks, including LANs, WANs, intranets, and extranets. It involves analyzing network capacity, planning infrastructure, and incorporating security measures, while also recommending hardware and software solutions. Professionals in this role maintain network performance, troubleshoot issues, and create disaster recovery plans to ensure system reliability. Learn more at onetonline.org

JOB TITLES

The Computer Network Architects occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- Automation Engineers
- Network Analysts
- Controls Engineers
- Software Systems Engineers
- Electrical Design Engineers

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

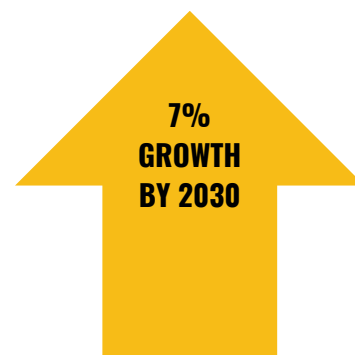
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AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$31.11	\$56.41	\$79.71
Annually	\$64,709	\$117,333	\$165,797

OCCUPATIONAL GROWTH

Projected to grow faster than average (7%); 230 annual job openings are predicted.



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

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GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Cisco Certifications
- Information Systems Security Professional Certification
- Microsoft Certified Systems Engineer
- CompTIA Certifications
- Project Management Professional Certification
- VMware Certified Professional (VCP)
- Juniper Networks Certified Internet Associate

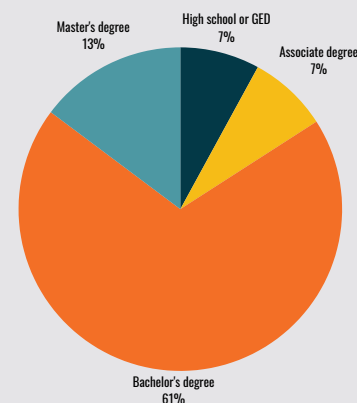
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration
- Computer Science
- Software Engineering

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Computer Science
- Automation
- Network Routing
- Microsoft Suite

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Project Management
- Telecommunications
- Firewall
- Operating Systems
- Python (Programming Language)
- Auditing

Skills/knowledge in:

- Network Engineering
- Wide Area Networks
- Network Switches
- Local Area Networks

Qualifications:

- Cisco Certified Network Associate

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Virtual Private Networks (VPN)
- Network Infrastructure
- Systems Engineering
- Scripting
- Electrical Engineering
- Linux

Qualifications:

- Microsoft Certified Systems Engineer

Skills/knowledge in:

- Border Gateway Protocol
- Network Architecture
- Open Shortest Path First (OSPF)
- Amazon Web Services
- Network Security
- Cisco Identity Services Engine (ISE)

Qualifications:

- Cisco Certified Network Professional

Skills/knowledge in:

- Multiprotocol Label Switching
- Ansible
- Application Programming Interface (API)
- Dynamic Host Configuration Protocol (DHCP)
- ITIL 4

Qualifications:

- Certified Information Systems Security Professional

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COMPUTER NUMERICALLY CONTROLLED (CNC) TOOL OPERATORS

ADVANCED MANUFACTURING INDUSTRY
OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Operate computer-controlled tools, machines, or robots to machine parts from various materials like metal, plastic, wood, or stone. This includes setting up and maintaining the equipment as needed. Workers use precision measuring instruments, templates, and fixtures to measure dimensions of finished workpieces and ensure they meet specifications. Learn more at onetonline.org.

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$15.22	\$21.17	\$28.94
Annually	\$31,658	\$44,034	\$60,195

JOB TITLES

The Computer Numerically Controlled (CNC) Tool Operators occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *CNC Operators*
- *CNC Machinists*
- *CNC Mill Programmers*
- *Machine Operators*

OCCUPATIONAL GROWTH

Slight decrease projected by 2028
(-1%); 1,201 annual job openings are predicted.

**-1%
GROWTH
BY 2028**

**Debt-free training and additional support may be available to jobseekers
and those currently employed in this career**

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EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

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GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

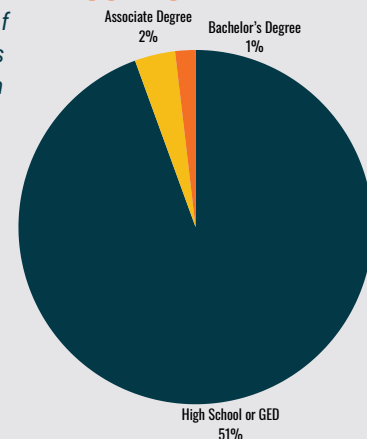
PROFESSIONAL CERTIFICATIONS

- CNC Machining Certification
- Forklift Certification
- 10-Hour OSHA General Industry Card
- Lean Certification
- Quality Certification



EDUCATION

Percentage of
Job Postings
by Education
Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Computer Numerical Control (CNC)
- CNC Machining

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Machine Operation
- Lathes
- Machinery
- Tooling
- Machine Setup

Qualifications:

- Forklift Certification

Skills/knowledge in:

- Mills
- Metal Lathes
- Micrometer
- Calipers
- Blueprinting
- Blueprint Reading

Qualifications:

- Security Clearance

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Cutting Tool (Machining)
- Engineering Tolerance
- Drilling
- CNC Milling
- Machine Controls
- G-Codes
- Mastercam (CAD/CAM Software)

Skills/knowledge in:

- Geometry
- Hand Tools
- Material Handling Equipment
- Production Planning
- CAD Data Exchange
- Grinding
- AutoCAD

Skills/knowledge in:

- Life Coaching
- Quality Management Systems
- Lean Manufacturing
- Assembly Language
- GibbsCAM
- Microsoft Suite
- Enterprise Document Management System

PROFESSIONAL LEVEL COMPETENCIES (7+ YEARS EXPERIENCE)

Employers value staff that stay relevant and gain new skills.

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COMPUTER NUMERICALLY CONTROLLED (CNC) TOOL PROGRAMMERS

ADVANCED MANUFACTURING INDUSTRY
OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Develop programs to control the machining or processing of materials using automatic machine tools, equipment, or systems. This includes writing programs in the language of the machine's controller and storing them on various media. Additionally, they write instruction sheets and cutter lists to guide machine setup and encode numerical control tapes. Learn more at onetonline.org.

