The lines within this career lattice provide potential pathways that workers can follow within this industry ecosystem. The colors are simply to differentiate one pathway option from the other.
# Computer-Controlled Machine Tool Operators, Metal and Plastic Occupational Profile

<table>
<thead>
<tr>
<th>MEDIAN SALARY &amp; WAGES</th>
<th>COMMON JOB TITLES</th>
<th>REQUESTED EDUCATION</th>
<th>TOP SKILLS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>$17.69/hour</td>
<td>CNC Operator</td>
<td>High School or Less</td>
<td>Operation Monitoring</td>
</tr>
<tr>
<td></td>
<td>Machine Operator (Production)</td>
<td>Post-Secondary Certificate</td>
<td>Monitoring</td>
</tr>
<tr>
<td></td>
<td>CNC Machinist</td>
<td></td>
<td>Quality Control Analysis</td>
</tr>
<tr>
<td></td>
<td>Laser Operator</td>
<td>Bachelor's+</td>
<td>Critical Thinking</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL JOBS FOR 2028</th>
<th>COMMON KNOWLEDGE COMPETENCIES</th>
<th>TOP CERTIFICATIONS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,083</td>
<td>Production and Processing</td>
<td>Certified Purchasing Professional</td>
</tr>
<tr>
<td></td>
<td>Mechanical</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Design</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIMILAR INDUSTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace &amp; Defense</td>
</tr>
<tr>
<td>Agriculture &amp; Biosciences</td>
</tr>
<tr>
<td>Energy</td>
</tr>
<tr>
<td>Information &amp; Financial Systems</td>
</tr>
<tr>
<td>Transportation &amp; Distribution</td>
</tr>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Health Care</td>
</tr>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Creative Industries</td>
</tr>
</tbody>
</table>

Indicates an especially close similarity
## Welders, Cutters, Solderers, and Brazers Occupational Profile

### MEDIAN SALARY & WAGES
- **$19.07/hour**

### COMMON JOB TITLES
- CNC Welder (Production)
- Structural Fitter
- Fabricator
- Welding Supervisor

### TOTAL JOBS FOR 2028
- **9,583**

### COMMON KNOWLEDGE COMPETENCIES
- Production and Processing
- Mechanical
- Design
- Administration and Management

### REQUESTED EDUCATION
- High School or Less
- Post-Secondary Certificate

### TOP SKILLS REQUESTED
- Operation and Control
- Critical Thinking
- Reading Comprehension
- Monitoring
- Quality Control Analysis
- Active Listening
- Speaking
- Operation Monitoring
- Judgment and Decision Making
- Monitoring

### SIMILAR INDUSTRIES
- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

*Indicates an especially close similarity*
Operating Engineers and Other Construction Equipment Operators Occupational Profile

### Median Salary & Wages
- $17.95/hour

### Total Jobs for 2028
- 7,102

### Common Job Titles
- Crane Operator
- Equipment Operator (Production)
- Operating Engineer
- Equipment Operator (Construction and Extraction)

### Requested Education
- High School or Less
- Post-Secondary Certificate

### Top Skills Requested
- Operation and Control
- Operation Monitoring
- Monitoring
- Coordination
- Equipment Maintenance
- Troubleshooting
- Critical Thinking
- Active Learning
- Repairing
- Quality Control Analysis

### Common Knowledge Competencies
- Building and Construction
- Mechanical
- Administration and Management
- Public Safety and Security

### Similar Industries
- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

*Indicates an especially close similarity*
Inspectors, Testers, Sorters, Samplers, and Weighers

**OCCUPATIONAL PROFILE**

**MEDIAN SALARY & WAGES**
$18.07/hour

**TOTAL JOBS FOR 2028**
5,261

**COMMON JOB TITLES**
- Software Tester
- Product Analyst
- Quality Inspector
- Quality Control Inspector

**MEDIAN SALARY & WAGES**
$18.07/hour

**COMMON KNOWLEDGE COMPETENCIES**
- Production and Processing
- Mathematics
- English Language
- Computers and Electronics

