

# Occupational Profile

## Machinists



### DOES THIS DESCRIBE YOU?

**Work Interests** involve descriptive categories (compatible with Holland's Model) attributed to success in this career:

- **Realistic** – Involves work activities that include practical, hands-on problems and solutions; often dealing with plants, animals, and real-world materials like wood, tools, and machinery.
- **Conventional** – Enjoy following set procedures and routines developed through higher authority; includes working with data and details more than with ideas.
- **Investigative** – Involves working with ideas requiring an extensive amount of research, fact finding, problem solving, and thought analysis.

**Work Styles** depict worker characteristics conducive for this career:

- **Attention to Detail**
- **Dependability**
- **Independence**
- **Initiative**
- **Self Control**

**Work Values** are associated with aspects of work that provide satisfaction in this career:

- **Support** – Management backing.
- **Working Conditions**—Job security; good working conditions.
- **Independence**—Autonomy; working on your own.

**Aptitudes** reflect an ability to acquire skills and knowledge for success in this career:

- **Arm-Hand Steadiness**
- **Manual Dexterity**
- **Control Precision**
- **Finger Dexterity**
- **Multilimb Coordination**

### OVERVIEW

Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures. Belongs to the Manufacturing career cluster and Production career pathway.

### SKILLS & KNOWLEDGE NEEDED

#### Basic Skills:

- Operation Monitoring
- Active Listening
- Critical Thinking
- Operation and Control
- Coordination

#### Technology Skills:

- Analytical or Scientific Software
- Computer Aided Design Software
- Computer Aided Manufacturing Software
- Electronic Mail Software
- Spreadsheet Software

#### Knowledge:

- Mathematics
- Mechanical
- Production and Processing
- English Language
- Design

## ESTIMATED & PROJECTED EMPLOYMENT

Occupational Title	2014 Estimated Employment	2024 Projected Employment	2014-24 Employment Change	Annual Growth Rate (%)	Total Annual Openings
Total, All Occupations	1,795,100	1,949,240	154,140	0.9	58,145
Production Occupations	161,460	173,485	12,030	0.7	4,695
Machinists	5,240	6,070	830	1.6	235

Source: <https://www.iowaworkforcedevelopment.gov/occupational-projections>

## 2017 WAGE & SALARY (\$)

Occupational Title	Mean Wage	Mean Salary	Entry Wage	Entry Salary	Exp Wage	Exp Salary
Total All Occupations	20.93	43,539	10.09	20,991	26.35	54,813
Production Occupations	17.06	35,492	11.59	24,108	19.80	41,185
Machinists	18.58	38,639	13.48	28,030	21.13	43,943

Source: <https://www.iowaworkforcedevelopment.gov/occupational-employment-and-wages>

## EDUCATION & TRAINING



### Education

High School Diploma

### Work Experience

None

### Job Training

Long-Term On-The-Job

A diploma is required for most machinist positions with training received from vocational schools, industry-based programs, and/or apprenticeships. Sources: <https://www.iowaworkforcedevelopment.gov/occupational-projections>, [https://www.bls.gov/emp/ep\\_education\\_training\\_system.htm](https://www.bls.gov/emp/ep_education_training_system.htm), and <https://www.dol.gov/apprenticeship/>

## NATIONAL CAREER READINESS CERTIFICATE (NCRC)

Skill	Median Skill Level	Minimum Skill Level	Maximum Skill Level
Applied Mathematics	3	3	5
Locating Information	4	3	5
Reading for Information	3	3	5
Applied Technology	3	3	6
Business Writing	1	1	1
Workplace Observation	3	1	4
Listening for Understanding	2	1	3

An ACT assessment-based credential issued in determining essential work skills needed for employment success across industries and occupations. The greater the score, the greater the skill level (Bronze = 3, Silver = 4, Gold = 5, Platinum = 6 & higher). Source: <http://www.act.org/content/act/en/products-and-services/workkeys-for-employers/assessments.html>

## PRIMARY INDUSTRY SECTORS

### (Where are Machinists Employed?)

Fabricated Metal Product Mfg  
Machinery Mfg  
Transportation Equipment Mfg  
Merchant Wholesalers, Durable Goods  
Administrative & Support Services  
Computer & Electronic Product Mfg  
Wood Product Mfg  
Self Employed  
Rail Transportation  
Plastics & Rubber Mfg  
Crop Production

Source: <https://www.iowaworkforcedevelopment.gov/occupational-projections>

## ADDITIONAL SOURCES:

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