



**Industrial Systems Technology**  
**Credential: Certificate in Welding**  
**C5024040**

The Welding certificate will provide students with knowledge of various types of welding processes and applications. Students will learn principles of welding, flame cutting, brazing, ARC, MIG, TIG and safety procedures. Upon completion, students will have the flexibility of pursuing a diploma or an Associate in Applied Science Degree in Industrial Systems Technology.

Program Length: 2 semesters  
 Career Pathway Options: Associate in Applied Science in Industrial Systems Technology (Higher entrance standards required); Diploma in Industrial Systems Technology (Higher entrance standards required); Certificate in Welding  
 Program Sites: Lee Campus - Evening Program

Course Requirements for Welding Certificate

A. Required Major Core Courses (5 SHC)		C-L-SHC
BPR 111	Blueprint Reading	1-2-2
ISC 112	Industrial Safety	2-0-2
	OR	
ISC 110	Workplace Safety	1-0-1
WLD 112	Basic Welding Processes	1-3-2

B. Other Major Hours Required for Graduation (7 SHC)		
WLD 115	SMAW (Stick) Plate	2-9-5
WLD 212	Inert Gas Welding	1-3-2

Total Semester Hours Credit Required for Graduation: 12

Semester Curriculum for Welding Certificate

1st Semester (Fall)		C-L-SHC
BPR 111	Blueprint Reading	1-2-2
WLD 112	Basic Welding Processes	1-3-2
ISC	Safety Elective	<u>1</u>
		2-5-5

2nd Semester (Spring)		
WLD 115	SMAW (Stick) Plate	2-9-5
WLD 212	Inert Gas Welding	<u>1-3-2</u>
		3-12-7

Total Semester Hours Credit: 12

**COURSE DESCRIPTIONS**

**BPR 111 Blueprint Reading** 1-2-2  
 This course introduces the basic principles of blueprint reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic blueprints and visualize the features of a part.

**ISC 110 Workplace Safety** 1-0-1  
 This course introduces the basic concepts of workplace safety. Topics include fire, ladders, lifting, lock-out/tag-out, personal protective devices, and other workplace safety issues related to OSHA compliance. Upon completion, students should be able to demonstrate an understanding of the components of a safe workplace.

**ISC 112 Industrial Safety** 2-0-2  
 This course introduces the principles of industrial safety. Emphasis is placed on industrial safety, OSHA, and environmental regulations. Upon completion, students should be able to demonstrate knowledge of a safe working environment and OSHA compliance.

**WLD 112 Basic Welding Processes** 1-3-2  
 This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.

**WLD 115 SMAW (Stick) Plate** 2-9-5  
 This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes.

**WLD 212 Inert Gas Welding** 1-3-2  
 This course introduces inert gas-shielded welding methods (MIG/TIG). Topics include correct selection of consumable and non-consumable electrodes, equipment setup, safety, and welding techniques. Upon completion, students should be able to perform inert gas welding in flat, horizontal, and overhead positions.