

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 characteristic. 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 important. Safety issues are also a critical part of these industries so attention to details and continuous learning are necessary.

In addition, Advanced Manufacturing, Transportation and Logistics 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 a 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

Professional, Scientific, & Technical Services
 Transportation Equipment Mfg.
 Chemical Manufacturing

PlayPower
 The Boeing Company
 Stratosphere Quality

TRANSPORTATION & LOGISTICS

Truck Transportation
 Food Services and Drinking Places
 Building Material/Garden Equipment & Supplies Dealers

Hogan Transportation
 Lowe's Companies, Inc
 Ozark Motor Lines

ADVANCED MANUFACTURING PATHWAYS

NOW OCCUPATIONS

One-Twelve months of On-The-Job training

Production Operators
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
Manufacturing Production Tech.
Mechanical Drafters

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

American Board For Engineering And Technology (ABET) Accredited

SAP

Forklift Operator 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
Bus Drivers

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

Forklift Operator Certification

Enterprise Resource Planning (ERP) Software

SAP

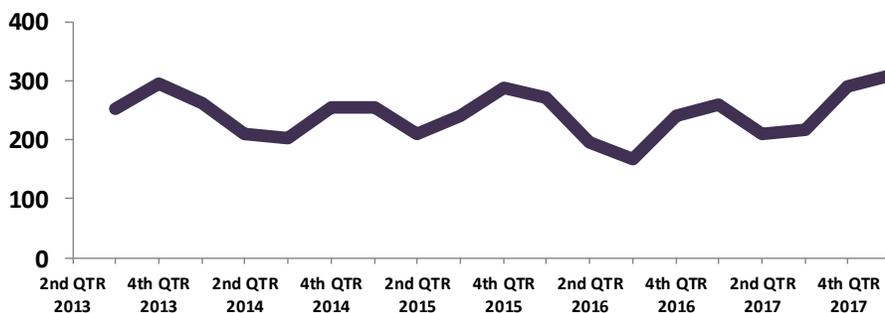
MANUFACTURING OCCUPATION PROFILE

Mechanical Engineers

Mechanical Engineers perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. They may oversee installation, operation, maintenance, and repair of mechanical equipment such as centralized heat, gas, water, and steam systems. Knowledge of practical application of engineering science and technology is crucial in this occupation. Mechanical Engineers must also be proficient in mathematics and design techniques used in production of precision technical plans and blueprints. Mechanical Engineers may use Computer Aided Design (CAD) or Computer Aided Manufacturing (CAM) software, as well as other types of analytical, scientific, and graphics design software. Active listening and critical thinking skills are also important in this occupation.

Entry Wage: \$58,080 | Average Wage: \$83,850 | Experienced Wage: \$96,730

Mechanical Engineers
Online Job Ads, April 2013- – March 2018



Who's Hiring?

Job ads for **Mechanical Engineers** have averaged 260 per quarter over the last year. Some of the top job posting companies include:

Honeywell
Kansas City

The Boeing Company
St. Louis

Burns & McDonnell
Kansas City

Orbital ATK
Independence, MO

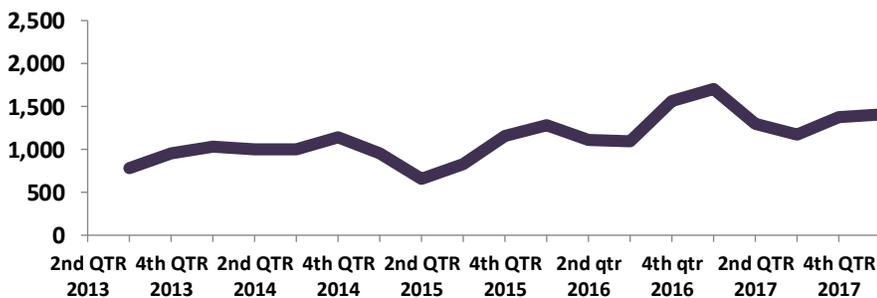
TRANSPORTATION AND LOGISTICS OCCUPATION PROFILE

Laborers and Freight, Stock, and Material Movers

Laborers, Freight, Stock and Material Movers manually move freight, stock, or other materials to and from storage or production areas, loading docks, delivery vehicles, ships, or containers. They may also perform other general labor, and sort and stack cargo. Employees in this occupation need to have strength, dexterity, and coordination. The ability to interact with customers and co-workers are also important skills for Laborers and Material Movers.

Entry Wage: \$20,190 | Average Wage: \$29,150 | Experienced Wage: \$33,620

Laborers, Freight, Stock and Material Movers
Online Job Ads, April 2013- – March 2018



Who's Hiring?

Jobs ads for **Laborers, Freight, Stock and Material Movers** dropped in 2015 and have averaged 1,300 job ads per quarter over the last year. Some of the top job posting companies include:

Lowe's Companies, Inc
Statewide

FedEx
Statewide

The Home Depot Inc.
Statewide

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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, and O*NET online for occupation profiles. Wage data is 2016 Occupational Employment Survey, Bureau of Labor Statistics.*

