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

Program of Study: Welding

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

9th Grade	• Introduction to Welding
10th Grade	• Welding 1
11th Grade	• Welding 2
12th Grade	• Practicum in Manufacturing
Optional Electives	• Entrepreneurship • Career Prep 1

Internship and Practicum Opportunities

Students have the opportunity to gain hands-on experience at Keller's Center for Advanced Learning (KCAL).

Career and Technical Student Organization (CTSO)

SkillsUSA

Workforce Development Organization

Career & Technical Student Organizations (CTSOs) are student-led organizations that build leadership, career skills, and real-world experience through competitions, networking, and hands-on learning.

Aligned Industry-Based Certifications

- AWS D1.1- SMAW Tacker Certification
- AWS D1.1 SMAW 1G-4G
- AWS D1.1-FCAW 1G-3G. with backing
- AWS D9.1- Sheet Metal Welding (GMAW, GTAW, and SMAW)

American Welding Society



Example Postsecondary Opportunities

Apprenticeships
- Welding

Associate 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
- Engineering/Industrial Management
- Manufacturing Engineering
- Construction Engineering

Example Aligned Occupations

Welders, Cutters, Solderers, and Brazers
Median Wage: $53,340
Annual Openings: 6,792
10-Year Growth: 23%

First-Line Supervisors of Production and Operating Workers
Median Wage: $70,140
Annual Openings: 5,926
10-Year Growth: 17%

Industrial Production Managers
Median Wage: $130,890
Annual Openings: 1,296
10-Year Growth: 19%

For more information, visit the KISD Course Guide https://tinyurl.com/464uxm25

*Successful completion of the Welding program of study will fulfill requirements of the **Business and Industry endorsement**.*

Welding