

PROGRAM: **Welding Technologies**

**PROGRAM
CIP CODE:** **48.0508**

DESCRIPTION: The **Welding Technologies** program is designed to prepare students for employment welding. The curriculum provides individuals with critical thinking, career development, life management, business, economic and leadership skills required for Welding Technologies occupations. Welding Technologies prepares individuals to apply technical knowledge and skills to join or cut metal surfaces. Includes instruction in arc welding, resistance welding, brazing and soldering, cutting, high-energy beam welding and cutting, solid state welding, ferrous and non-ferrous materials, oxidation-reduction reactions, welding metallurgy, welding processes and heat treating, structural design, safety, and applicable codes and standards. The program is designed and delivered as a coherent sequence of experiences using technical instruction, academic foundations, experiential learning, supervised occupational experience and leadership and personal development through the Career and Technical Student Organization, SkillsUSA.

RECOMMENDED PROGRAM SEQUENCE OF COURSES:

**Career
Preparation** The following describes the recommended courses developed from industry-validated skills necessary for initial employment or continued related education.

48.0508.10 Welding Technologies Core Curriculum: Instruction includes career planning, preparing for employment, work-based learning, oral and written communication skills, understanding the role of small businesses and financial management, workplace leadership styles and leadership development.

-and-

48.0508.20 Welding Technologies: Prepares individuals to apply basic technical knowledge and skills to join or cut metal surfaces. Includes instruction in blueprint reading, arc welding, brazing soldering, cutting, safety, and applicable codes and standards.

And program may elect to add:

48.0508.75 Welding Technologies - Internship: This course provides CTE students an opportunity to engage in learning through participation in a structured work experience that can either be paid or unpaid and does not necessarily require classroom instruction that involves the application of previously developed Welding Technologies knowledge and skills.

-or-

48.0508.80 Welding Technologies - Cooperative Education: This course utilizes a cooperative education methodology to combine school-based and supervised work-based learning experiences directly related to the standards identified for the Welding Technologies program.

TEACHER CERTIFICATION REQUIREMENTS FOR THE WELDING TECHNOLOGIES PROGRAM

CAREER PREPARATION: The instructor must be vocationally certified according to the following table

Welding Technologies	CERTIFICATES
	Types: PCTI, PCTIEP, SCTI, SCTIEP
<p>Note:</p> <ul style="list-style-type: none"> ▪ Welding Technologies, 48.0508.70 may be a part of the sequence and the teacher must hold a Cooperative Education Endorsement (CEN). ▪ Teacher/Coordinator, 48.0508.75 is not required to have a Cooperative Education Endorsement (CEN). ▪ Teacher/Coordinator, 48.0508.80 is required to have a Cooperative Education Endorsement (CEN). 	

CERTIFICATE ABBREVIATIONS FOR THE WELDING TECHNOLOGIES PROGRAM

Certificate Types	
PCTI	Provisional Career and Technical Education Industrial Technology
PCTIEP	Provisional Career and Technical Education Industrial and Emerging Technologies
SCTI	Standard Career and Technical Education Industrial Technology
SCTIEP	Standard Career and Technical Education Industrial and Emerging Technologies