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$19.91	\$28.22	\$37.79
Annually	\$41,413	\$58,698	\$78,603

JOB TITLES

The Computer Numerically Controlled (CNC) Tool Programmers occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- CNC Programmers
- CNC Machinists and Programmers
- Application Engineers
- Fixture Designers
- Laser Applications Engineers

OCCUPATIONAL GROWTH

Projected to grow faster than average (10%); 281 annual job openings are predicted.

**10%
GROWTH
BY 2028**

**Debt-free training and additional support may be available to jobseekers
and those currently employed in this career**

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GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Hazardous Materials Manager Certification
- Forklift Certification
- Industrial Hygienist Certification (CIH)

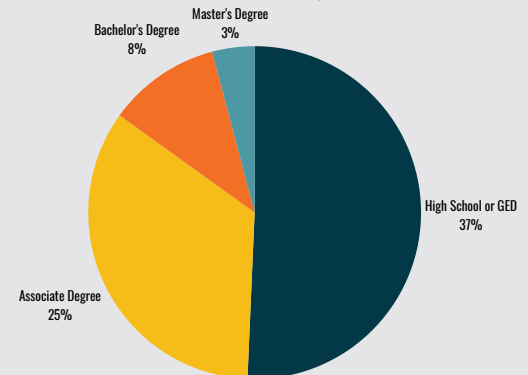
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Quality Management
- Engineering
- Software Development
- Project Management

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Machining
- Computer-Aided Manufacturing
- Lathes

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Mills
- Tooling
- Cutting Tool (Machining)
- Machinery
- Blueprint Reading
- Computer-Aided Design
- SolidWorks (CAD)

Skills/knowledge in:

- Computer Numerical Control (CNC)
- Blueprinting
- 3D Modeling
- Machine Setup
- Manufacturing Processes

Qualifications:

- Forklift Certification

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- CNC Machining
- Machine Operation
- Process Improvement
- Technical Drawing
- Microsoft Suite
- Matercam (CAD/CAM Software)
- AutoCAD

Skills/knowledge in:

- Project Management
- Forklift Truck
- Asset Management
- Artificial Cardiac Pacemakers
- General Mathematics
- Geometry
- CAD Data Exchange

Skills/knowledge in:

- Automation
- Welding
- Calipers
- Vericut
- Teamcenter (PLM Software)
- Spreadsheets
- G-Codes
- Programming Tools

Qualifications:

- Certified Hazardous Materials Manager

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COMPUTER USER SUPPORT SPECIALISTS

INFORMATION TECHNOLOGY (IT) INDUSTRY
OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Provide technical support to computer users, addressing inquiries, and resolving problems related to hardware, software, and operating systems either in person, over the phone, or electronically. This includes assisting with tasks such as printing, installation, word processing, email, and system operation. Additionally, installing and performing minor repairs on hardware, software, and peripheral equipment according to specifications. Learn more at onetonline.org.

JOB TITLES

The Computer User Support Specialist occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Help Desk Technicians*
- *Desktop Support Technicians*
- *IT Support Specialists*
- *Technical Support Specialists*
- *IT Technicians*

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$16.13	\$24.75	\$39.49
Annually	\$33,550	\$51,480	\$82,139

OCCUPATIONAL GROWTH

Projected to grow faster than average (4%); 1,955 annual job openings are predicted.

**4%
GROWTH
BY 2028**



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- CompTIA Certifications
- Microsoft Certified Professional
- ITIL Certifications
- Cisco Certified Network Professional
- Apple Certification
- System Operator Certification
- Microsoft Windows Certification
- HDI Support Center Analyst (HDI-SCA)
- Hardware Certification
- Systems Security Certified Practitioner

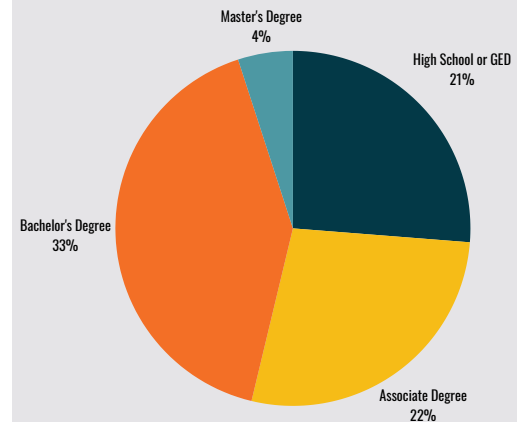
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration
- Project Management
- Computer Science

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Help Desk Support
- Technical Support
- Operating Systems

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Active Directory
- Peripheral Devices
- Computer Science
- Computer Hardware
- Customer Support
- Microsoft Suite

Qualifications:

- CompTIA A+

Skills/knowledge in:

- Desktop Support
- Project Management
- Issue Tracking
- Local Area Networks

Qualifications:

- Microsoft Certified Professional
- CompTIA Network+

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Information Systems
- End-User Training and Support
- Information Technology Infrastructure Library
- IT Service Management
- ServiceNow

Qualifications:

- Secret Clearance

Skills/knowledge in:

- Business Process
- Agile Methodology
- Automation
- Workflow Management
- Software Installation
- Management Information Systems
- SAP Applications
- SQL (Programming Language)
- ITIL Foundation Certification

Qualifications:

- ITIL Foundation Certification

Skills/knowledge in:

- Application Development
- Debugging
- Finance
- Change Management
- Software Development
- Virtual Private Networks (VPN)
- Java (Programming Language)

Qualifications:

- Project Management Professional Certification

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DETECTIVES AND CRIMINAL INVESTIGATORS

INFORMATION TECHNOLOGY (IT) INDUSTRY
OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Conduct investigations into potential breaches of federal, state, or local laws and regulations with the aim of preventing or resolving criminal activities. Some of the primary responsibilities involve assessing the physical well-being of individuals, conducting interviews to collect valuable information, and scrutinizing crime scenes. This includes civilian and sworn law enforcement occupations.

Learn more at oneline.org.

JOB TITLES

The Detectives and Criminal Investigators occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Intelligence Specialists*
- *Criminal Investigator Special Agents*
- *Surveillance Analysts*
- *Artificial Intelligence/Machine Learning Engineers*
- *Threat Intelligence Analysts*

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$29.42	\$39.35	\$70.93
Annually	\$61,194	\$81,848	\$147,534

OCCUPATIONAL GROWTH

Projected to grow faster than average (2%); 188 annual job openings are predicted.

