

# 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

Prof., Scientific, & Technical Services  
 Transportation Equipment Mfg.  
 Food Manufacturing

Honeywell  
 PlayPower  
 Bass Pro

### TRANSPORTATION & LOGISTICS

Truck Transportation  
 Clothing and Clothing Accessories Stores  
 Building Material/Garden Equipment and Supplies Dealers

Kold Trans  
 H & M Trucking  
 Anderson Trucking Service

# 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

Forklift Operator Certification

Six Sigma 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

Enterprise Resource Planning (ERP) Software

Forklift Operator Certification

APICS (American Production and Inventory Control)

# MANUFACTURING OCCUPATION PROFILE

## Machinists

Machinists set up and operate a variety of machine tools to produce precision parts and instruments. They also fabricate and modify parts to make or repair machine tools and maintain industrial machines. Knowledge of mechanics, mathematics, metal properties, layout, and machining procedures is important in this occupation. Machinists may use Computer Aided Drafting (CAD) or Computer Aided Manufacturing (CAM) software. They must have good operation, control, precision and dexterity skills when working on precision part and machines. Good listening and problem solving skills are also a plus.

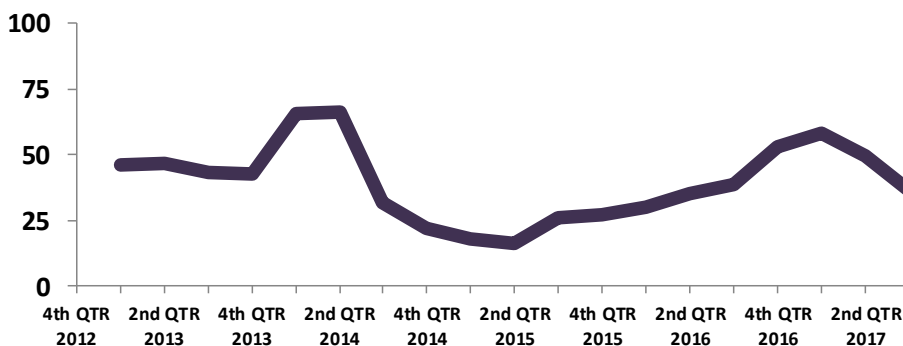
**Entry Wage: \$27,400 | Average Wage: \$42,760 | Experienced Wage: \$50,430**

*"Half of our internal openings right now are for the machining area so this is a critical need for us. We find the Precision Machining Technology program to be a win-win situation. At college, graduates quickly attain the foundational skills we want and we are able to add the 'Natoli way' through internal training to develop great employees!"*

*-Rachel Bacon, Talent Acquisition Specialist, Natoli Engineering Company, Inc. (tablet compression punches and dies)*

### Machinists

Online Job Ads, Oct. 2012 – Sept. 2017



## Who's Hiring?

After a drop in late 2014, **Machinists** job ads have been slowly increasing. Some of the top job posting companies include:

**Natoli Engineering**  
*St. Louis*

**Caterpillar Incorporated**  
*Boonville*

**Fike Corporation**  
*Blue Springs*

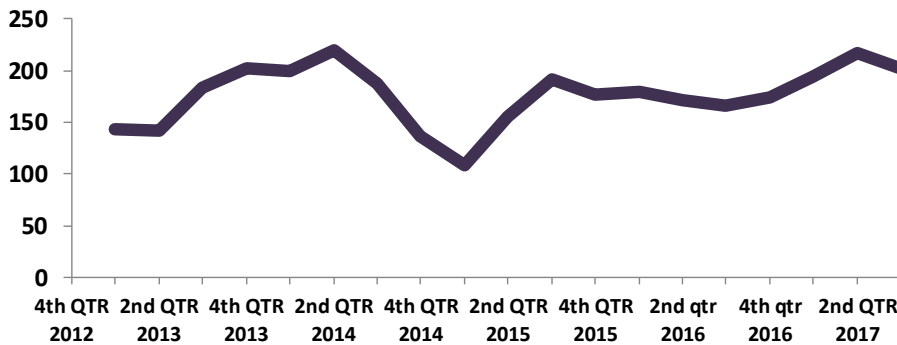
# TRANSPORTATION AND LOGISTICS OCCUPATION PROFILE

## Production, Planning, and Expediting Clerks

Production, Planning and Expediting Clerks coordinate and expedite the flow of work and materials according to business' production schedules. They may review and distribute work, materials, and shipment schedules as well as compile reports on progress of work, inventory levels, costs, and problems. Production, Planning and Expediting Clerks may use logistics software such as Enterprise Resource Planning (ERP) or inventory management software. Time management, active listening, and the ability to communicate effectively with others is important in this occupation.

**Entry Wage: \$31,110 | Average Wage: \$47,780 | Experienced Wage: \$56,110**

Production, Planning, and Expediting Clerks  
Online Job Ads, Oct. 2012 – Sept. 2017



### Who's Hiring?

Jobs ads for **Production, Planning and Expediting Clerks** have averaged nearly 200 per quarter over the past year. Some of the top job posting companies include:

**Mercy Health**  
*Statewide*

**Department of the Army**  
*Statewide*

**Boeing**  
*St. Louis*

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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. Wage data is 2016 Occupational Employment Survey, Bureau of Labor Statistics.