**REQUESTED EDUCATION**
- High School or Less
- Post-Secondary Certificate
- Bachelor’s+

**TOP SKILLS REQUESTED**
- Quality Control Analysis
- Active Listening
- Reading Comprehension
- Speaking
- Critical Thinking
- Monitoring
- Coordination
- Operation Monitoring
- Judgment and Decision Making
- Writing

**TOP CERTIFICATIONS REQUESTED**
- Certified Welding Inspector
- ASNT Non-Destructive Tester
- Commercial Driver’s License (CDL)
- Certified Quality Technician

**SIMILAR INDUSTRIES**
- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

*Indicates an especially close similarity*
**Machinists Occupational Profile**

<table>
<thead>
<tr>
<th>MEDIAN SALARY &amp; WAGES</th>
<th>COMMON JOB TITLES</th>
<th>REQUESTED EDUCATION</th>
<th>TOP SKILLS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20.07/hour</td>
<td>CNC Machinist</td>
<td>High School or Less</td>
<td>Operation Monitoring</td>
</tr>
<tr>
<td></td>
<td>Machinist</td>
<td>Post-Secondary Certificate</td>
<td>Critical Thinking</td>
</tr>
<tr>
<td></td>
<td>Tool Maker</td>
<td></td>
<td>Operation and Control</td>
</tr>
<tr>
<td></td>
<td>CNC Programmer</td>
<td></td>
<td>Reading Comprehension</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL JOBS FOR 2028</th>
<th>COMMON KNOWLEDGE COMPETENCIES</th>
<th>SIMILAR INDUSTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,653</td>
<td>Production and Processing</td>
<td>Aerospace &amp; Defense</td>
</tr>
<tr>
<td></td>
<td>Mechanical</td>
<td>Agriculture &amp; Biosciences</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>Energy</td>
</tr>
<tr>
<td></td>
<td>English Language</td>
<td>Information &amp; Financial Systems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOP CERTIFICATIONS REQUESTED</th>
<th>SIMILAR INDUSTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Driver’s License (CDL)</td>
<td>Aerospace &amp; Defense</td>
</tr>
<tr>
<td>Certified Information Security Manager</td>
<td>Agriculture &amp; Biosciences</td>
</tr>
<tr>
<td>Certified Master Trainer</td>
<td>Energy</td>
</tr>
<tr>
<td>Certified Information Systems Security Professional</td>
<td>Information &amp; Financial Systems</td>
</tr>
</tbody>
</table>

- Indicates an especially close similarity.
# Maintenance Workers, Machinery Occupational Profile

## MEDIAN SALARY & WAGES

<table>
<thead>
<tr>
<th>Salary</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$19.64/hour</td>
<td></td>
</tr>
</tbody>
</table>

## TOTAL JOBS FOR 2028

<table>
<thead>
<tr>
<th>Jobs</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,956</td>
<td></td>
</tr>
</tbody>
</table>

## COMMON JOB TITLES

- Care Supervisor
- Maintenance Mechanic
- Maintenance Technician

## REQUESTED EDUCATION

- High School or Less
- Post-Secondary Certificate
- Bachelor’s+

## TOP SKILLS REQUESTED

- Operation Monitoring
- Repairing
- Equipment Maintenance
- Troubleshooting
- Reading Comprehension
- Operation and Control
- Quality Control Analysis
- Critical Thinking
- Coordination
- Active Listening

## COMMON KNOWLEDGE COMPETENCIES

- Mechanical
- Design
- English Language
- Mathematics

## TOP CERTIFICATIONS REQUESTED

- Commercial Driver’s License (CDL)

## SIMILAR INDUSTRIES

- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

*Indicates an especially close similarity*
# Mobile Heavy Equipment Mechanics, Except Engines Occupational Profile