**2%
GROWTH
BY 2028**



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Anti-Money Laundering and Fraud Professional Certification (CAFP)
- Forensic Computer Examiner Certification
- Ethical Hacker Certification
- Financial Planner Certification
- EnCase Certified Examiner
- Electronic Evidence Collection Specialist Certification
- Information Security Manager Certification
- Cisco Certified Network Associate Security
- CompTIA Certifications: Cybersecurity Analyst (CySA+), Linux+, Network+, Security+

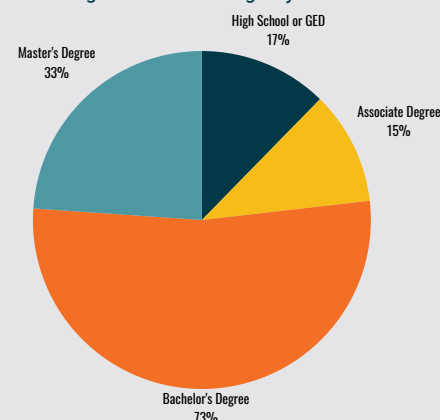
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration
- Computer Science
- Cybersecurity
- Accounting
- Project Management

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Law Enforcement
- Search Warrants
- Intelligence Analysis
- Data Analysis
- Microsoft Suite

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Interrogations
- Threat Assessment
- Audiometer
- Cyber Security
- Setting Appointments

Qualifications:

- Top Secret-Sensitive Compartmented Information

Skills/knowledge in:

- Computer Science
- Artificial Intelligence
- Python (Programming Language)
- Machine Learning

Qualifications:

- Certified Forensic Computer Examiner
- Security Clearance

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Automation
- Agile Methodology
- Project Management
- Incident Response
- SQL (Programming Language)
- Power BI
- Apache Spark & Apache Kafka
- Amazon Web Services

Skills/knowledge in:

- Data Science
- Competitive Intelligence
- Marketing
- New Product Development
- Cyber Threat Intelligence
- MITRE ATT&CK Framework
- Apache Hadoop

Skills/knowledge in:

- Project Management
- Statistics
- Business Analytics
- Product Management
- Agile Methodology
- Data Governance
- Finance
- Relational Database Management Systems
- SAS (Software)
- Tableau

Qualifications:

- GIAC Certifications

PROFESSIONAL LEVEL COMPETENCIES (7+ YEARS EXPERIENCE)

Employers value staff that stay relevant and gain new skills.

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ELECTRO-MECHANICAL AND MECHATRONICS TECHNOLOGISTS AND TECHNICIANS

ADVANCED MANUFACTURING INDUSTRY
OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Operate, test, maintain, and adjust unmanned or automated equipment, including servomechanical or electromechanical systems. Additionally, tasks may include installing or programming computer hardware or software in microprocessor-based systems, interpreting blueprints or schematics for assembly methods, and modifying, maintaining, or repairing electrical, electronic, or mechanical components to ensure proper functioning. Learn more at onetonline.org.

JOB TITLES

The Electro-Mechanical and Mechatronics Technologists and Technicians occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Instrumentation Technician*
- *Robot Programmer*
- *Calibration Technician*
- *Electronics Technician*
- *Automation Technician*

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$19.37	\$26.24	\$38.09
Annually	\$40,290	\$54,579	\$79,227

OCCUPATIONAL GROWTH

Slight decrease projected by 2028 (-1%); 77 annual job openings are predicted.

**-1%
GROWTH
BY 2028**

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Automotive Service Excellence (ASE) Certification
- Advance Cardiovascular Life Support (ACLS) Certification
- Certified Loss Control Specialist
- Journeyman Electrician
- Six Sigma Black Belt
- Electrostatic Discharge Control (ESD) Certification
- Certification Board for Sterile Processing and Distribution (CBSPD) Certification
- Product Certification

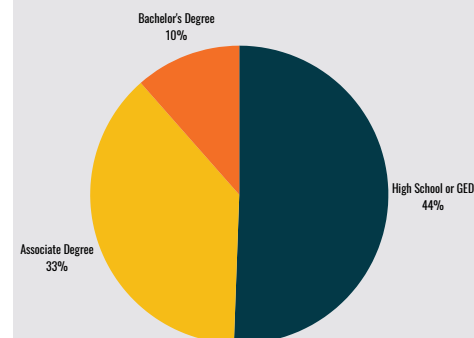
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Instrumentation
- Calibration
- Electronics
- Automation

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Programmable Logic Controllers
- Sensors
- Electrical Wiring
- Control Systems
- Microsoft Suite

Qualifications:

- Automotive Service Excellence (ASE) Certification

Skills/knowledge in:

- Machinery
- Robotics
- Test Equipment
- Welding
- Hand Tools
- Debugging
- Visual Basic (Programming Language)

Qualifications:

- Secret Clearance

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Tooling
- Hydraulics
- Soldering
- Technical Support
- Fanuc Controllers
- Preventive Maintenance
- Pneumatics
- Production Equipment
- LabVIEW

Skills/knowledge in:

- Human Machine Interfaces
- Project Management
- Metrology
- Electronic Components
- Electrical Systems
- Electronic Engineering
- MATLAB
- Simulink
- AutoCAD

Qualifications:

- Six Sigma Black Belt

Skills/knowledge in:

- Mechanical Engineering
- Distributed Control Systems
- Electronic Control Unit
- Engineering Drawings
- JIRA
- CANalyzer

Qualifications:

- Advanced Cardiovascular Life Support (ACLS) Certification

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OCCUPATION SUMMARY

Supervise, coordinate, and enforce safety regulations of material-moving machine and vehicle operators and their helpers. This includes interpreting transportation regulations, shipping orders, and company policies for workers. Additionally, resolving worker issues and collaborating with employees to solve problems is essential.

Learn more at onetonline.org.

JOB TITLES

The Firstline Supervisors of Material-Moving Machine and Vehicle Operators occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Transportation Supervisor*
- *Shipping and Receiving Coordinator*
- *Fleet Managers*
- *Warehouse Supervisor*
- *Dock Supervisor*

Debt-free training and additional support may be available to jobseekers and those currently employed in this career.

