

ADVANCED MANUFACTURING: WELDING AND FABRICATION



Pathway: Advanced Transportation & Manufacturing
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Award Title	Award Type	GE Units	Required Course Units	Major Elective Units	Major Units
Advanced Manufacturing: Welding & Fabrication	C		30	-	30
(Formerly Welding Gas & Electric: Construction Technologies)					

PROGRAM OVERVIEW

The welding industry continues to be a critical component of manufacturing worldwide. Employment opportunities continue to thrive, and the demand for trained welding technicians in the field continues to increase. The Manufacturing Industrial Technology program trains students to work as professionals in this field using the Gas Metal Arc Welding (MIG), Gas Tungsten Arc Welding (TIG), and/or Flux-Cored Arc Welding (FCAW) processes.

By fulfilling the program requirements, students will have gained the skills necessary for certification thru the American Welding Society (AWS) Certified Welder Program and the Los Angeles Department of Building and Safety Certified Welder Examination using GMAW, GTAW, and FCAW. In addition to those conventional skills, the program will expose students to advanced automated welding techniques such as CNC plasma cutting, robotic welding, and friction stir welding.

PROGRAM LEARNING OUTCOMES (PLOs)

Upon completion of the **Certificate** program, students are able to:

1. Demonstrate safe work habits that reflect concern and care for self, others, and the environment.
2. Produce industry quality weldments on carbon steel plate in various joint and groove configurations using the plasma arc cutting, GMAW, FCAW, GTAW, and SAW processes.
3. Produce industry-quality welds using GTAW on stainless steel and aluminum sheet.
4. Demonstrate the qualifying knowledge and skills in the GMAW, FCAW, GTAW, and SAW processes necessary for acquiring the local and national industry certifications (such as American Welding Society, American Society of Mechanical Engineers, and the American Petroleum Institute) recognized by employers in advanced manufacturing industries.
5. Interpret blueprints and verbal orders, including weld symbols, in order to fabricate using tools of the welding trade.

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Certificate of Achievement Major Units: 30

A Certificate of Achievement in Advanced Manufacturing: Welding & Fabrication may be earned by completing 30 units of Required Courses with a "C" or better in each course.

REQUIRED COURSES

SEMESTER I		UNITS
MIT 221	Semi- Automatic Welding I (GMAW) in Adv Mfg	4.5
MIT 222	Gas Tungsten Arc Welding I Adv Manufacturing	4.5
SEMESTER II		UNITS
MIT 223	Semi-Automatic Welding II (FCAW) In Advanced Mfg	4.5
MIT 224	Gas Tungsten Arc Welding II Adv Manufacturing	4.5
SEMESTER III		UNITS
MIT 225	Gas Tungsten Arc Welding III (PIPE) in Advanced Manufacturing	4.5
MIT 226	Introduction to Robotic Welding and Automation	4.5
MIT 220	Introduction to Robotics	3

USEFUL LATTTC LINKS:

College Catalog: <http://college.lattc.edu/catalog/>
Financial Aid Office: <http://college.lattc.edu/financialaid/>
Counseling Department: <http://college.lattc.edu/counseling/>
General Education Information: <http://college.lattc.edu/catalog>
Advanced Transportation & Manufacturing Pathway:
<http://pathways.lattc.edu/atm>

You can register in these classes by logging on to the Student Information System at <http://college.lattc.edu/student/new-students/register-now/>

For additional information consult a LATTTC college counselor.