## MEDIAN SALARY & WAGES
$20.90/hour

## TOTAL JOBS FOR 2028
2,109

## COMMON JOB TITLES
- Maintenance Mechanic
- Equipment Repairer
- Equipment Operator
- Equipment Technician

## COMMON KNOWLEDGE COMPETENCIES
- Mechanical
- Customer and Personal Service
- Mathematics
- Computers and Electronics

## REQUESTED EDUCATION
- High School or Less
- Post-Secondary Certificate
- Bachelor's+

## TOP SKILLS REQUESTED
- Troubleshooting
- Repairing
- Equipment Maintenance
- Operation Monitoring
- Operation and Control
- Equipment Selection
- Quality Control Analysis
- Critical Thinking
- Reading Comprehension
- Complex Problem Solving

## TOP CERTIFICATIONS REQUESTED
- Commercial Driver's License (CDL)
- Certified Welder
- Certified First Responder

## SIMILAR INDUSTRIES
- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

*Indicates an especially close similarity*
# Heating, Air Conditioning, and Refrigeration Mechanics and Installers Occupational Profile

## MEDIAN SALARY & WAGES

<table>
<thead>
<tr>
<th>Salary</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$21.11/hour</td>
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## TOTAL JOBS FOR 2028

<table>
<thead>
<tr>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,964</td>
<td></td>
</tr>
</tbody>
</table>

## COMMON JOB TITLES

<table>
<thead>
<tr>
<th>Job Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVAC Refrigeration Technician</td>
</tr>
<tr>
<td>HVAC Service Technician</td>
</tr>
<tr>
<td>Refrigeration Repair Technician</td>
</tr>
<tr>
<td>Heating, Ventilation, and Air Conditioning (HVAC) Mechanic</td>
</tr>
</tbody>
</table>

## COMMON KNOWLEDGE COMPETENCIES

<table>
<thead>
<tr>
<th>Knowledge Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
</tr>
<tr>
<td>Customer and Personal Service</td>
</tr>
<tr>
<td>Building and Construction</td>
</tr>
<tr>
<td>English Language</td>
</tr>
</tbody>
</table>

## REQUESTED EDUCATION

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School or Less</td>
<td></td>
</tr>
<tr>
<td>Post-Secondary Certificate</td>
<td></td>
</tr>
<tr>
<td>Bachelor's+</td>
<td></td>
</tr>
</tbody>
</table>

## TOP SKILLS REQUESTED

<table>
<thead>
<tr>
<th>Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation Monitoring</td>
</tr>
<tr>
<td>Repairing</td>
</tr>
<tr>
<td>Equipment Maintenance</td>
</tr>
<tr>
<td>Troubleshooting</td>
</tr>
<tr>
<td>Installation</td>
</tr>
<tr>
<td>Equipment Selection</td>
</tr>
<tr>
<td>Quality Control Analysis</td>
</tr>
<tr>
<td>Operation Monitoring</td>
</tr>
<tr>
<td>Operation and Control</td>
</tr>
<tr>
<td>Reading Comprehension</td>
</tr>
</tbody>
</table>

## TOP CERTIFICATIONS REQUESTED

<table>
<thead>
<tr>
<th>Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Driver's License (CDL)</td>
</tr>
<tr>
<td>Professional Engineer</td>
</tr>
</tbody>
</table>

## SIMILAR INDUSTRIES

- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

*Indicates an especially close similarity*
Industrial Engineering Technicians Occupational Profile

**MEDIAN SALARY & WAGES**

$29.04/hour

**TOTAL JOBS FOR 2028**

724

**COMMON JOB TITLES**

- Quality Assurance Engineer
- Quality Technician
- Engineering Technician
- Process Technician

**COMMON KNOWLEDGE COMPETENCIES**

- Engineering and Technology
- Production and Processing
- Mathematics
- Mechanical

