

*The following pages provide individual overviews for each of the Occupation Titles included in the Asset Mapping Report for Manufacturing Programs as shown below.*

<b>OCCUPATION TITLE</b>	<b>SOC CODE<sup>1</sup></b>
Assemblers and Fabricators <sup>2</sup>	51-2031 & 51-2041
Computer-Controlled Machine (CNC) Tool Operators, Metal and Plastic	51-4011
Electrical and Electronic Equipment Assemblers	51-2022
Electrical and Electronics Engineering Technicians	17-3023
Engineers (Manufacturing)	17-2199.04
First-Line Supervisors of Production and Operating Workers	51-1011
Inspectors, Testers, Sorters, Samplers, and Weighers	51-9061
Machinists	51-4041
Maintenance and Repair Workers, General	49-9071
Production Workers, Helpers	51-9198
Sales Reps., Wholesale & Manufacturing, Technical & Scientific Products	41-4011
Semiconductor Processors	51-9141
Software Developers, Applications	15-1132
Welders, Cutters, Solderers, and Brazers	51-4121.06, and .07

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<sup>1</sup> The Standard Occupational Classification (SOC) system is utilized by the US government to classify occupations.

<sup>2</sup> Because “Assemblers and Fabricators” as listed in the ARMA Workforce Study does not have a specific SOC associated with it; this title has been further categorized into occupations for Engine and Other Machine Assemblers (SOC 51-2031) and Structural Metal Fabricators and Fitters (SOC 51-2041).

*Construct, assemble, or rebuild machines, such as engines, turbines, and similar equipment used in such industries as construction, extraction, textiles, and paper manufacturing.*

**Primary Skills**

**Operation Monitoring** — Watching gauges, dials, or other indicators to make sure a machine is working properly.

**Quality Control Analysis** — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

**Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.

**Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

**Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

**Sample of reported job titles:**

Assembler; Assembly Line Worker; Cell Technician; Engine Assembler; Engine Builder; Field Service Technician; Fitter; Large Engine Assembler; Machine Assembler; Mechanical Assembler

**Education and Training**

Job Zone Two: Some Preparation Needed

Education: These occupations usually require a high school diploma.

Related Experience: Some previous work-related skill, knowledge, or experience is usually needed.

Job Training: Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** N/A

*Fabricate, position, align, and fit parts of structural metal products.*

### Primary Skills

- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.
- **Speaking** — Talking to others to convey information effectively.

#### Sample of reported job titles:

Fabricator; Fitter; Fitter, Welder; Layout Man; Mill Beam Fitter' Ship Fitter; Structural Steel Fitter; Tack Welder; Weld Technician; Welder-Fabricator

### Education and Training

Job Zone Three: Medium Preparation Needed

Education: Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Related Experience: Previous work-related skill, knowledge, or experience is required for these occupations

Job Training: Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** Certified Metalworking Fluids Specialist

*Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.*

### Primary Skills

- **Operation Monitoring** — Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Monitoring** — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Quality Control Analysis** — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- **Operation and Control** — Controlling operations of equipment or systems.

### Sample of reported job titles:

Brake Press Operator; Computer Numerical Control Lathe Operator (CNC Lathe Operator); Computer Numerical Control Machine Operator (CNC Machine Operator); Computer Numerical Control Machinist (CNC Machinist); Computer Numerical Control Mill Operator (CNC Mill Operator); Computer Numerical Control Operator (CNC Operator); Computer Numerical Control Set-Up and Operator (CNC Set-Up and Operator); Machine Operator; Machine Set-Up; Operator; Machinist

### Education and Training

Job Zone Three: Medium Preparation Needed

Education: Most of these occupations require training in vocational schools, related on-the-job experience, or an associate's degree.

Related Experience: Previous work-related skill, knowledge, or experience is required for these occupations.

Job Training: Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

**Core Certification:** Machining Level I – CNC Milling: Programming Setup and Operations

Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions.