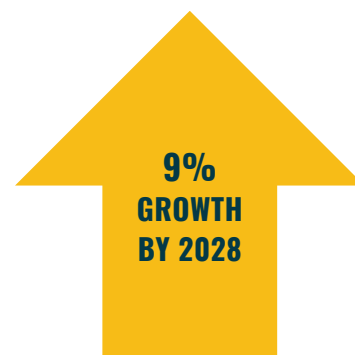
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michiganworks.org/michigan-works-network

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$17.96	\$27.42	\$40.34
Annually	\$37,357	\$57,034	\$83,907

OCCUPATIONAL GROWTH

Projected to grow faster than average (9%); 1,806 annual job openings are predicted.



FIRSTLINE SUPERVISORS OF MATERIAL-MOVING MACHINE AND VEHICLE OPERATORS

EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS AND LICENSES

- Hazardous Materials Certification
- Professional Engineer (PE) License
- Tanker And Hazmat Combo X Endorsement
- Forklift Certification
- Project Management Professional Certification
- Commercial Driver's License (CDL)

ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

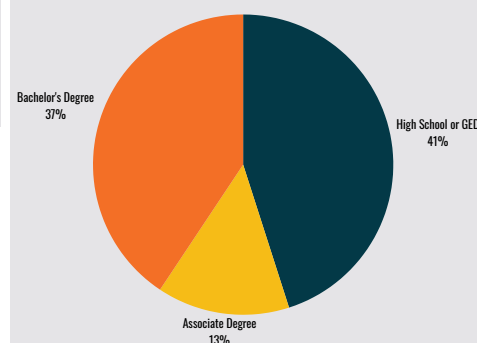
- Business Administration
- Engineering

LAUNCH A CAREER WITH CDL TRAINING

CDL holders gain important work-related skills, knowledge, and experience. License holders are well-prepared to meet demands for many different jobs, especially in transportation and manufacturing. The skills learned with a CDL are versatile, enhance performance in different kinds of jobs and help meet the needs of a changing job market.

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Warehousing
- Shipping and Receiving
- Supply Chain Management
- Microsoft Suite

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Occupational Safety and Health Administration (OSHA)
 - Standard Operating Procedures
 - Inventory Management
- #### Qualifications:
- Commercial Driver's License (CDL)

Skills/knowledge in:

- Auditing
 - Performance Management
- #### Qualifications:
- Cardiopulmonary Resuscitation (CPR) Certification
 - First Aid Certification
 - Automated External Defibrillator (AED) Certification

Skills/knowledge in:

- Invoicing
- Project Management
- Forklift Truck
- Purchasing
- Key Performance Indicators (KPIs)
- Warehouse Management Systems

Qualifications:

- Forklift Certification

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Marketing
- Business Development
- Market Research
- Revenue Forecasting
- Emerging Technologies
- Automation
- Equities
- TransCAD

Qualifications:

- Professional Engineer (PE) License

Skills/knowledge in:

- Sales Strategy
- Travel Demand Modeling
- Policy Development
- Data Architecture
- Data Modeling
- C (Programming Language)
- C++ (Programming Language)
- R (Programming Language)
- Python (Programming Language)

PROFESSIONAL LEVEL COMPETENCIES (7+ YEARS EXPERIENCE)

Employers value staff that stay relevant and gain new skills.

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INDUSTRIAL ENGINEERING TECHNOLOGISTS AND TECHNICIANS

ADVANCED MANUFACTURING INDUSTRY
OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

This role involves applying engineering principles to improve industrial layouts and production under engineering staff guidance. Key tasks include conducting time and motion studies to enhance efficiency, testing products for quality, and ensuring adherence to specifications. Responsibilities also include evaluating data to maintain product reliability and verifying compliance with quality standards. Learn more at onetonline.org

JOB TITLES

The Industrial Engineering Technologists and Technicians occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Maintenance Technician*
- *Production Technician*
- *Machine Operator*
- *Manufacturing Technician*
- *Process Technician*

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

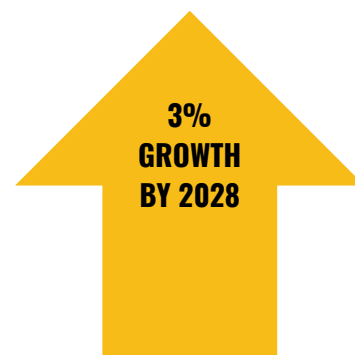
Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$19.54	\$29.13	\$40.43
Annually	\$40,643	\$60,590	\$84,094

OCCUPATIONAL GROWTH

Projected to grow faster than average (3%); 500 annual job openings are predicted.



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Automotive Service Excellence (ASE) Certification
- Forklift Certification
- Airframe & Powerplant (A&P) Certification
- Air Brake Certification
- American Welding Society Certification
- Aerial Lift Certification
- Safety Professional Certification
- Scissor Lift Certification
- Mechatronics Certification

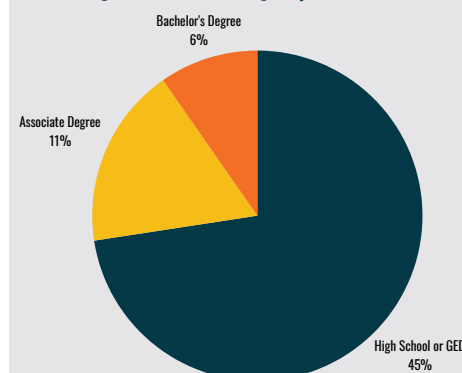
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Machinery
- Preventive Maintenance
- Machine Operation

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Hydraulics
- Programmable Logic Controllers
- Forklift Truck
- Hand Tools

Qualifications:

- Commercial Driver's License (CDL)

Skills/knowledge in:

- Automation
- Production Equipment
- Pneumatics
- Machining
- Tooling

Qualifications:

- American Welding Society Certification

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Injection Molding
- Industrial Repair and Maintenance
- Housekeeping
- Blueprinting
- Welding
- Equipment Repair

Qualifications:

- Air Brake Certification
- Forklift Certification

Skills/knowledge in:

- Grinding Machine
- Predictive Maintenance
- Manufacturing Processes
- Mechanics
- Microsoft Suite

Qualifications:

- Pesticide Applicator License
- Automotive Service Excellence (ASE) Certification

Skills/knowledge in:

- Drill Press
- Pavement Markings
- Continuous Improvement Process
- Power Tool Operation
- Dial Indicators
- Fabrication
- Software Systems

Qualifications:

- Secret Clearance

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INFORMATION SECURITY ANALYSTS

