

Manufacturing Career Cluster

The Manufacturing Career Cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and process engineering. This career cluster includes occupations ranging from Welder and Machinist to Industrial Engineering Technician, and Semi-Conductor Processing Technician.

Welding



The Welding program of study focuses on occupational and educational opportunities associated with the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. This program of study addresses how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.

Secondary Courses for High School Credit

Level 1

- Introduction to Welding

Level 2

- Welding I ¹

Level 3

- Welding II

Level 4

- Practicum in Manufacturing – Welding (H)



Postsecondary Opportunities

Associates Degrees

- Welding Technology
- Building/Construction Site Management
- Operations Management and Supervision

Bachelor's Degrees

- Welding Technology
- Construction Management
- Project management
- Building/Construction Site Management

Master's, Doctoral, and Professional Degrees

- Engineering
- Manufacturing Engineering
- Construction Engineering

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Participate and compete in SkillsUSA
- Join the American Welding Society

Work-Based Learning Activities

- Work in a local business or industry apprenticeship
- Job shadow a welder

Industry-Based Certifications

- AWS Certified Welder ¹
- AWS D1.1 Structural Steel ¹
- AWS D9.1 Sheet Metal Welding ¹
- AWS SENSE Level 1: Entry Welder ¹



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Welders, Cutters, Solderers, and Brazers	\$52,500	6,800	23%
First-Line Supervisors of Production and Operating Workers	\$70,400	6,000	17%

Successful completion of the Welding program of study will fulfill requirements of the Business and Industry endorsement. Revised – May 2024

Welding Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Introduction to Welding	13032250 (1 credit)	None	9

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Welding I	13032300 (2 credits)	Introduction to Welding	10

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Welding II	13032400 (2 credits)	Welding I	11

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Practicum in Manufacturing – Welding (H)	13033000 (2 credits)	Welding II	12

FOR ADDITIONAL INFORMATION ON THE MANUFACTURING CAREER CLUSTER,
PLEASE CONTACT YOUR CAMPUS CTE COUNSELOR
<https://tea.texas.gov/cte>

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