



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 Structural Steel Welding Level 1
- SMAW 1G with Backing 1F and 2F
- GMAW 1G, 2G, 3G, 4G Open Root



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: \$48,177
Annual Openings: 6,792
10-Year Growth: 23%

First-Line Supervisors of Production and Operating Workers

Median Wage: \$62,584
Annual Openings: 5,926
10-Year Growth: 17%

Industrial Production Managers

Median Wage: \$119,691
Annual Openings: 1,296
10-Year Growth: 19%