### Primary Skills

- **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.
- **Complex Problem Solving** — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

#### Sample of reported job titles:

##### Electrical Engineering Technicians

Electrical Engineering Technician, Electrical Technician; Engineering Assistant; Engineering Technician; Generation Technician; Instrument and Controls Technician; Relay Tester; Results Technician; Test Specialist; Test Technician

#### Sample of reported job titles:

##### Electronics Engineering Technicians

Digital Technician; Electrical Technician; Electronics Engineering Technician; Electronics Technician; Engineering Technician; Failure Analysis Technician; Refurbish Technician; Senior Electronics Technician; Technician; Test Technician

- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Monitoring** — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

### Education and Training

Job Zone Three: Medium Preparation Needed

Education: Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Related Experience: Previous work-related skill, knowledge, or experience is required for these occupations

Job Training: Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** *Electronics Engineering Technician* - Radio Frequency Interference Mitigation; Termination and Testing Technician; Industrial Electronics; Certified Satellite Installer – C and KU Band; Associate Electronics Technician-Comprehensive; General Communications Technician Level 2; Certified Satellite Installer-Commercial; Associate Electronics Technician-Alternating Current; Mobile Communications and Electronics Installer; Certified Satellite Installer-S-MATV; Certified Satellite Installer-Antenna; Associate Electronic Technician-Digital; Wireless Communications; Certified Engineering Technician-Audio Systems; Associate Electronics Technician- Direct Current; Certified Electronic Systems Technician; Associate Electronics Technician-Analog *Electrical Engineering Technician* - Electrical Generator Systems Technician Certification; commercial Electrical Inspector; Certified Portable Power Distribution Technician; PMMI Mechatronics: Programmable Logic Controllers 1

*Assemble or modify electrical or electronic equipment, such as computers, test equipment telemetering systems, electric motors, and batteries.*

### Primary Skills

- **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.
- **Judgment and Decision Making** — Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- **Monitoring** — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Operation Monitoring** — Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

#### Sample of reported job titles:

Assembler; Assembly Worker; Electrical Assembler; Electronic Assembler, Group Leader; Electronics Assembler; Factory assembler; Factor Worker; Manufacturing assembler; Production Worker; Transformer Assembler

### Education and Training

Job Zone Two: Some Preparation Needed

Education: These occupations usually require a high school diploma.

Related Experience: Some previous work-related skill, knowledge, or experience is usually needed.

Job Training: Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** IPC J-STD-001 Requirements for Soldered Electrical and Electronic Assemblies; PIC-A-600 Acceptability of Printed Circuit Boards; IPC/WHMA-A-620 Certification; CP Tester; Associate Electronics Technician

*Design, integrate, or improve manufacturing systems or related processes. May work with commercial or industrial designers to refine product designs to increase productivity and decrease costs.*

### Primary Skills

- **Complex Problem Solving** — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- **Mathematics** — Using mathematics to solve problems.
- **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.
- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Judgment and Decision Making** — Considering the relative costs and benefits of potential actions to choose the most appropriate one.

#### Sample of reported job titles:

Advanced Manufacturing Engineer;  
Advanced Manufacturing Vice president;  
Facility Engineer; Manufacturing Director;  
Manufacturing Engineer; Manufacturing  
Engineering Director; Manufacturing  
Engineering Manager; Plant Engineer;  
Process Engineer; Process Improvement  
Engineer

### Education and Training

- Job Zone Four: Considerable Preparation Needed
- Education: Most of these occupations require a four-year bachelor's degree, but some do not.
- Related Experience: A considerable amount of work-related skill, knowledge, or experience is needed for these occupations
- Job Training: Employees in these occupations usually need several years of work-related experience, on-the-job training and/or vocational training.

**Core Certifications:** Certified Manufacturing Engineer; Certified Six Sigma Greenbelt; Certified Six Sigma Yellow Belt

*Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.*

### Primary Skills

- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Speaking** — Talking to others to convey information effectively.
- **Coordination** — Adjusting actions in relation to others' actions.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Management of Personnel Resources** — Motivating, developing, and directing people as they work, identifying the best people for the job.

#### Sample of reported job titles:

Assembly Supervisor; Department Manager; Manufacturing Supervisor; Molding Supervisor; Production Manager; Production Supervisor; Quality Assurance Supervisor (QA Supervisor); Shift Supervisor; Supervisor; Team Leader

### Education and Training

Job Zone Two: Some Preparation Needed

Education: These occupations usually require a high school diploma.

Related Experience: Some previous work-related skill, knowledge, or experience is usually needed.

Job Training: Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** Certified Welding Inspector; Certified Associate Welding; IPC J-STD-001 Requirements for Soldered Electrical and Electronic Assemblies; Machining Level I – CNC Milling: Programming Setup and Operations



*Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.*

### Primary Skills

- **Quality Control Analysis** — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Monitoring** — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.

#### Sample of reported job titles:

Inspector; Picker/Packer; Quality Assurance Auditor; Quality Assurance Inspector; Quality Assurance Technician; Quality Auditor; Quality Control Inspector; Quality Control Technician; Quality Inspector; Quality Technician

### Education and Training

Job Zone Two: Some Preparation Needed

Education: These occupations usually require a high school diploma.

