

WELDING TECHNOLOGY

Overview

Program Description

The Welding Technology Program at Mt. San Jacinto College (MSJC) is designed to provide students with the technical expertise and hands-on skills needed for a successful career in the welding industry. This comprehensive program prepares students for employment in structural fabrication, manufacturing, construction, and industrial welding applications. With a strong emphasis on safety, precision, and industry standards, students will develop proficiency in multiple welding processes, including Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux-Cored Arc Welding (FCAW), and Gas Tungsten Arc Welding (GTAW).

Through classroom instruction and hands-on training in state-of-the-art welding labs, students will master essential techniques such as metal cutting, blueprint reading, welding metallurgy, and fabrication. The curriculum fosters cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains, ensuring students are prepared for the technical challenges and problem-solving demands of real-world welding environments.

Students will also gain practical experience through industry partnerships and work-based learning opportunities, providing exposure to professional settings and potential career pathways. Whether pursuing a career as a welder, fabricator, or welding inspector, MSJC's Welding Technology Program provides a solid foundation for lifelong success in this essential and dynamic industry.

Upon successful completion of the program, students will earn a Certificate in Welding, along with industry-recognized NCCER Welding Level I and Level II credentials, equipping them with the skills needed for immediate employment in the field.

Transfer Preparation

Transfer students are advised to do research on prospective majors and careers. The MSJC Transfer Center and MSJC catalog can be helpful tools. Students interested in transferring to CSU's or UC's can access major preparation by visiting ASSIST (<http://www.assist.org>). All students are advised to meet with a counselor at least once a semester to create or update their comprehensive education plan.

Contact Information

San Jacinto Campus
(951) 487-MSJC (6752)
1-800-624-3255

Menifee Valley Campus
(951) 672-MSJC (6752)
1-800-452-5255

Degrees/Certificates

Certificates

- Welding Technology Certificate (<https://catalog.msjc.edu/instructional-programs/welding-technology/welding-technology-certificate/>)

Program Learning Outcomes

- Demonstrate an understanding of welding safety practices and procedures as outlined by AWS and NCCER. Identify and explain the different welding processes, their applications, and the materials they are suitable for.
- Interpret welding symbols and technical drawings to determine welding requirements. Explain the principles and techniques of heat control and its impact on welding quality.
- Set up and operate welding equipment for various processes, such as shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and flux-cored arc welding (FCAW). Apply proper welding techniques to join different types of metal using specified welding processes.
- Analyze welding defects and determine their causes, such as improper heat control or electrode selection. Inspect and evaluate welds for compliance with AWS and NCCER quality standards.
- Plan and execute welding procedures for complex projects, considering factors such as joint design, material selection, and welding process optimization. Fabricate welded structures or components based on blueprints, specifications, and welding codes.
- Assess the quality of welds using non-destructive testing methods, such as visual inspection, radiography, or ultrasonic testing. Evaluate welding procedures and make recommendations for process improvements or optimization.
- Demonstrate professionalism and ethical behavior in the workplace, adhering to industry standards and codes of conduct. Communicate effectively with team members, supervisors, and clients regarding welding projects, progress, and challenges.
- Implement proper safety protocols and procedures to mitigate hazards associated with welding, including personal protective equipment (PPE) usage and fire prevention measures. Evaluate work environments for potential safety risks and implement corrective actions.

Careers and Salaries

Career/Industries	CA Annual Median Salary or Range	Employment Demand or Opening CA
Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	\$45,789	255
Welders, Cutters, Solderers, and Brazers	\$54,504	3,337