INFORMATION TECHNOLOGY (IT) INDUSTRY OCCUPATION OUTLOOK IN MICHIGAN, 2025

OCCUPATION SUMMARY

This occupation focuses on safeguarding computer networks and information systems by planning, implementing, and monitoring security measures. It involves assessing vulnerabilities, ensuring compliance with security standards, and responding to breaches or threats. Professionals in this role analyze data, gather and evaluate information, and use technology to protect digital assets and infrastructure. Learn more at onetonline.org

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$29.48	\$50.26	\$78.89
Annually	\$61,318	\$104,541	\$164,091

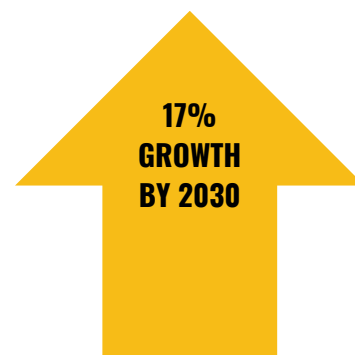
JOB TITLES

The Information Security Analysts occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Cybersecurity Analysts*
- *Information Security Analysts*
- *Security Analysts*
- *IT Auditors*
- *Cyber Threat Hunters*

OCCUPATIONAL GROWTH

Projected to grow faster than average (17%); 298 annual job openings are predicted.



Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

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GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Information Systems Security Professional Certification
- GIAC Certifications
- Information Security Manager Certification
- Information System Auditor (CISA) Certification
- CompTIA Security+
- Risk And Information Systems Control Certification
- Ethical Hacker Certification
- Internal Auditor Certification

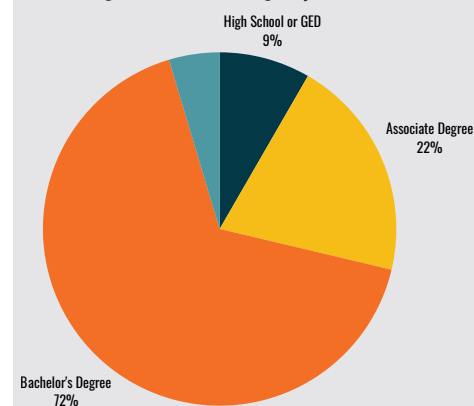
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration
- Cybersecurity
- Accounting
- Computer and Information Science

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Cyber Security
- Auditing
- Incident Response

Qualifications:

- Certified Information Systems Security Professional

Skills/knowledge in:

- Computer Science
- Information Systems
- IT Security Architecture
- IT Security
- Cyber Threat Intelligence
- Scripting

Skills/knowledge in:

- Linux
- Security Tools
- Security Information and Event Management (SIEM)
- Microsoft Suite

Qualifications:

- GIAC Certifications

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Endpoint Detection and Response
- Security Controls
- Firewall
- Cyber Threat Hunting
- Operating Systems
- Risk Analysis
- Vulnerability Management

Skills/knowledge in:

- Risk Management
- Risk Mitigation
- Security Risk
- Control Objectives for Information and Related Technology (COBIT)
- Security Requirements Analysis

Qualifications:

- Certified Information Security Manager

Skills/knowledge in:

- Cyber Risk
- Digital Forensics
- Enterprise Risk Management (ERM)
- Unix
- Python (Programming Language)

Qualifications:

- NIST Cybersecurity Framework (CSF)
- CompTIA Security+

PROFESSIONAL LEVEL COMPETENCIES (7+ YEARS EXPERIENCE)

Employers value staff that stay relevant and gain new skills.

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INSPECTORS, TESTERS, SORTERS, SAMPLERS, AND WEIGHERS

ADVANCED MANUFACTURING INDUSTRY
OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

This role involves inspecting, testing, sorting, sampling, or weighing nonagricultural materials and parts for defects or deviations from specifications. Precision instruments and complex test equipment may be used. Duties include rejecting non-conforming products, marking items with grade or acceptance status, measuring product dimensions to ensure specification compliance, and notifying supervisors of production issues. Learn more at onetonline.org

JOB TITLES

The Inspectors, Testers, Sorters, Samplers, and Weighers occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- *Quality Inspectors*
- *Quality Technicians*
- *CMM Programmers*
- *Quality Assurance Specialists*
- *Inspectors*

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

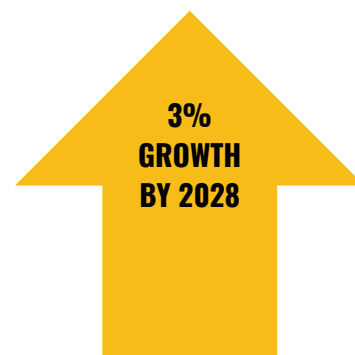
Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$13.77	\$18.96	\$29.50
Annually	\$28,642	\$39,437	\$61,360

OCCUPATIONAL GROWTH

Projected to grow faster than average (3%); 3,568 annual job openings are predicted.



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Quality Technician Certification
- American Society for Quality (ASQ) Certification
- Quality Auditor Certification
- Welding Inspector Certification
- Airframe & Powerplant (A&P) Certification
- Internal Auditor Certification
- NICET Certification (National Institute for Certification in Engineering Technologies)
- Quality Engineer Certification

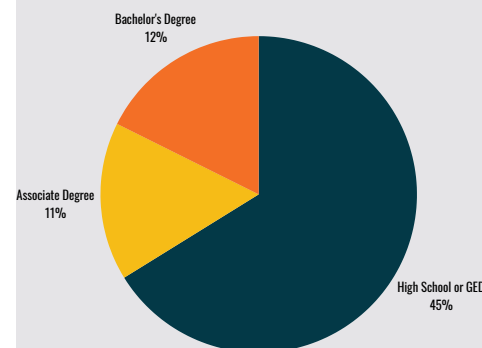
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Quality Management

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Auditing
- Calipers
- Micrometer
- Quality Management Systems

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Quality Management
- Warehousing
- Statistical Process Controls
- Data Recording
- Data Entry
- Microsoft Suite

Skills/knowledge in:

- Coordinate Measuring Machine (CMM)
- Metrology
- Engineering Drawings
- Calibration

Qualifications:

- American Society for Quality (ASQ) Certification

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Product Inspection
- Blueprint Reading
- Manufacturing Processes
- Automotive Industry
- Production Part Approval Process
- Machining
- ISO 9000 Series

Skills/knowledge in:

- Construction
- Computer Science
- Construction Management
- Pharmaceuticals

Qualifications:

