

ADVANCED MANUFACTURING AND LOGISTICS PATHWAY

What are Career Pathways?

Career Pathways are a sequence of training and education programs designed to develop a person’s academic and technical skills. By obtaining stackable credentials and developing new skills a worker can advance over time to successively higher levels of education and employment in a given industry or occupational sector.

Understanding the Basics

Soft skills, such as interpersonal skills, professionalism, and dependability, are important in all industries and occupations. These jobs can revolve around shifts or critical driving times so dependability, along with being flexible when the situation demands, is a valued characteristics. Manufacturing and logistics careers often involve interactions with customers so being able to talk about benefits of a product or service, or accept criticism as a professional company representative is also important. Safety issues are also a critical part of these industries so attention to details and continuous learning are necessary.

Advanced Manufacturing, Transportation and Logistics also have a set of industry-wide technical competencies that represent the knowledge and skills needed to be successful in these industries. Manufacturing Process Design and Development, Supply Chain Logistics, Maintenance and Repair, Knowledge and Compliance of Government Regulations, and the ability to adapt and consider new ways of doing things are some of the skills needed for success.

STEM Career Pathways

Science, Technology, Engineering and Mathematics (STEM) pathways are usually technical in nature, and play a key role in developing new products and technological breakthroughs. STEM occupations are some of the most in-demand and highest paying jobs in Missouri.

Science: Diverse occupations in Physical, Life and Natural Sciences. Science workers can be involved in research, development, and design; as well as outdoor field work.

Technology: Jobs connect people and businesses on a global scale, and an unprecedented number of firms need information technology employees.

Engineering: Occupations, including drafters, technicians, and engineers, develop and test new products we use every day.

Mathematics: Is as part of many occupations and can be used to analyze data and help solve real-world problems in engineering, sciences, or other fields.

WHO’S HIRING?

ADVANCED MANUFACTURING

- Food Manufacturing
- Prof./Tech. Services
- Chemical Manufacturing

Aramark, Tyson Foods, Conagra

TRANSPORTATION & LOGISTICS

- Truck Transportation Companies
- Prof./Tech. Services
- Courier and Messenger Services

CRST Expedited, El Hollingsworth, United Parcel Service

ADVANCED MANUFACTURING PATHWAYS

NOW OCCUPATIONS

One-Twelve months of On-The-Job training

Production Operators
Laborers and Material Movers
CNC Operator
General Maint. and Repair Workers

NEXT OCCUPATIONS

Long-term OJT, Certificate, Assoc. Degree

First-Line Product. Supervisors
Electrical Engineering Technician
Mech. Engineering Technician
Indust. Engineering Technician
CNC Programmer
Indust. Machinery Mechanic
Welders

LATER OCCUPATIONS

Bachelor's degree or Adv. Degree

Indust. Production Managers
Electrical Engineers
Mechanical Engineers
Industrial Engineers

Specialized Skills

Entry-level specialized skills include the general operation of production equipment, inspection of parts, basic repairs, understanding manufacturing processes such as lean manufacturing and continuous improvement, and forklift operation. More advanced skills such as welding, CNC programming, and technical work to include testing, calibration, quality control, scheduling, and documentation require specialized training or on-the-job experience. Later occupations generally require a bachelor degree for engineering but production management can be obtained through extensive experience.

Certifications and Software

Environmental Protection Agency Certification

Forklift Operator Certification

Hazardous Material Certification

AutoCAD or CAM Software

TRANSPORTATION AND LOGISTICS PATHWAYS

NOW OCCUPATIONS

One-Twelve months of On-The-Job training

Laborers and Material Movers
Industrial Truck and Tractor Operators
Shipping and Receiving Clerks
Cargo and Freight Agents
Planning and Expediting Clerks

NEXT OCCUPATIONS

Long-term OJT, Certificate, Assoc. Degree

First-Line Transp. Supervisors
First-Line Supervisors of Office and Admin. Support Workers
Heavy and Tractor-Trailer Truck Drivers

LATER OCCUPATIONS

Bachelor's degree or Adv. Degree

Transportation, Storage, and Distribution Managers
Logisticians
Airline Pilots

Specialized Skills

Entry-level specialized skills include the general operation of material moving equipment, such as forklifts, dollies, and hand trucks, as well as knowledge of basic repairs, inspection, and packaging. More advanced skills such as office management, scheduling, and planning require specialized training or on-the-job experience. Later occupations generally require a bachelor degree for Logisticians and Airline Pilots but Transportation Management can often be obtained through extensive on-the-job experience.

Certifications and Software

Commercial Driver's License

Six Sigma Certification

Forklift Operator Certification

APICS (American Production and Inventory Control)

MANUFACTURING OCCUPATION PROFILE

Welders and Fabricators

This occupation includes employees who use both hand-held equipment and machines that weld, braze, solder, or heat-treat metal products, components, or assemblies. They may set up, operate, and tend welding machines or use hand and power tools such as torches or gas metal arc welding equipment.

