

# WELDING TECHNOLOGY: PIPE WELDING (A.S.)

## ASSOCIATE OF SCIENCE

This Associate of Science degree program includes coursework that is specifically designed to teach students how to custom fabricate pipe into real world applications like those found in power plants and oil refineries. Students in the program will learn the technical aspects of pipe welding data and will develop the hands-on skills leading to Pipe Welding Certifications. The program also includes coursework (including an Advanced Arc Welding Laboratory) which prepares students for multiple structural steel welder certifications. Students completing this program will obtain the necessary technical knowledge, practical welding skills, and welding certifications required to enter the workforce as a Pipe Welder. Various municipalities, fabrication companies, and local unions seek capable graduates with this training to construct and maintain pipe systems and related components.

## Program Student Learning Outcomes

- Students will assemble and weld various projects using a standard tape measure to make accurate measurements using the fractional measurement system.
- Students will interpret fillet weld symbols used on blueprints to assemble and weld various structural joint designs.
- Students will interpret groove weld symbols used on blueprints to assemble and weld various structural joint designs.
- Students will make measurements on pipe using templates, pipe wraparounds, and layout tooling to accurately cut pipe with and acceptable appearance.
- Students will use oxyacetylene flame cutting equipment and plasma arc cutting equipment to prepare groove welding and pipe welding joint geometry with and acceptable appearance.
- Students will fabricate and weld various projects by converting decimal measurements into the fractional measurement system.

## Proram Requirements

Code Number	Course Title	Units
<b>Required Courses</b>		
WELD 120	Beginning Arc Welding	5.0
WELD 149	Welding Shop Math	4.0
WELD 153	Pipe Layout	2.0
WELD 159	Blueprint Reading for the Welding Trades	4.0
WELD 200	Intermediate Arc Welding	4.0
WELD 210L	Advanced Arc Welding Laboratory	2.0
WELD 252L	Pipe Welding Level 1	2.0
<b>Total Units</b>		<b>23</b>

## Recommended Electives

Code Number	Course Title	Units
MTT 100	Machine Tool Introduction	2.0
WELD 254L	Pipe Welding Level 2	2.0
WELD 256L	Pipe Welding Level 3	2.0
WELD 258L	Pipe Welding Level 4	2.0
WELD 160	Welding and Metal Fabrication Safety	1.0

WELD 281L	Shielded Metal Arc Welding (SMAW) Specialty Laboratory	1.0
WELD 282L	Semiautomatic Welding Process Specialty Laboratory	1.0
WELD 283L	Gas Tungsten Arc Welding (GTAW) Specialty Laboratory	1.0
WELD 100	Welding Fundamentals	2.5
WELD 172L	Advanced Structural Fabrication Laboratory	1.0
WELD 212L	Shielded Metal Arc Welding (SMAW) Certification Laboratory	2.0
WELD 214L	Flux Cored Arc Welding (FCAW) Certification Laboratory	2.0
WELD 220	Certification and Licensing for Welders	2.0
WELD 240L	Intermediate Gas Tungsten Arc Welding Laboratory	2.0
WELD 250L	Advanced Gas Tungsten Arc Welding Lab	2.0
WELD 260L	Gas Tungsten Arc Welding (GTAW) Aerospace Certification Laboratory	2.0
WELD 270	Structural Layout	2.5

## ASSOCIATE OF SCIENCE DEGREE REQUIREMENTS

The student must complete:

1. the major requirements,
2. electives, and
3. General Education to achieve a minimum of 60 units.