



Career Pathways: Welding



About Welding

A career in welding involves joining metal parts using various welding techniques such as MIG, TIG, and stick welding, and is essential in industries like construction, manufacturing, and aerospace. Welders read blueprints, prepare materials, perform precise welds, inspect their work for quality, and maintain their equipment while adhering to safety protocols. The field offers diverse job roles, from welders and fabricators to welding inspectors and engineers. Education typically includes a high school diploma, technical school or community college training, apprenticeships, and industry certifications like those from the American Welding Society (AWS). With steady demand, opportunities for specialization, and the potential for advancement, welding is a rewarding career for those with technical skills and attention to detail.



Key Tasks

- Measure, cut, and shape metal pieces to the required dimensions using tools like saws, torches, and shears
- Use various welding techniques (e.g., MIG, TIG, stick welding) to join metal parts together, ensuring precision and adherence to specifications
- Examine welds for defects such as cracks, porosity, and incomplete fusion using visual inspection and testing methods like X-rays and ultrasonic tests
- Clean and polish welded surfaces using grinders, wire brushes, and chemical solutions to remove slag, spatter, and other imperfections
- Follow safety protocols and wearing appropriate personal protective equipment (PPE) such as welding helmets, gloves, and protective clothing



Key Skills

- Able to perform various welding processes, such as MIG (Metal Inert Gas), TIG (Tungsten Inert Gas), stick welding, and flux-cored arc welding.
- Steady hand-eye coordination to perform precise and accurate welds.
- Able to perform physically demanding tasks, such as lifting heavy materials, working in various positions, and enduring long hours in challenging environments.
- Identify and resolve issues that arise during the welding process, such as defects or equipment malfunctions.



Education & Certifications

- **High school diploma or GED**
- **Career and Technical Education:** Many aspiring welders attend career and technical schools to gain foundational knowledge and hands-on experience in welding. These programs often lead to a diploma or certificate in welding technology. Key areas of study typically include different welding techniques (such as MIG, TIG, and arc welding), safety practices, metallurgy, and blueprint reading.
- **Associate degree:** An associate degree in welding technology provides a more comprehensive education compared to certificate programs and vocational training. It typically includes both technical skills and broader knowledge relevant to the welding industry.
- **Apprenticeship:** Many welders gain experience through apprenticeships or on-the-job training, where they work under the supervision of experienced welders to develop their skills and gain practical experience.
- **Certified Welder:** Offered by the American Welding Society (AWS), this certification demonstrates a welder's proficiency in specific welding processes. Certification involves passing practical tests that assess skills in various welding positions and materials.



Industry Sector Employers

- Alleima
- General Dynamics Land Systems
- Hendrick Manufacturing
- National Cart Company
- Pleasant Mount Welding, Inc.



Local College/University Programs

- Johnson College
- Luzerne County Community College
- Career Technology Center of Lackawanna County
- Pennsylvania College of Technology



Learn more about Welding and other career pathways at [ScrantonChamber.com](https://www.scrantonchamber.com)

**List above shows a sampling of sector employers and college/university programs which is not limited to the list above.*

Sources:
<https://www.onetonline.org/>