**REQUESTED EDUCATION**

- High School or Less
- Post-Secondary Certificate
- Bachelor’s+

**TOP CERTIFICATIONS REQUESTED**

- ASNT Non-Destructive Tester
- Certified Welding Inspector
- Transportation Worker Identification Credential (TWIC) Card

**TOP SKILLS REQUESTED**

- Reading Comprehension
- Active Listening
- Monitoring
- Critical Thinking
- Complex Problem Solving
- Speaking
- Systems Analysis
- Systems Evaluation
- Time Management
- Writing

**SIMILAR INDUSTRIES**

- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

Indicates an especially close similarity.
## Plumbers, Pipefitters, and Steamfitters Occupational Profile

### MEDIAN SALARY & WAGES

$22.23/hour

### TOTAL JOBS FOR 2028

7,299

### COMMON JOB TITLES

- Plumber
- Pipe Fitter
- Maintenance Mechanic

### COMMON KNOWLEDGE COMPETENCIES

- Building and Construction
- Mechanical
- Design
- Mathematics

### REQUESTED EDUCATION

- High School or Less
- Post-Secondary Certificate

### COMMON SKILLS REQUESTED

- Critical Thinking
- Judgment and Decision Making
- Active Listening
- Reading Comprehension
- Speaking
- Time Management
- Operation Monitoring
- Complex Problem Solving

### SIMILAR INDUSTRIES

- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

### TOP CERTIFICATIONS REQUESTED

- Commercial Driver's License (CDL)
- Certified Safety Professional

### MEDIAN SALARY & WAGES

$22.23/hour
# First-Line Supervisors of Production and Operating Workers Occupational Profile

## MEDIAN SALARY & WAGES

$25.56/hour

## TOTAL JOBS FOR 2028

8,382

## COMMON JOB TITLES

- Production Supervisor
- Operations Supervisor
- Production Manager
- Production Leader

## COMMON KNOWLEDGE COMPETENCIES

- Production and Processing
- Mechanical
- Administration and Management
- Personnel and Human Resources

## REQUESTED EDUCATION

<table>
<thead>
<tr>
<th>Level</th>
<th>REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School or Less</td>
<td></td>
</tr>
<tr>
<td>Post-Secondary Certificate</td>
<td></td>
</tr>
<tr>
<td>Bachelor’s+</td>
<td></td>
</tr>
</tbody>
</table>

## TOP SKILLS REQUESTED

- Active Listening
- Speaking
- Reading Comprehension
- Critical Thinking
- Coordination
- Time Management
- Management of Personnel Resources
- Judgment and Decision Making
- Social Perceptiveness
- Monitoring

## SIMILAR INDUSTRIES

- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

*Indicates an especially close similarity*
# General and Operations Managers Occupational Profile

## MEDIAN SALARY & WAGES

$37.47/hour

## TOTAL JOBS FOR 2028

29,825

## COMMON JOB TITLES

- General Manager
- Operations Manager
- Store Manager (Management)
- Sales Manager (Sales and Related)

## REQUESTED EDUCATION

<table>
<thead>
<tr>
<th>Education Level</th>
<th>High School or Less</th>
<th>Post-Secondary Certificate</th>
<th>Bachelor's+</th>
</tr>
</thead>
</table>

## COMMON KNOWLEDGE COMPETENCIES

- Administration and Management
- Customer and Personal Service
- Personnel and Human Resources
- English Language

## TOP SKILLS REQUESTED

- Active Listening
- Speaking
- Monitoring
- Social Perceptiveness
- Coordination
- Reading Comprehension
- Critical Thinking
- Time Management
- Negotiation
- Active Learning

## TOP CERTIFICATIONS REQUESTED

- Master Of Business Administration
- Series 63
- Series 6
- Certified Retirement Administrator

## SIMILAR INDUSTRIES

- Aerospace & Defense
- Agriculture & Biosciences
- Energy
- Information & Financial Systems
- Transportation & Distribution
- Construction
- Health Care
- Education
- Creative Industries

*Indicates an especially close similarity*
Oklahoma’s Ecosystems

WHAT IS AN ECONOMIC ECOSYSTEM?
Oklahoma has identified nine driver and complementary economic systems representing the most prominent industries in terms of wealth generation and growth potential. Driver ecosystems drive wealth generation in Oklahoma, while the complementary ecosystems help to expand wealth in the economy and provide the infrastructure and services to support the driver systems in the state.