- NICET Certification (National Institute for Certification in Engineering Technologies)

Skills/knowledge in:

- Good Manufacturing Practices
- Rehabilitation
- Process Safety
- Mechanical Drawings
- Procurement
- Chemistry
- Project Management
- Workplace Safety
- Agile Methodology
- Jenkins

Qualifications:

- Security Clearance

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MAINTENANCE AND REPAIR WORKERS, GENERAL

ADVANCED MANUFACTURING INDUSTRY
OCCUPATION OUTLOOK IN MICHIGAN, 2023

OCCUPATION SUMMARY

This role involves applying engineering principles to improve industrial layouts and production under engineering staff guidance. Key tasks include conducting time and motion studies to enhance efficiency, testing products for quality, and ensuring adherence to specifications. Responsibilities also include evaluating data to maintain product reliability and verifying compliance with quality standards. Learn more at onetonline.org

JOB TITLES

The Maintenance and Repair Workers, General occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

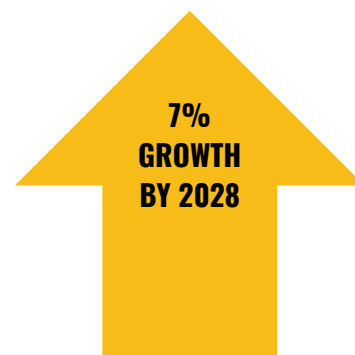
- *Maintenance Technician*
- *Field Service Technician*
- *Installation Technician*
- *Field Service Engineers*
- *Maintenance Mechanics*

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$13.64	\$19.37	\$29.74
Annually	\$28,371	\$40,290	\$61,859

OCCUPATIONAL GROWTH

Projected to grow faster than average (7%); 4,553 annual job openings are predicted.



Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

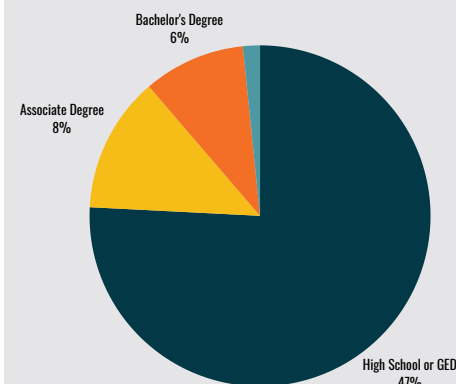
GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- HVAC Certification
- Commercial Driver's License (CDL)
- EPA 608 Technician Certification
- Automotive Service Excellence (ASE) Certification
- EPA Universal Certification
- CompTIA A+
- Pool & Spa Operator Certification
- Forklift Certification
- Pesticide Applicator License
- Air Brake Certification
- Cisco Certified Network Associate
- CFC Refrigeration Certification
- NICET Certification (National Institute for Certification in Engineering Technologies)
- American Welding Society Certification
- ITIL Foundation Certification

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Plumbing
- HVAC
- Painting
- Carpentry

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Preventive Maintenance
- Snow Removal
- Drywall (Installation and Repair)
- Field Service Management

Qualifications:

- HVAC Certification

Skills/knowledge in:

- Machinery
- Hand Tools
- Hydraulics
- Facility Repair and Maintenance
- Power Tool Operation
- Microsoft Suite
- Electrical Systems

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Blueprinting
- Boilers
- Programmable Logic Controllers
- Mechanics
- Construction
- Forklift Truck

Qualifications:

- Commercial Driver's License (CDL)

Skills/knowledge in:

- Project Management
- Equipment Repair
- Technical Services
- Auditing
- Automation
- Electronics
- Lean Manufacturing

Skills/knowledge in:

- Swimming Pool Maintenance
- Landscaping
- Appliance Repair
- Electricity
- Property Maintenance
- Oil And Gas

Qualifications:

- EPA 608 Technician Certification

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MECHANICAL ENGINEERING TECHNOLOGISTS AND TECHNICIANS

ADVANCED MANUFACTURING INDUSTRY OCCUPATION OUTLOOK IN MICHIGAN, 2023

OCCUPATION SUMMARY

This occupation involves applying mechanical engineering principles to develop, modify, test, and adjust machinery or equipment under the guidance of engineers or scientists. Workers interpret technical drawings, calculate system capacities, review project specifications, and conduct tests to troubleshoot and refine designs. They also assemble or disassemble complex systems and provide technical support for mechanical design, fabrication, testing, and documentation.

Learn more at onetonline.org

JOB TITLES

The Mechanical Engineering Technologists and Technicians occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

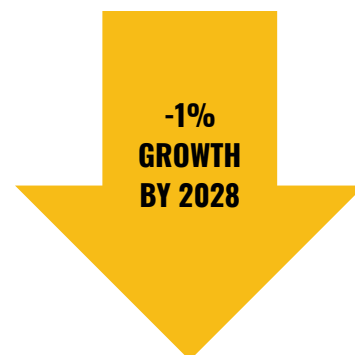
- *Mechanical Technicians*
- *Engineering Analysts*
- *Mechanical Inspectors*
- *Engineering Technicians*
- *Mechanical Test Technicians*

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$17.63	\$29.80	\$45.08
Annually	\$36,670	\$61,984	\$93,766

OCCUPATIONAL GROWTH

Projected to decrease in growth (-1%);
740 annual job openings are predicted.



**Debt-free training and additional support may be available to jobseekers
and those currently employed in this career**

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

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GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- EPA 608 Technician Certification
- Contractor License
- Automotive Service Excellence (ASE) Certification
- National Apprenticeship Certification
- Six Sigma Certification
- LEED Accredited Professional (AP)
- CDL License
- Project Management Certification
- Forklift Certification
- Project Management Professional Certification

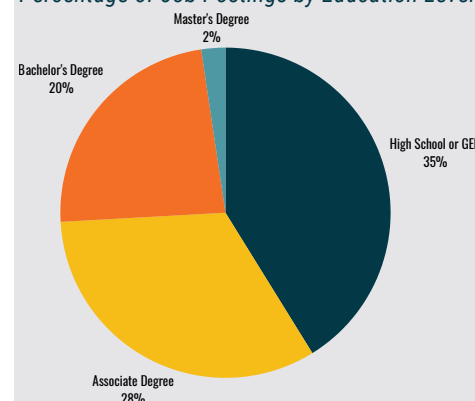
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration
- Project Management