Related Experience: Some previous work-related skill, knowledge, or experience is usually needed.

Job Training: Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** Certified Welding Inspector; IPC J-STD-001 Requirements for Soldered Electrical and Electronic Assemblies; CIP Level I; Pressure Vessels Inspector Certification; Coatings Inspector Program Level 3-Peer Review; Commercial Mechanical Inspector; Piping Inspector Certification; Certified Composites Technicians; Certified Concrete Slab Moisture Testing Technician; Coatings Inspector Program Level 3; Certified Weighing Technicians; ETT Certified Assistant Technician Level II; Certified Radiographic Interpreter; Certified Weighing Salespersons; API QUTE-Qualification of Ultrasonic Testing Examiners (Detection); CIP Level 2

*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.*

**Primary Skills**

- **Operation Monitoring** — Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Operation and Control** — Controlling operations of equipment or systems.
- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Coordination** — Adjusting actions in relation to others' actions.

**Sample of reported job titles:**

Gear Machinist; Journeyman Machinist; Machine Operator; Machine Repair Person; Machinist; Maintenance Machinist; Maintenance Specialist; Production Machinist; Set-Up Machinist; Tool Room Machinist

**Education and Training**

Job Zone Three: Medium Preparation Needed

Education: Most of these occupations require training in vocational schools, related on-the-job experience, or an associate's degree.

Related Experience: Previous work-related skill, knowledge, or experience is required for these occupations.

Job Training: Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** Machining Level I – CNC Turning: Operations; Metalforming Level I Certified Metalworking Fluids Specialist; Machining Level I – CNC Milling: Operations; Machining Level I - Drill Press I; Machining Level I – Turning I (Chucking Skills); Machining Level I – Milling; Machining Level I – Manual Turning Between Centers; Machining Level I – Job Planning, Benchwork, and Layout; Machining Level I – Grinding I; Machining Level I – Measurement, Materials, and Safety Job; Machining Level I – CNC Milling: Programming Setup and Operations

*Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.*

**Primary Skills**

- **Equipment Maintenance** — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- **Repairing** — Repairing machines or systems using the needed tools.
- **Troubleshooting** — Determining causes of operating errors and deciding what to do about it.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Equipment Selection** — Determining the kind of tools and equipment needed to do a job.

**Sample of reported job titles:**

Building Maintenance Mechanic; Building Mechanic; Equipment Engineering Technician; Facilities Manager; maintenance Engineer; Maintenance Man; Maintenance Mechanic; Maintenance Supervisor; Maintenance Technician; Maintenance Worker

**Education and Training**

Job Zone Three: Medium Preparation Needed

Education: Most of these occupations require training in vocational schools, related on-the-job experience, or an associate’s degree.

Related Experience: Previous work-related skill, knowledge, or experience is required for these occupations.

Job Training: Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** Certified Maintenance Employee; Certified Maintenance and Reliability Technician; Certified Apartment Maintenance Technician; Certified Building Operator

*Help production workers by performing duties requiring less skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment.*

**Primary Abilities\***

- **Near Vision** — The ability to see details at close range (within a few feet of the observer).
- **Control Precision** — The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.
- **Manual Dexterity** — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- **Static Strength** — The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- **Trunk Strength** — The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.

**Sample of reported job titles:**

Assistant Operator; Helper; Laborer;  
Machine Operator; Material Handler;  
Press Helper; Production Worker; Service  
Person; Support Team Member; Utility  
Worker

**Education and Training**

Job Zone Two: Some Preparation Needed

Education: These occupations usually require a high school diploma.

Related Experience: Some previous work-related skill, knowledge, or experience is usually needed.

Job Training: Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** N/A for this position.

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\* No skills met the minimum score for SOC; therefore, the “primary abilities” are listed.

**SALES REPRESENTATIVES, WHOLESALE & MANUFACTURING, TECHNICAL & SCIENTIFIC PRODUCTS ATTACHMENT 2**  
**SOC 41-4011**

*Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education.*

**Primary Skills**

- **Persuasion** — Persuading others to change their minds or behavior.
- **Speaking** — Talking to others to convey information effectively.
- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Negotiation** — Bringing others together and trying to reconcile differences.
- **Social Perceptiveness** — Being aware of others' reactions and understanding why they react as they do.
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**Sample of reported job titles:**

Account Development Manager; Account Executive; Account Manager; Channel Sales Director; Distribution Sales Manager; inside Sales Representative; Marketing Representative; Sales Director; Sales Manager; Sales Representative

**Education and Training**

- Job Zone Four: Considerable Preparation Needed
- Education: Most of these occupations require a four-year bachelor's degree, but some do not.
- Related Experience: A considerable amount of work-related skill, knowledge, or experience is needed for these occupations
- Job Training: Employees in these occupations usually need several years of work-related experience, on-the-job training and/or vocational training.

