# WELDING TECHNOLOGY, Certificate - 4161

Engineering, Trades & Computer Technologies Department CIP Code: 48.0508

The Welding Technology certificate program prepares students with the knowledge and skills needed for employment in the welding industry. Emphasis is placed on learning OSHA safety practices for industrial environments and developing advanced skills in Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux-Cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW), Oxy-Fuel Cutting/Welding/Brazing (OFCWB), Plasma Cutting (PAC), Air Carbon Arc (CAC-A) Gouging, Pipe Welding, interpretation of prints and welding symbols, and inspection and testing of welds. This curriculum provides students the opportunity to gain hands-on skills working in a welding shop where the skills taught in class may be applied in a variety of positions within the welding industry. This certificate may be completed at the Harrisburg Campus through on-campus/in-person instruction.

#### Career Opportunities:

Graduates are employed as Assembly Welders, Maintenance Mechanics/Welders, Qualified Welders, Fitter-Welders, Welder's Helpers, Repair Technicians, Machine Operators, Welding Sales and Service Representatives and Welding Inspectors. *(SOC Code: 51-4121 Welders, Cutters, Solderers and Brazers)* 

## Competency Profile:

**General Education** 

The program is designed to prepare students to:

- Use relevant welding processes to join metal components in all positions
- Perform thermal cutting and gouge on metal components
- Read and interpret prints and welding symbols used for metal fabrication
- Test and inspect weldments with destructive and nondestructive examination

## PROGRAM REQUIREMENTS (TOTAL CREDITS = 31)

Major Requirements	
WELD 101 Welding Print Reading	3
WELD 102 Oxy-Fuel Cutting/Welding/Brazing	3
WELD 103 Shielded Metal-Arc Welding I	3
WELD 105 Shielded Metal-Arc Welding II	3
WELD 111 Welding Fundamentals	3
WELD 120 Gas Metal Arc & Flux-Cored Arc Welding	4
WELD 130 Gas Tungsten Arc Welding	3
WELD 240 Pipe Welding	3
WELD 241 Welding Fabrication (or)	3
WELD 290 Welding Cooperative Work Experience	(3)
	28

Other Required CoursesGTEC 101 Safety & Health in the Workplace3

## **RECOMMENDED SEQUENCE FOR THE 15-WEEK SEMESTER**

Part-time students can complete this program by taking one or more courses each semester.

	Spring Semester I	
3	WELD 101	3
3	WELD 105	3
3	WELD 130	3
3	WELD 240	3
4	WELD 241 or 290	3
	3 3 3 3 4	Spring Semester I   3 WELD 101   3 WELD 105   3 WELD 130   3 WELD 240   4 WELD 241 or 290

#### **RECOMMENDED SEQUENCE FOR 7-WEEK SEMESTER**

Fall Semester I 1 <sup>ST</sup> 7-Weeks		Fall Semester I 2 <sup>nd</sup> 7-Weeks		Spring Semester I 1 <sup>st</sup> 7-Weeks		Spring Semester I 2 <sup>nd</sup> 7-Weeks	
GTEC 101	3	WELD 103	3	WELD 101	3	WELD 240	3
WELD 102	3	WELD 120	4	WELD 105	3	WELD 241 or 290	3
WELD 111	3			WELD 130	3		