

# 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 (James Reese) Statewide Program of Study



## Career & Technical Education

The Welding students will learn how to interpret technical sketches and blueprints, modify parts to make or repair machine tools or products, maintain individual machines and structures, and obtain certification in the use of hand-welding or flame-cutting equipment on metal raw or pre-manufactured goods. If you are a creative problem solver, can follow detailed instructions, or are good at organizing people and processes, then Manufacturing may be the right career choice for you.

### Secondary Courses for High School Credit

#### 11<sup>th</sup> Grade

- Introduction to Welding

#### and

- Welding I

#### 12<sup>th</sup> Grade

- Welding II/Lab

### 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

- Participate and compete in SkillsUSA
- Texas high school welding services

#### Work-Based Learning Activities

- Work in a local business or industry apprenticeship
- Join the American Welding Society

### Industry-Based Certifications

- AWS Welding D1.1, D9.1, or API 1104 Certification- 1G (Flat), 2G (Horizontal), 3G (Vertical), and/or 4G (Overhead)



### 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%