

# WELDING TECHNOLOGY: GAS TUNGSTEN ARC WELDING (CERT)

## CERTIFICATE OF ACHIEVEMENT

This certificate program includes coursework that represents the first step in preparing students to enter the Aerospace Industry as a certified welder. In addition to a course in Gas Tungsten Arc Welding Fundamentals and a beginning Arc Welding class, students will complete coursework in technical math skills and reading blueprints used in the industry. Students completing this program will obtain the necessary technical knowledge, practical welding skills, and welding certifications required to enter the workforce as an Aerospace Welder. Various local aerospace companies seek capable graduates with this training to fabricate and weld critical components used in the construction of commercial and military airplanes, rockets, satellites, and spacecraft.

## Program Student Learning Outcomes

- Students will fabricate and weld various projects by converting decimal measurements into the fractional measurement system.
- Students will interpret groove weld symbols used on blueprints to assemble and weld various structural joint designs.
- Students will interpret fillet weld symbols used on blueprints to assemble and weld various structural joint designs.
- Students will fillet weld aluminum lap and tee joint projects using various sizes of ER5356 and ER4043 aluminum filler wires with an acceptable appearance.

## Program Requirements

Code Number	Course Title	Units
<b>Required Courses</b>		
WELD 149	Welding Shop Math	4.0
WELD 159	Blueprint Reading for the Welding Trades	4.0
WELD 120	Beginning Arc Welding	5.0
WELD 130	Gas Tungsten Arc Welding Fundamentals	5.0
<b>Total Units</b>		<b>18</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