WELDING

ABOUT THIS AREA OF STUDY

A degree in Welding Technology prepares students for entry-level employment and/or potential further study in the fields of welding and fabrication. Students completing a degree in this area will have a foundation for the fields of welding and fabrication through the study of metal transfer and the use of different shielding gases and will acquire skills in metallurgy, blueprint design and creation, multi-position metal transfer, well-joint design and application, and basic material science.

WHAT YOU WILL LEARN

Adjust, operate and troubleshoot shielded metal arc welding, gas welding, gas tungsten arc welding, oxyfuel welding and cutting apparatuses to industry standards. Choose the correct joint prep process for the weld metal joints and complete that joint prep to industry standards. Perform groove, lap, fillet and seam welds using SMAW, GTAW and OFW apparatuses to industry standards. Produce simple effective orthographic drawings used for cutting, fit-up and welding of metal weldments. These drawings shall include the use of the American Welding Society welding symbols.

WHERE DO YOU SEE YOURSELF?

Metal fabrication ● Oil field welding ● Pipeline welding ● Agriculture fabrication/metal agriculture implementation and repair ● Stainless steel fabrication ● Welding maintenance in food processing facilities

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BECOME A COS GIANT!

Apply at www.cos.edu/admissions today!
DEGREES & CERTIFICATES OFFERED

Associate of Science in Welding (Not for Transfer) – 60 units
Certificate of Achievement in Welding Technology – 27 units

SOME CLASSES YOU MIGHT TAKE

**WELD 104 Metal Sculpture**

This course in metal sculpture is designed to develop awareness, knowledge, and skills regarding historical and contemporary three dimensional design concepts on a beginning level. The emphasis is on personal expression through a variety of metals and a wide range of possible applications.

**WELD 107 Forging and Wrought Iron**

WELD 107 offers the student both theory and concepts, in addition to the application of artistic metal working. Both the practical and the abstract notions of working hot metal and forging as they are applied to iron sculptures will be covered.

**WELD 161 Oxyacetylene Welding**

Introduction to the concepts and interpretation of principles of oxyacetylene welding, braze welding, brazing soldering, flame spraying and flame cutting of common ferrous and non-ferrous sheet, plate and pipe. Properties of ferrous materials and principles of destructive testing of welded materials complete the program.

**WELD 172 Gas Tungsten Arc Welding**

Introduction to the theory and concepts as applied to gas tungsten arc welding. Introduction to modern shielding gas technology, non-ferrous filler metals. Students will learn the theory of ferrous metallurgy and its application to destructive testing of welded materials.

**WELD 265 Welding Upgrade**

An open entry, open exit course in specific metal joining processes. Various fusion processes will be demonstrated and can be practiced for proficient skill level by students.

**WELD 273 Stainless Steel Weld/Repair**

This course is designed to give welding students training in the practice, theory, and skill of welding stainless steel. Both repair and fabrication, as well as concepts to sanitary tube welding and fabrication, will be covered.

**WELD 274 Aluminum Welding**

The course is designed to give advanced welding students training in the practice, theory and skill in the welding of aluminum, both repair and fabrication, as well as application to all structural shapes and levels of alloys.

**WELD 276 Metal Fabrication**

This course is designed for the students to develop the concepts and apply the theories of the skills of a welder fabricator. This is a project based course that will introduce students to the abstraction of design, layout, pricing and construction of metal projects.

REQUIREMENTS

Please see our online catalog for specific requirements in this area: [www.cos.edu/catalog](http://www.cos.edu/catalog)

Visit our website at [www.cos.edu/IndTech](http://www.cos.edu/IndTech)