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
- Welding I

Level 3
- Welding II

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
• Participate and compete in SkillsUSA	• Join the American Welding Society

Postsecondary Opportunities

Level I Certificate from SWTJC upon successful completion of program of study

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

Industry-Based Certifications

- AWS Certified Welder
- AWS D1.1 Structural Steel
- AWS D9.1 Sheet Metal Welding
- NCCER Construction Technology Certification Level I
- NCCER Core

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%

Successful completion of the Welding program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022

Texas Education Agency

COURSE INFORMATION

COURSE NAME	COURSE NUMBER AND CREDITS	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Introduction to Welding	8710 (1 credit)	admission criteria in the student handbook	10
Welding I Dual Credit	8711-6 (2 credits)	Introduction to Welding	11
Welding II Dual Credit	8712-6 (2 credits)	Welding I Dual Credit	12

COURSE DESCRIPTIONS

Introduction to Welding:

Introduction to Welding will provide an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Students will be introduced to the three basic welding processes.

Welding I Dual Credit: College Credits: WLDG 1313, 1428, & 1430

Welding I provides the knowledge, skills, and technologies required for employment in metal technology systems. Students will develop knowledge and skills related to this system and apply them to personal career development.

Welding II Dual Credit: College Credits: WLDG 1317, 1353, 1435, & 1457

Welding II builds on the knowledge and skills developed in Welding I. Students will develop advanced welding concepts and skills as related to personal and career development.

Courses in yellow are advanced courses for endorsement purposes.