



PATHWAY DESCRIPTION

YEAR 1

Principles of Welding Technology helps future welders, technicians, designers, researchers, and engineers develop a variety of skills in oxy-fuel cutting and basic welding. Emphasis is placed on safety at all times, following OSHA standards and guidelines endorsed by the American Welding Society (AWS). Through project-based learning, students prepare for postsecondary and career success in welding by exploring the properties of metals, safety issues, blueprint reading, electrical principles, welding symbols, and mechanical drawing.



7110 Principles of Welding

- IDOE Course 7110, 2 Semesters
- Dual Credit: Welding 100

YEAR 2

In **Shielded Metal Arc Welding**, students will:

- Learn about all aspects of equipment operation and maintenance, including basic electricity, power sources, and electrode selection
- Perform laboratory welds in basic weld joints with a variety of electrodes in the flat, horizontal and vertical positions
- Develop the basic skills necessary to comply with AWS industry standards



7111 Shielded Metal Arc

- IDOE Course 7111, 2 Semesters
- Dual Credit: Welding 108 and 206
- Qualification Test: AWS: Shielded Metal Arc Welding

YEAR 3

Gas Welding Processes covers the operation of Gas Metal Arc Welding (MIG) equipment. Students will:

- Learn all settings, adjustments and maintenance needed to weld with a wire feed system
- Receive instruction on both short-arc and spray-arc transfer methods
- Weld tee, lap, and open groove joints in all positions with solid, flux core, and aluminum wire
- Make test plates for progress evaluation



7101 Gas Welding Processes

- IDOE Course 7101, 2 Semesters
- Dual Credit: Welding 207 and 272
- Qualification Test: AWS MIG

Students MUST complete all pathway classes with a 73% or better



CAREER OPTIONS

- Aerospace Welder
- Boilermaker
- Manufacturing Welder
- NASCAR/Automotive racing
- Nuclear Welder
- Pipe Welder
- Robotics Welder
- TIG Welder
- Underwater Welder
- Welder/Fitter
- Welding Engineer
- Welding Inspector
- Welding Instructor