Knowledge of mathematics, design techniques, tools, raw materials, production processes, and quality control are important in this occupation. Welders should have good vision, arm-hand steadiness and coordination. Special skills for this occupation include the ability to control operations of equipment or systems and watch gauges, dials, or other indicators to make sure a machine is working properly. Some welding jobs require the ability to read blueprints or schematic diagrams. Critical thinking is also important to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

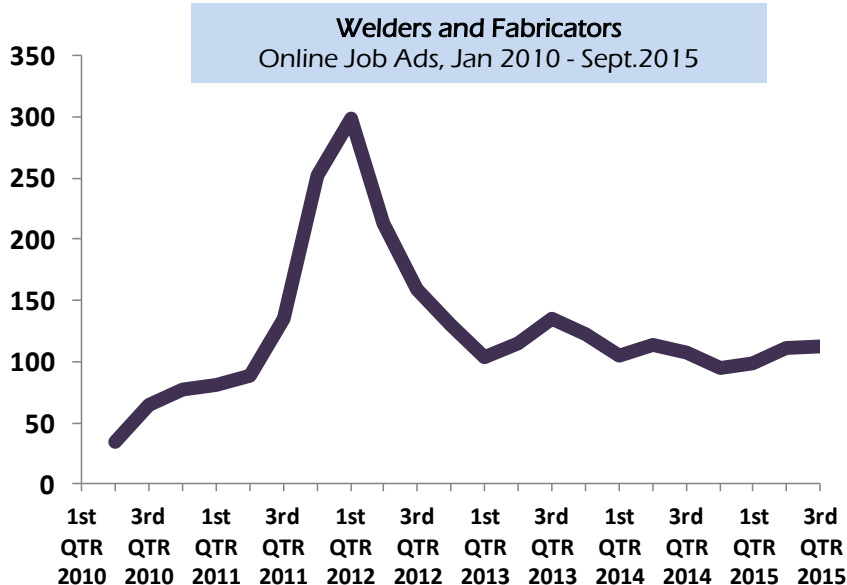


Entry Wage: \$24,264 | Average Wage: \$34,293 | Experienced Wage: \$39,307

My students expressed the key role the **AWS (American Welding Society)** and the **MoWINS** programs have been in building their skill levels, knowledge, and increasing their opportunity to secure a career in the welding industry – an opportunity they would not have if it weren't for these programs.

I have experienced 100% participation as well as commitment to completion from every student whom I have had in my classes. Several students have already secured employment in the welding field; while others are planning to continue onto the next program level to increase their skill level and ability to perform the more advanced functions employers are in need of.

Steve Schuetz, Trainer, St. Charles Community College



Who's Hiring?

Welder job ads peaked in early 2012 and have stabilized to around 100 ads a quarter in the past two years. Some of the top job posting companies include:

Trinity Industries
Caruthersville, MO

United Rentals
Kansas City, MO

IMKO
Kansas City, MO

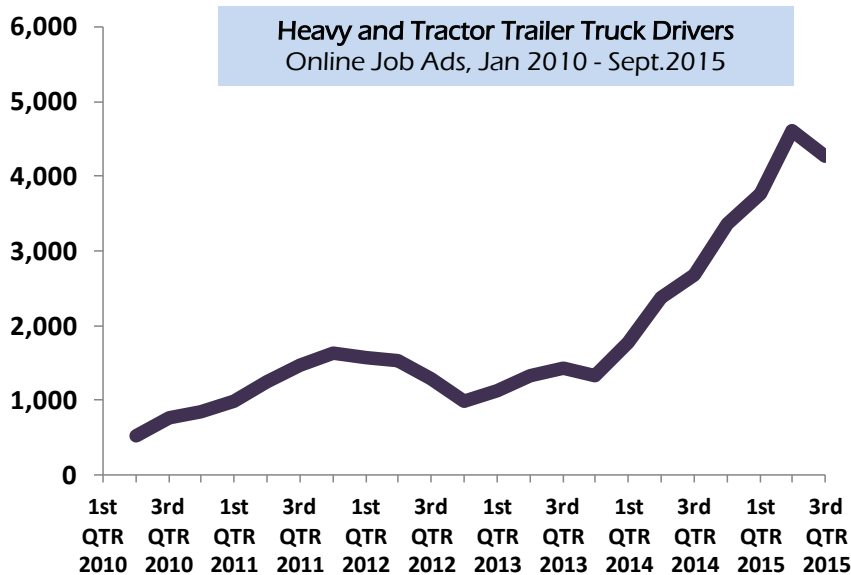
TRANSPORTATION OCCUPATION PROFILE

Heavy and Tractor-Trailer Truck Drivers

This occupation includes employees who drive a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). They may also be required to unload trucks. This occupation requires a commercial drivers' license.

Employees in this occupation use flatbed trailers, lifts, and attachments such as snowplow attachments and trailer hitches. They may use database user interface and query software such as ddlsoftware.com drivers daily log program or Easy Trucker software. Knowledge of transportation, customer service, and relevant equipment, policies, and procedures needed for public safety and security are important in this occupation. Truck drivers should be able to control and monitor operations of equipment and systems to make sure their truck and other machines are operating correctly. Time management is a crucial skill for this occupation.

Entry Wage: \$25,863 | Average Wage: \$39,286 | Experienced Wage: \$46,807



Who's Hiring?

Truck drivers are increasingly in demand as job postings since 2010 illustrate. Some of the top job posting companies include:

CRST Expedited
Statewide

El Hollingsworth
Statewide

USA Truck
Statewide

This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This work is licensed under the Creative Commons Attribution 4.0 Unported License

Sources:

Data for this analysis has been extracted using Burning Glass Technologies Labor/Insight™ tool which collects information from over 35,000 web sources, including job boards, newspapers, and employer websites. While this analysis presents a broad picture of hiring activity and serves as a measure of labor demand, it does not capture openings that are filled through other networks. Other sources include the Employment and Training Administration, Competency Model Clearinghouse for information available on selected industries in this report. Wage data is 2013 Occupational Employment Survey, Bureau of Labor Statistics.

