

## **JOB DESCRIPTION**

Welders use hand-held or remotely-controlled equipment to join, repair, or cut metal products. They:

- Read and interpret blueprints, sketches, and specifications
- Calculate/measure the dimensions of parts to be welded
- Inspect structures or materials to be welded, looking for defects
- Weld materials according to blueprint specifications
- Monitor the welding process and adjust heat as needed
- Maintain equipment and machinery
- Operate safety equipment and demonstrate safe work habits

## **WELDING TYPES**

- Shielded Metal Arc Welding (SMAW), also known as Stick Welding
- Flux Cored Arc Welding (FCAW)
- Gas Metal Arc Welding (GMAW), also known as MIG/MAG Welding
- Gas Tungsten Arc Welding (GTAW), also known as Tungsten Inert Gas Welding (TIG)

## **PAY**

\$51,000 per year (\$24.52/hour) as of May 2024

## **JOB OUTLOOK**

2% (slower than average) 2023-33, per US Bureau of Labor & Statistics

According to the American Welding Society (AWS):

- 360,000 new welding professionals are projected to be needed by 2027.
- 90,000 average welding jobs to be filled annually between 2023–2027.

## **EDUCATION/TRAINING**

There are no state requirements for welders to work in Ohio, but the completion of accredited welding training can give welders an advantage in the hiring process. Organizations generally prefer welders who are certified by the American Welding Society (AWS) or a program that meets AWS welding training guidelines.

## **IMPORTANT SKILLS**

- Manual dexterity
- Detail oriented
- Physical strength and stamina
- Spatial-orientation skills
- Communication skills
- Strong work ethic
- Ability to read blueprints
- Mathematical skills

## **CERTIFICATE & DEGREE PROGRAMS**

### **ASHTABULA COUNTY TECHNICAL & CAREER CAMPUS** (Jefferson)

**Industrial Welding Certification course**—a 300-hour (approx. 6-month) program with training in Stick, MIG, and TIG processes. Students learn Oxyacetylene Cutting, Blueprint Reading, and Basic Math.

[www.atech.edu/IndustrialWelding.aspx](http://www.atech.edu/IndustrialWelding.aspx)

### **AUBURN CAREER CENTER** (Concord Twp.)

**Welding Program**—The program is designed to teach welding fundamentals including Stick, MIG and TIG welding, and advanced welding topics.

[www.auburncc.org/Welding1.aspx](http://www.auburncc.org/Welding1.aspx)

### **CLEVELAND STATE UNIVERSITY** (Cleveland)

**Online Welding Technician Certification course**—a 4-6 months program to prepare for entry-level welding.

[csuohio.edu2.com/product/5091/welding-technician](http://csuohio.edu2.com/product/5091/welding-technician)

### **CUYAHOGA COMMUNITY COLLEGE** (Cleveland)

**Introductory Welding Short-Term Certificate**—basic training of the fundamental skills of Stick, MIG, TIG and Oxy-fuel welding technologies.

**Industrial Welding Certificate of Proficiency**—a one-year program providing basic training on the fundamental skills of Stick, MIG, TIG, and Oxy-fuel welding. Students can earn multiple certificates.

**Industrial Welding Associate of Applied Science (AAS)**—Covers a wider range of comprehensive welding techniques, materials and industry regulations.

[www.tri-c.edu/workforce/industrial-welding/index.html](http://www.tri-c.edu/workforce/industrial-welding/index.html)

## CERTIFICATE & DEGREE PROGRAMS *(continued)*

### **FORTIS COLLEGE** *(Cuyahoga Falls)*

**Welding Technology Training Program**—designed to train students in the skills needed for entry into the welding field as industrial welders, welding apprentices, or check welders.

[www.fortis.edu/programs/skilled-trades.html](http://www.fortis.edu/programs/skilled-trades.html)

### **LAKELAND COMMUNITY COLLEGE** *(Kirtland)*

**Welding Certificates** can be earned in as little as one semester. Available certificates: GMAW (MIG/MAG) Welding, GTAW (TIG) Welding, Oxyfuel Gas Welding and Cutting, Pipe Welding, or Stick Welding.

**Associate of Applied Science (AAS) Degree in Welding and Fabrication Technology:** Certificates can be stacked to earn this degree.

[www.lakelandcc.edu/web/about/industrial-welding-departments](http://www.lakelandcc.edu/web/about/industrial-welding-departments)

### **Associate of Technical Studies in Welding & Fabrication Technology, Lincoln Electric Partnership:**

Allows students to take welding classes at both Lakeland and Lincoln Electric, and then complete the other classes required for the associate degree online. *There is a second option to earn the ATS degree by taking all coursework at Lakeland.*

[www.lakelandcc.edu/web/about/welding-partnership-cim](http://www.lakelandcc.edu/web/about/welding-partnership-cim)

### **LINCOLN ELECTRIC WELDING SCHOOL** *(Euclid)*

**Welding Technology Training Programs**—Offers a variety of classes to include certification or customized and comprehensive programs.

[www.lincolnelectric.com/en/education](http://www.lincolnelectric.com/en/education)

### **MAPLEWOOD CAREER CENTER** *(Ravenna)*

#### **Modular Welding and Welding Technologies**

- Welding Technologies (36-weeks, 612 clock hours)
- Modular Welding (9 weeks, 153 clock hours)

[www.mwood.cc/workforce-development/programs/trade-industry/](http://www.mwood.cc/workforce-development/programs/trade-industry/)

### **LORAIN COMMUNITY COLLEGE** *(Elyria)*

- **Certificates of completion** in (1) Welding Technology and AWS-3F Certification Preparation and (2) Gas Metal Arc Welding
- **Short-term certificates** in Welding Technology, Basic Welding, Welding Visual Inspection, and Advanced Welding
- **Welding Operator One-Year Certificate**
- **Associate of Applied Science in Welding Technology**

[www.lorainccc.edu/engineering/welding/](http://www.lorainccc.edu/engineering/welding/)

### **OHIO TECHNICAL COLLEGE** *(Cleveland)*

**Associate of Applied Science in Welding Fabrication Technology** (48 weeks, 1420 clock hours)

[www.ohiotech.edu/programs/welding-fabrication-technology/](http://www.ohiotech.edu/programs/welding-fabrication-technology/)

### **POLARIS CAREER INSTITUTE** *(Middleburg Hts.)*

**Welding Program**—A 35-week (600-hour) program covering welding safety/machine operator safety; blueprint fundamentals; oxyfuel cutting and welding; plasma cutting, base metal preparations; weld quality/visual inspection; basic SMAW, TIG, MIG, and FCAW welding; introduction to pipe welding; and virtual reality welding.

[www.polaris.edu/o/pcc/page/welding](http://www.polaris.edu/o/pcc/page/welding)

### **THE OHIO STATE UNIVERSITY** *(Columbus, OH)*

**Bachelor of Science in Welding Engineering**—a 4-year degree program focused on the metallurgy and science of the welding process and all of the activities related to the design, production, performance, and maintenance of welded products.

[mse.osu.edu/undergraduate/major-welding-engineering](http://mse.osu.edu/undergraduate/major-welding-engineering)

## ADDITIONAL RESOURCES

**American Welding Society:** [www.aws.org/home](http://www.aws.org/home)

**Ohio TechNet Welding Career Pathways** with salary levels and educational requirements

[otn.skillscommons.org/welding/](http://otn.skillscommons.org/welding/)

[otn.skillscommons.org/wp-content/uploads/2022/10/career\\_pathways\\_welding.pdf](http://otn.skillscommons.org/wp-content/uploads/2022/10/career_pathways_welding.pdf)