

METAL FABRICATION TECHNOLOGY - ASSOCIATE IN SCIENCE

Plan Code: 2984

This program provides students with the technical competencies required to meet the demands of the metal fabrication industries. It will place added emphasis on Computer Numerical Control (CNC) metal fabrication, design, welding, and advanced manufacturing techniques and help prepare the student for acceptance into apprenticeship in one of the metalworking trades. It will also provide the General Education courses that help build the scope of knowledge and self-confidence that prepare a student for the working environment.

Program Student Learning Outcomes

- Demonstrate the ability to attain the Institutional Student Learning Outcomes (ISLOs).
- Perform a common sheet metal layout and fabrication project.
- Perform common metal fabrication using power machinery to produce a fabrication project.
- Design and fabricate an advanced sheet metal project involving two different pieces of CNC fabrication equipment.

Program Requirements

This degree requires the completion of General Education coursework plus the following:

Code Number	Course Title	Units
REQUIRED COURSES		
MTFAB 50	Introduction to Metalworking	4
MTFAB 55	3D Modeling for Metal Fabrication	2
MTFAB 202	Advanced Metal Layout/Fabrication	4
MTFAB 204	Power Metalworking Machine Operations	4
MTFAB 206	CNC Metal Fabrication Systems	4
MTFAB 260	Blueprint Reading for Metal Fabrication	3
MTFAB 270	Metallurgy	2.5
MTFAB 280	Introduction to Robotic Welding	2.5
MTFAB 421	Metal Fabrication and Layout	1
WELD 50	Introduction to Welding	3.5
Required Subtotal		30.5
Complete one of the following:		19-39
LBCC General Education (Plan A) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-a/)		
CSU GE Breadth (Plan B) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-b/)		
IGETC Pattern (Plan C) (https://lbcc-public.courseleaf.com/academic-requirements/general-education-transfer-degree-certificate-requirements/general-education-plans/plan-c/)		
Electives (as needed to reach 60 degree-applicable units) ²		
Minimum Degree Total		60

¹ Units for the major may be double-counted for LBCC GE, CSU GE, or IGETC; see counselor for limitations.

² Elective units from course(s) numbered 1-599, if needed, to reach 60 degree-applicable units.

METAL FABRICATION TECHNOLOGY - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3982

This program prepare students for an entry-level position as a trainee in metal layout, fabrication, welding and installation. It will place added emphasis on Computer Numerical Control (CNC) metal fabrication, design, welding, and advanced manufacturing techniques and help prepare the student for acceptance into apprenticeship in one of the metalworking trades environment.

Program Student Learning Outcomes

- Perform a common sheet metal layout and fabrication project.
- Perform common metal fabrication using power machinery to produce a fabrication project.
- Design and fabricate an advanced sheet metal project involving two different pieces of CNC fabrication equipment.

Program Requirements

Code Number	Course Title	Units
REQUIRED COURSES		
MTFAB 50	Introduction to Metalworking	4
MTFAB 55	3D Modeling for Metal Fabrication	2
MTFAB 202	Advanced Metal Layout/Fabrication	4
MTFAB 204	Power Metalworking Machine Operations	4
MTFAB 206	CNC Metal Fabrication Systems	4
MTFAB 260	Blueprint Reading for Metal Fabrication	3
MTFAB 270	Metallurgy	2.5
MTFAB 280	Introduction to Robotic Welding	2.5
MTFAB 421	Metal Fabrication and Layout	1
WELD 50	Introduction to Welding	3.5
Total Units		30.5

METAL FABRICATION TECHNOLOGY - CERTIFICATE OF COMPLETION

Plan Code: 6028

This program provides technical training to equip students to meet the demands of the metal fabrication industry and to demonstrate entry-level skills necessary for employment.

Program Student Learning Outcomes

- Perform a common sheet metal layout and fabrication project.

Program Requirements

Code Number	Course Title	Hours
REQUIRED COURSES		
MTFAB 650	Introduction to Metalworking	126
MTFAB 655	3D Modeling for Metal Fabrication	72
Total Hours		198

ROBOTIC WELDING AUTOMATION - CERTIFICATE OF ACHIEVEMENT

Plan Code: 3990

This program provides training to gain the technical and applied skills required to perform advanced programming and operational tasks as per the American Welding Society standards and specifications for robotic welding. The program prepares students for jobs in industry including but not limited to Computer-Controlled Machine Tool Operators for Metal and Plastic and Computer Numerically Controlled Machine Tool Programmers for Metal and Plastic.

Program Student Learning Outcomes

- Demonstrate the ability to program an automated robotic welding system.

Program Requirements

Code Number	Course Title	Units
REQUIRED COURSES		
MTFAB 50	Introduction to Metalworking	4
MTFAB 260	Blueprint Reading for Metal Fabrication	3
MTFAB 270	Metallurgy	2.5
MTFAB 280	Introduction to Robotic Welding	2.5
MTFAB 281	Advanced Robotic Welding	2.5
WELD 50	Introduction to Welding	3.5
Total Units		18