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Machinery
- Test Equipment
- Blueprinting
- Hand Tools

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Fabrication
- Mechanical Engineering
- Electrical Wiring
- General Mathematics
- Microsoft Suite
- Instrumentation
- Hydraulics

Skills/knowledge in:

- HVAC
- Machining
- Mechanical Systems
- Mechanical Inspection

Qualifications:

- EPA 608 Technician Certification

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Air Handler
- Construction
- Change Requests
- Refrigerant
- Micrometer
- Test Data
- Technical Communication
- Welding
- Lathes
- Spreadsheets

Skills/knowledge in:

- Project Management
- Process Improvement
- Mechanical Design
- SAP Applications
- Dashboard
- Key Performance Indicators (KPIs)
- Dashboard
- Bill Of Materials
- Data Analysis
- Power Tool Operation

Skills/knowledge in:

- Auditing
- Pivot Tables And Charts
- Milestones (Project Management)
- Tooling
- Tooling Design
- Project Proposals
- Portfolio Analysis
- Project Scoping
- Technical Design
- Analytics

Qualifications:

- Contractor License

PROFESSIONAL LEVEL COMPETENCIES (7+ YEARS EXPERIENCE)

Employers value staff that stay relevant and gain new skills.

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OPERATING ENGINEERS AND OTHER CONSTRUCTION EQUIPMENT OPERATORS

TRANSPORTATION INDUSTRY
OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Operate one or several types of power construction equipment to excavate, move, and grade earth, erect structures, or pour hard surface pavement. Other duties include repairing and maintaining equipment in addition to other tasks. Primary responsibilities are to learn and follow safety regulations and take actions to avoid potential hazards or obstructions. Learn more at onetonline.org.

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$18.68	\$28.51	\$37.41
Annually	\$38,854	\$59,300	\$77,812

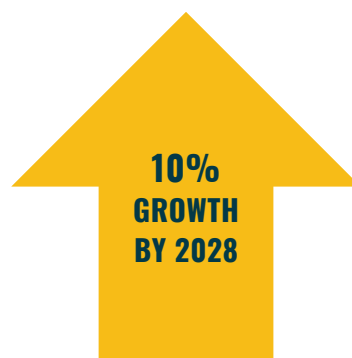
JOB TITLES

The Operating Engineers and Other Construction Equipment Operators occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- Heavy Equipment Operators
- Operating Engineers
- Technicians
- Excavators
- Construction Engineers

OCCUPATIONAL GROWTH

Projected to grow faster than average (10%); 1,325 annual job openings are predicted.



Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

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GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- Forklift Certification
- Contractor License
- CFC Refrigeration Certification
- Tanker Endorsement
- Triples Endorsement
- 3rd Class Power Engineer Certificate
- HVAC Certification
- DOT Certification
- Operator Certification
- Stationary Engineer License

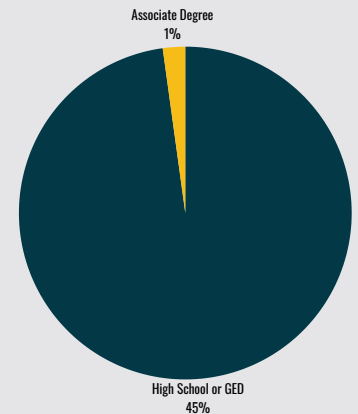
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration
- Engineering

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Heavy Equipment
- Front End Loaders
- Construction
- Grading (Landscape)
- Backhoes

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Machine Operation
- Forklift Truck
- Safety Standards
- Mechanics
- Plowing
- Recycling
- Transfer Station
- Dozer
- Fleet Maintenance Software

Qualifications:

- Commercial Driver's License (CDL)

Skills/knowledge in:

- Excavation
- Boilers
- Chilled Water
- Demolition
- Occupational Safety and Health
- Water Treatment
- Trenching
- Microsoft Suite

Qualifications:

- Contractor License
- Cardiopulmonary Resuscitation (CPR) Certification

Skills/knowledge in:

- Equipment Inspection
- HVAC
- Valves (Piping)
- Housekeeping
- Operational Data Store
- Metasys Building Automation System

Qualifications:

- CFC Refrigeration Certification
- First Aid Certification
- Automated External Defibrillator (AED) Certification

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TRANSPORTATION, STORAGE AND DISTRIBUTION MANAGER

TRANSPORTATION INDUSTRY

OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Plan, direct, and/or coordinate transportation, storage, or distribution activities while following organizational policies and applicable government laws or regulations. Many of these careers involve coordinating, supervising, managing, and training others.

Learn more at onetonline.org.

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$27.24	\$39.99	\$69.53
Annually	\$56,659	\$83,179	\$144,622

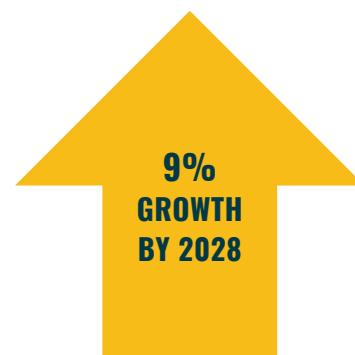
JOB TITLES

The Transportation, Storage, and Distribution Manager occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- Warehouse Supervisor
- Logistics Manager
- Transportation Manager
- Directors of Supply Chain
- Materials Manager

OCCUPATIONAL GROWTH

Projected to grow faster than average (9%); 584 annual job openings are predicted.



Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

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GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS

- American Production and Inventory Control Society (APICS) Certification
- Six Sigma Black Belt or Green Belt
- Professional Engineer (PE) License
- Supply Chain Management Certification
- Purchasing Manager Certification
- Professional Traffic Operations Engineer
- Business Analysis Professional Certification
- Certified Professional in Supplier Diversity (CPSD)
- Project Management Professional Certification

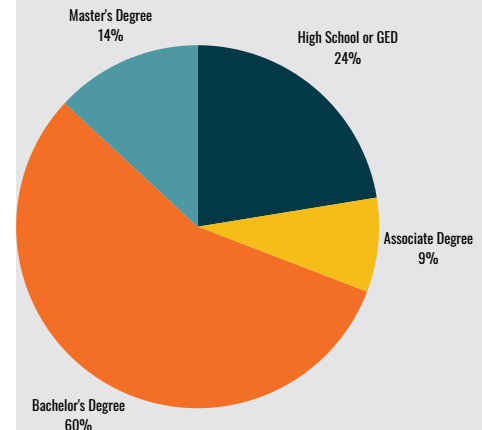
ADVANCED DEGREES AVAILABLE

(Associate, Bachelor's and Master's Degrees)