**Core Certifications:** Certified Security Salesperson; Certified Welding Sales Representative; PV Technical Sales Certification; Certified Sales Representative; Professional Certification in Advanced Service and Sales; Certified Customer Service Specialist; Certified Salesperson; Certified Sales Professional; Professional Housing Consultant; Certified Weighing Salespersons; Certified Sales Professional

*Perform any or all of the following functions in the manufacture of electronic semiconductors: load semiconductor material into furnace; saw formed ingots into segments; load individual segment into crystal growing chamber and monitor controls; locate crystal axis in ingot using x-ray equipment and saw ingots into wafers; and clean, polish, and load wafers into series of special purpose furnaces, chemical baths, and equipment used to form circuitry and change conductive properties.*

### Primary Skills

- **Operation Monitoring** — Watching gauges, dials, or other indicators to make sure a machine is working properly.
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.
- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Monitoring** — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

### Sample of reported job titles:

Device Processing Engineer; Diffusion Operator; Engineering Technician; Fabrication Operator; Manufacture Specialist; Manufacturing Technician; Metalorganic Chemical Vapor Deposition Engineer (MOCVD Engineer), Probe Operator; Process Technician; Wafer Fabrication Operator

### Education and Training

Job Zone Two: Some Preparation Needed

Education: These occupations usually require a high school diploma.

Related Experience: Some previous work-related skill, knowledge, or experience is usually needed.

Job Training: Employees in these occupations need anywhere from a few months to one year of working with experienced employees. A recognized apprenticeship program may be associated with these occupations.

Core Certifications: N/A

*Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.*

### Primary Skills

- **Programming** — Writing computer programs for various purposes.
- **Systems Analysis** — Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- **Systems Evaluation** — Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- **Judgment and Decision Making** — Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- **Complex Problem Solving** — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

#### Sample of reported job titles:

Application Developer, Application Integration Engineer, Applications Developer, Computer Consultant, Information Technology Analyst (IT Analyst), Software Architect, Software Developer, Software Development Engineer, Software Engineer, Technical Consultant

### Education and Training

Job Zone Four: Considerable Preparation Needed

Education: Most of these occupations require a four-year bachelor's degree, but some do not.

Related Experience: A considerable amount of work-related skill, knowledge, or experience is needed for these occupations.

Job Training: Employees in these occupations usually need several years of work-related experience, on-the-job training and/or vocational training.

**Core Certifications:** Cloud Technology Associate Certification; Software Engineering Master Certification, Certified Software Analyst, Internet of Things Foundation Certification, Professional Scrum Master Level I, Big Data Foundation Certification, AEM Forms Developer, Certified Biometrics Professional

**WELDERS, CUTTERS, SOLDERERS, AND BRAZERS**  
**SOC 51-4121 (.06 and .07)**

**ATTACHMENT 2**

*Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products. Includes two primary categories: “welders, cutters, and welder fitters” and “solderers and brazers”.*

**Primary Skills**

- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Operation and Control** — Controlling operations of equipment or systems.

**Sample of reported job titles:**

**Welders, Cutters, and Welder Fitters**

Aluminum Welder; Fabrication Welder; Fabricator; Fitter/Welder; Maintenance Welder; Mig Welder; Sub Arc Operator; Welder; Welder-fitter; Welder/Fabricator

**Sample of reported job titles:**

**Solderers and Brazers**

Assembly Line Brazer; Brazer; Connector Electronic Technician; Fabricator; Production Technician; refrigeration Brazer/Solderer; Refrigeration Specialist; Solderer Wirer

- **Monitoring** — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Reading Comprehension** — Understanding written sentences and paragraphs in work related documents.
- **Quality Control Analysis** — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

**Education and Training**

Job Zone Three: Medium Preparation Needed

Education: Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Related Experience: Previous work-related skill, knowledge, or experience is required for these occupations

Job Training: Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

**Core Certifications:** *Welders, Cutters, and Welder Fitters* – Certified Associate Welding Inspector; Certified Welder; Certified Radiographic Interpreter