



Welding and Fabrication Technology



This comprehensive program will give students a solid foundation and background in basic and advanced principles, theory, practices, and application of welding. The course will enable students to develop the manipulative skills necessary to become entry-level combination welders, fitters, general fabricators, job shop, and steel construction workers. In addition, the advanced training portion of the program will provide students with the information, knowledge, and skills needed to achieve certifications through several recognized professional organizations. Supplementing the technology and skill development needed for successful welding will be the study of practical mathematics problems for welders, blueprint reading for welders including the interpretation of welding symbols required to interpret working sketches, drawings, and blueprints common to the welding and metal-working fields.

Course	Course Title	Clock Hours	Weeks	Quarter Credit Hours
MWT-101	Introduction to Welding	150	6	9.00
MWT-102	Basic FCAW and GMAW	150	6	8.00
MWT-103	Basic GTAW	150	6	8.50
MWT-104	Intermediate and Advanced Plate	150	6	8.00
MWT-105	Practical Applications	150	6	9.00
MWT-106	Pipe SMAW	150	6	8.50
MWT-107	Pipe GTAW	150	6	8.00
MWT-108	Post-Grad. Preparation and Qualifications	<u>150</u>	<u>6</u>	<u>9.00</u>
		1200	48	68

MWT-101 Introduction to Welding

Students will be introduced to all facets of welding, including history, cutting processes and brazing, carbon arc gouging and safety and equipment usage. SMAW, GMAW, and GTAW as well as positions and types of welding will also be covered.

MWT-102 Basic FCAW and GMAW

Students will learn to weld GTAW (MIG) and FCAW (Flux Core) together in this module. Students will also learn the machine functions and drive wheel mechanisms, as well as the different wires and positions of welding with both processes.

MWT-103 Basic GTAW

Students will learn GTAW (TIG). Through fillet welds, build up and various positions and techniques such as “walking the cup”, lay wire, and dabbing in steel, aluminum and stainless steel gauges.

MWT-104 Intermediate and Advanced Plate

Students will practice the practice the intermediate and advanced stages of welding including heavier plate, open root welding, build up and will begin understanding the weld through dissecting and cutting to view the inside of their welds.

MWT-105 Practical Applications

Students will begin to learn blueprint reading, engineering, and fabrication as applied in architecture and manufacturing. Students will be introduced to certifications, degrees, and various qualifications in the welding industry as well as performing qualified certifications to industry standards.

MWT-106 Pipe SMAW

Students will learn the fundamentals of SMAW (stick) pipe welding as well as pressure vessel, drain pipe and gas pipe. This course also covers set-up and all positions including 1G, 2G, 5G, and 6G pipe welding.



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MWT-107 Pipe GTAW

Students will continue 1G, 2G, 5G, and 6G pipe welding, performing the GTAW (TIG) process and advancing to high pressure pipe welding and its uses industry.

MWT-108 Post-Graduate Preparation and Qualifications

Students will build resumes and prepare for interviews and graduation while completing certifications and qualifications.

Courses applicable to both Diploma or Associate of Applied Science Degree Programs