

CAREER PROFILE

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

There are different types of welding:

- 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

\$48,940 per year (\$23.53/hour) as of May 2023

JOB OUTLOOK

1% (little or no change) 2022-32, 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

AUBURN CAREER CENTER

Concord Twp.

Welding Program—A 600-hour program designed to teach welding fundamentals including Stick, MIG and TIG welding, and advanced welding topics.

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

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 and introduces additional industry technologies: programming of welding robots, fabrication, nondestructive testing techniques, metallurgy, and workplace safety Tri-C.

www.tri-c.edu/workforce/industrial-welding/index.html

CERTIFICATE & DEGREE PROGRAMS *(continued)*

FORTIS COLLEGE

Satellite Campus in Akron

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

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

Associate of Technical Studies in Welding and 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

LINCOLN ELECTRIC WELDING SCHOOL

Euclid

Welding Technology Training Programs—Offers a variety of classes, from 3 to 5 days to certification or customized programs and advanced programs.

www.lincolnelectric.com/en/education

MAPLEWOOD CAREER CENTER

Ravenna

Modular Welding and Welding Technologies

- Welding Technologies (36-weeks)
- Modular Welding (9 instructional weeks)

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/

OHIO TECHNICAL COLLEGE

Cleveland

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

www.ohiotech.edu/programs/welding-fabrication-technology/

POLARIS CAREER INSTITUTE

Middleburg Heights

Welding Program—A 36-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

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

ADDITIONAL RESOURCES

American Welding Society: www.aws.org/home

Ohio Tech Net Welding Career Pathways *with salary levels and educational requirements*

otn.skillscommons.org/welding/

otn.skillscommons.org/wp-content/uploads/2022/10/career_pathways_welding.pdf

Women in Sustainable Employment (WISE) program: *FREE, open education resource that provides career exploration courses for women considering a career in manufacturing or other skilled industry.*

ohiotech.net.org/manufacturing-careers/wise-pathways/