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 manufacturing/process engineering.

Welding Statewide Program of Study





The Welding program of study focuses on the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn 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

Introduction to Film Interpretation of Weldments

Level 3

Welding II/Lab

Level 4

- Practicum in Manufacturing
- Career Preparation I

Postsecondary Opportunities

Associates Degrees

- Certified Welder or Welder Inspector
- · Machine Shop Technology/Assistant
- Operations Management and Supervision
- Occupational Safety and Health Technology/Technician

Bachelor's Degrees

- Welding Engineering Technology/Technician
- Biomedical Technology/Technician
- · Operations Management and Supervision
- Environmental Health

Master's, Doctoral, and Professional Degrees

- Welding Engineering Technology/Technician
- Occupational Health and Industrial Hygiene
- Operations Management and Supervision
- · Environmental Health

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities	
 Participate and compete in SkillsUSA 	 Work in a local business or industry 	
 Job shadow a machinist 	apprenticeshipJoin the AmericanWelding Society	

Industry-Based Certifications

- API 1104 Welding Pipelines and Related Facilities
- · AWS Certified Welder
- AWS D1.1 Structural Steel
- AWS D9.1 Sheet Metal Welding
- · AWS SENSE Level 1: Entry Welder
- Industrial Technology Maintenance (ITM) -Maintenance Welding
- NCCER Construction Technology Certification Level I
- NCCER Core
- NCCER Welding Level I
- · Welding Job Ready

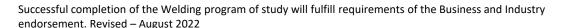
OSHA 30 Hour General*

*IBC sunsetting 8/31/24



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Welders, Cutters, Solderers, and Brazers	\$41,350	6,171	9%
Welding Soldering and Brazing Machine Setters, Operators and Tenders	\$40,040	280	9%





Welding Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Introduction to Welding	13032250 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Introduction to Film Interpretation of Weldments	N1303687 (1 credit)	None	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Welding II/Lab	13032400 (2 credits) 13032410 (3 credits)	Welding I	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Practicum in Manufacturing	13033000 (2 credits) 13033005 (3 credits) 13033010 (2 credits) 13033015 (3 credits)	None	None
Career Preparation I	12701300 (2 credits) 12701305 (3 credits)	None	None

FOR ADDITIONAL INFORMATION ON THE MANUFACTURING CAREER CLUSTER,
PLEASE CONTACT: CTE@tea.texas.gov
https://tea.texas.gov/cte

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Further nondiscrimination information can be found at <u>Notification of Nondiscrimination in Career and Technical</u> Education Programs.