

Welding

Read blueprints, fabricate, and weld to industry and AWS code standards. Students gain valuable experience in a welding environment. Students are prepared to earn their AWS (American Welding Society) D1.1 certification.

blueprint reading | oxy-acetylene | shielded metal arc welding | gas metal arc welding | gas tungsten arc welding | flux-cord arc welding | metal fabrication



Suggested Abilities

- 8th grade English reading, writing, speaking, and listening
- Understand basic algebra
- Lift 30 pounds
- Sustained activity for 5 hours at a time

Prerequisites

- *High School Students: Meet with counselor for eligibility requirements*

Class Hours

- Morning: 7:50am - 10:40am, Mon. - Fri.
- Afternoon: 12:05pm - 2:55pm, Mon. - Fri.
- Evening: 5:30pm - 9:30pm, Mon. - Thu.

SEMESTER 1

WEL 1000 Safety for Welders

1 credit

Covers the hazards of welding on health and safety, locating essential safety information from a code or other standard, and identifying and applying shop safety procedures.

WEL 1001 Allied Cutting Processes

4 credits

Setup and execution of cutting and gouging using oxyacetylene, air carbon arc, exothermic, and plasma arc processes, plus an introduction to blueprint reading.

WEL 1006 Blueprint Reading for Welders and Fitters

4 credits

Interpreting weld symbols on blueprints, identifying proper layout methods and tools, and proper joint design necessary for various welding processes.

WEL 1021 Structural Welding I

3 credits

Oxy-acetylene processes with emphasis toward AWS welder qualification with mild steel electrode E-7018 welding in horizontal and vertical position.

WEL 2001 Gas Metal Arc Welding I

4 credits

Safety inspections, minor repairs, operating parameters, operation of GMAW equipment on plain carbon steel utilizing short circuit and spray transfer, and fundamental metallurgy principles.

SEMESTER 2

WEL 1022 Structural Welding II

3 credits

Continues WEL 1021 with final emphasis toward AWS welder qualification with mild steel electrode E-7018 AWS Certification in the 3G and 4G position.

WEL 1024 Introduction to Gas Tungsten Arc Welding

4 credits

GTAW (TIG) welding on carbon steel, stainless steel, and aluminum across positions and joints. Requires basic metallurgy, structural joint knowledge, and welding safety familiarity.

WEL 2003 Flux Cored Arc Welding I

4 credits

Safety inspections, minor repairs, operating parameters, operation of FCAW equipment utilizing self shielded wire, and principles of joint design, preparation, and material selection.

WEL 2004 Flux Cored Arc Welding II

4 credits

Safety inspections, minor repairs, FCAW gas-shielded welding operation, welding fundamentals, fabrication and inspection practices, and basic welding cost estimating.

WEL 2050 Layout and Fabrication

4 credits

Develops welding and associated skills in the use of drawings and blueprints in planning. Includes designing and layout projects.

Welding Certificate

1 Year

35 Credit Hours



Information Revised DEC '25. Information subject to change. Course listings have been paraphrased on this flyer, for full course info please see Pickens Catalog. This certificate is eligible for Financial Aid. If you have further questions, please call (303)344-4910.