• Complementary Ecosystems: Construction, Health care, Education, and Creative industries.

WHAT ARE THE 100 CRITICAL OCCUPATIONS?
These occupations represent the most pressing needs in each of Oklahoma’s Driver and Complementary Economic Systems necessary for the state’s continued growth and economic prosperity. A workforce pipeline for each of the top 100 critical occupations is required for Oklahoma’s businesses to grow and for Oklahoma citizens to earn a prosperous living. Factors included in the selection process demonstrate the values of job growth, wealth generation, and education, as outlined below:

• Job growth: all occupations have positive forecasted employment growth over the next ten years
• Wealth Generation: all occupations offer median wages greater than or equal to $12.00 per hour
• Education: occupations requiring “no formal education” are eliminated, except those that offer greater than or equal to $20.00 per hour.

WHAT ARE TRANSFERABLE OCCUPATIONS?
There are occupations that can provide valuable on-the-job training for individuals interested in the 100 Critical Occupations. These are generally entry-level or mid-career level occupations that can help individuals develop the knowledge, skills, and abilities needed to move forward on their career paths.

WHAT ARE CAREER PATHWAYS?
Career pathways are designed to help people who are looking to make the next step in their careers both envision and plan for their long-term employment goals. The recommended pathways in this report are based on forecasted employment prospects as well as knowledge, skills and ability profile data by specific occupation. These data were gathered from numerous employer-demand driven data sources. Based on these data, Oklahoma Works determined similarities and difference between each occupation’s required skill sets and developed possible career pathways options.
ABILITIES – the proficiency, skills, or talent within a particular area.

CAREER PATHWAY – a career pathway means a combination of relevant, rigorous and high-quality education, training, and supportive services that aligns both vertically and horizontally across Secondary Education, Adult Basic Education, Workforce Training and Development, Career and Technical Education, and Postsecondary Education systems, pathways, and programs.

CERTIFICATION – third party accrediting or authorizing agency or person who assess, verifies, and provides an official documentation that attests a level of achievement.

COMPETENCIES – an individual’s ability to do a job properly through a set of behaviors.

INDUSTRY-ALIGNED CREDENTIAL – credentials whose standards are aligned to industry-recognized standards.

INDUSTRY-ENDORSED CREDENTIAL – credentials whose standards are aligned to and endorsed by industry.

INDUSTRY-RECOGNIZED CREDENTIAL – an industry-recognized credential is one that either is developed and offered by, or endorsed by a nationally-recognized industry association or organization representing a sizeable portion of the industry sector, or a credential that is sought or accepted by companies within the industry sector for purposes of hiring or recruitment which may include credentials from vendors of certain products.¹

KNOWLEDGE – the skills and information acquired through education or experience.

MEDIAN HOURLY EARNINGS – hourly earnings for the occupation reported at the 50th percentile.

REQUESTED EDUCATION – the highest level of education for workers within the given occupational category. Please note these are not the level of education of new incoming workers but of workers currently employed within these positions.

SKILLS – the ability or expertise to do something well.

TOTAL JOBS – estimated number of jobs in the given year, taken as average over a period of 12-months. This value includes both full- and part-time jobs.

¹For this analysis, TPMA utilized certifications data from a third-party data aggregator, Economic Modeling Specialists, Inc., which daily accesses over 300 million unique job postings records. Though these certifications have not been vetted by Oklahoma Works, they are observed as commonly requested by industry employers.