



## Welding Technology

Career Cluster	Manufacturing
Course Code	13207
Prerequisite(s)	None
Credit	0.5 or 1.0 credit
Program of Study and Sequence	Cluster Course – Welding Technology – Advanced Welding Technology – Capstone Experience
Student Organization	Skills USA
Coordinating Work-Based Learning	Guest speakers, project-based learning, community outreach, field trips, internships and industry partnerships
Industry Certifications	National Career Readiness Certificate (NCRC), <a href="https://doe.sd.gov/CTE/documents/Industry-0221.pdf">https://doe.sd.gov/CTE/documents/Industry-0221.pdf</a>
Dual Credit or Dual Enrollment	<a href="https://sdmylife.com/images/Approved-CTE-Dual-Credit.pdf">https://sdmylife.com/images/Approved-CTE-Dual-Credit.pdf</a>
Teacher Certification	Welding; Manufacturing Cluster Endorsement; Welding & Precision Machining Pathway Endorsement
Resources	AWS, National Center for Construction Education (NCCER), and Industry

### Course Description

Welding Technology provides students with an understanding of manufacturing processes and systems common to careers in welding and related industries. Welding Technology is based on, but not limited to, American Welding Society (AWS) Guidelines for the Entry Level Welder. Students will be able to perform Shielded Metal Arc Welding and thermal cutting processes.

### Program of Study Application

Welding Technology is the first pathway course in the Manufacturing cluster, welding pathway. It follows a cluster course and is a prerequisite for the Advanced Welding course.

## Course Standards

### WT 1: Implement welding safety practices.

<i>Webb Level</i>	<i>Sub-indicator</i>
Two Skill/Concept	WT 1.1 Identify and demonstrate general safety in accordance with government regulations, health standards, and company and/or school policy.

### WT 2: Integrate core academic concepts as used in the welding industry.

<i>Webb Level</i>	<i>Sub-indicator</i>
Two Skill/Concept	WT 2.1 Apply mathematical concepts to measurement techniques.
One Recall	WT 2.2 Read, comprehend, and communicate welding terms and definitions from American National Standards Institute (ANSI)/American Welding Society (AWS) A3.0, <i>Standard Welding Terms and Definitions</i> .

### WT 3: Interpret drawings and welding symbol information.

<i>Webb Level</i>	<i>Sub-indicator</i>
One Recall	WT 3.1 Identify basic weld symbols and joints.
Two Skill/Concept	WT 3.2 Use appropriate lines in welding drawing.
Three Strategic Thinking	WT 3.3 Read and sketch drawings.

### WT 4: Perform thermal cutting operations.

<i>Webb Level</i>	<i>Sub-indicator</i>
Two Skill/Concept	WT 4.1 Identify and explain the safety, parts, and operation of thermal cutting equipment.
Two Skill/Concept	WT 4.2 Prepare layouts for cutting individual parts.
Three Strategic Thinking	WT 4.3 Perform cuts using thermal cutting processes.