- Business Administration Logistics
- Supply Chain Management
- Financial Management Purchasing
- Warehousing and Logistics

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Warehousing
- Logistics
- Auditing
- Microsoft Suite

Qualifications:

- Valid Driver's License

Skills/knowledge in:

- Supply Chain
- Inventory Management
- Forklift Truck
- Supply Chain Management
- Spreadsheets

Qualifications:

- Commercial Driver's License (CDL)

Skills/knowledge in:

- Key Performance Indicators (KPIs)
- Purchasing
- Project and Logistics Management
- SAP Applications

Qualifications:

- Forklift Certification
- Six Sigma Certification

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Procurement
- Process Improvement
- Performance Management
- Warehouse Management Systems
- Transportation Management Systems
- Inventory Control

Skills/knowledge in:

- Finance
- Lean Manufacturing
- Continuous Improvement Process
- MicroStation (CAD Design Software)
- Order Management Systems

Qualifications:

- 10-Hour OSHA General Industry Card
- Purchasing Manager Certification

Skills/knowledge in:

- Supply Chain Planning
- Business Development
- Marketing
- Business Requirements
- Data Analysis
- Kinaxis Software
- Dashboard
- Tableau (Business Intelligence Software)

Qualifications:

- Security Clearance

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WELDERS, CUTTERS, SOLDERERS, AND BRAZERS

ADVANCED MANUFACTURING INDUSTRY OCCUPATION OUTLOOK IN SOUTHEAST MICHIGAN, 2023

OCCUPATION SUMMARY

Use various welding techniques to weld metal components or repair fabricated metal products. Safety protocols are strictly followed, including the operation of safety equipment and adherence to safe work practices. Workers meticulously inspect workpieces for defects and ensure they meet specifications. It is crucial to identify any equipment malfunctions or substandard materials and promptly report them to supervisors. Learn more at onetonline.org.

JOB TITLES

The Welders, Cutters, Solderers, and Brazers occupation refers to the entire industry in which someone works. Some examples of specific job titles for this occupation include:

- Welder
- Fabricator
- Robotic Welder
- Production Welder
- Certified Welding Inspector

Debt-free training and additional support may be available to jobseekers and those currently employed in this career

Contact your local **Michigan Works! Agency** to learn more
michiganworks.org/michigan-works-network

AVERAGE WAGE IN MICHIGAN

	Entry	Median	Experienced
Hourly	\$15.06	\$20.31	\$30.07
Annually	\$31,325	\$42,245	\$62,546

OCCUPATIONAL GROWTH

Projected to grow faster than average (8%); 1,583 annual job openings are predicted.

**8%
GROWTH
BY 2028**



EARN WHILE YOU LEARN: REGISTERED APPRENTICESHIP

Employers or sponsors may provide apprenticeship opportunities, enabling individuals to acquire hands-on experience, engage in related instruction while receiving compensation. Completing a registered apprenticeship program can lead to career advancement and an average annual income of \$80,000. [Learn more.](#)

GROW A CAREER WITH ADVANCED DEGREES AND CERTIFICATES

PROFESSIONAL CERTIFICATIONS AND LICENSES

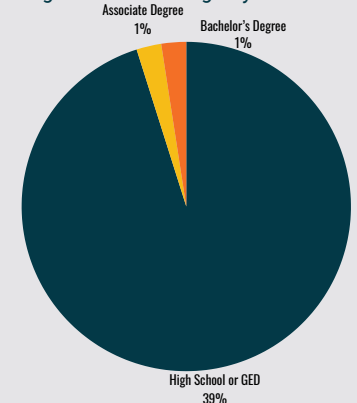
- Certified Welder
- Forklift Certification
- Certified Welding Inspector
- Commercial Driver's License (CDL)
- ASNT Non-Destructive Tester
- 6G Welding Certification
- Certified Safety Professional

LAUNCH A CAREER WITH CDL TRAINING

CDL holders gain important work-related skills, knowledge, and experience. License holders are well-prepared to meet demands for many different jobs, especially in transportation and manufacturing. The skills learned with a CDL are versatile, enhance performance in different kinds of jobs and help meet the needs of a changing job market.

EDUCATION

Percentage of Job Postings by Education Level



A POTENTIAL PATH TO SUCCESS

Explore strategies for overcoming significant factors that can impact employment by clicking [here](#). The following illustration outlines a potential career trajectory based on labor market insights within this occupation.

ENTRY LEVEL COMPETENCIES (0-2 YEARS EXPERIENCE)

Current employees who obtain training may be offered a new position, additional responsibility, and/or additional benefits.

Skills/knowledge in:

- Metal Inert Gas (MIG) Welding
- Welding
- Gas Tungsten Arc Welding

Qualifications:

- Valid Driver's License
- Certified Welder

Skills/knowledge in:

- Aluminum
- Fabrication
- Welding Equipment
- Hand Tools

Qualifications:

- Security Clearance
- Forklift Certification

Skills/knowledge in:

- Brazing (Metal Work)
- Blueprinting
- Grinding Machine
- Welding Symbols
- Machinery
- American Welding Society Codes

Qualifications:

- Certified Welding Inspector

MID-LEVEL COMPETENCIES (3-6 YEARS EXPERIENCE)

Continue gaining skills to stay relevant in an ever-changing ecosystem.

Skills/knowledge in:

- Safety Standards
- Sawing
- Machining
- General Mathematics
- Tooling
- Micrometer

Qualifications:

- Commerical Driver's License (CDL)

Skills/knowledge in:

- Structural Welding
- Engineering Documentation
- Oxy-Fuel Welding and Cutting
- Engineering Drawings
- Fair Credit Reporting Act
- ISO 14000 Series
- Microsoft Office

Skills/knowledge in:

- Shielded Metal Arc Welding
- Mechanics
- Sheet Metal
- Plasma (Physics)
- Prototyping
- Fleet Maintenance Software

Qualifications:

- Chauffeur License

PROFESSIONAL LEVEL COMPETENCIES (7+ YEARS EXPERIENCE)

Employers value staff that stay relevant and gain new skills.

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This information was pulled and combined to create these profiles by WIN staff. Data pulled from ONet, Lightcast, and Indeed.



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