

# GAS TUNGSTEN ARC WELDING (CERTIFICATE OF PROFICIENCY)

(43 credits)

## Program Description

Start a career in a growing industry that employs nearly 10,000 people in Washington State alone. Our Welding Technology program pairs you with some of the best training equipment on the market used by the best fabrication shops in the industry. You'll earn real, hands-on experience when it comes to using high-tech equipment to solve problems in a dynamic industrial environment.

The Welding Technology Program is designed to prepare students for entry-level employment in welding and related occupations. The competency-based curriculum combines classroom instruction with extensive hands-on training and practical exercises to develop knowledge and skill in the most common welding and metal cutting processes used in industry.

This certificate prepares students for employment in positions requiring specialization in Gas Tungsten Arc Welding (GTAW). The competency-based curriculum combines classroom instruction with extensive hands-on training to develop the necessary knowledge and skills for industry.

## Career Opportunities

Graduates may work in manufacturing, the construction trades, or in maintenance and repair positions. Some welders may work as "fitters" or "fabricators" who interpret drawings, plan projects, and use a variety of tools and machines to complete work. With experience and a strong technical background, welders may advance into leadership positions or within quality control.

- Welding, Soldering, and Brazing Machine Setter, Operator, and Tender
- Plumber, Pipefitter, and Steamfitter
- Sheet Metal Worker

## Length of Program

Full-time students can complete the degree program in seven quarters, if basic skills are complete. The Basic Welding Skills Certificate can be completed in one quarter. The Shielded Metal Arc Welding Certificate can be completed in two quarters. The Gas Metal Arc Welding, Flux Cored Arc Welding, and Gas Tungsten Arc Welding Certificates can be completed in three quarters, provided that all program prerequisites are met.

## Additional Costs

Include textbooks plus approximately \$900.00 upon entry into the program for personal protective equipment, tools, and supplies.

## Outcomes

South Puget Sound Community College believes that all students need to develop a broad range of abilities that will not only make them more effective in their professional pursuits but will enhance their capacity to relate well to others in their daily lives.

At the completion for the Welding Technology Program, the successful student will be able to:

- Demonstrate the ability to identify, analyze, and synthesize relevant data to problem solve in a welding environment
- Demonstrate effective oral, written, and graphical communication skills appropriate to the welding industry
- Demonstrate measuring methods and apply mathematical concepts to solve problems related to welding
- Apply the appropriate ethical standards and practices of the welding industry
- Demonstrate the ability to identify the values, beliefs, and practices of a multicultural workforce and collaborate with diverse groups across a variety of knowledge and skill levels and perspectives
- Evaluate potential hazards and apply procedures to maintain workplace safety
- Select and operate tools and equipment used in welding and metal fabrication
- Perform thermal cutting and gouging processes to industry standards
- Perform Shielded Metal Arc Welding (SMAW) to industry standards
- Perform Gas Metal Arc Welding (GMAW) to industry standards
- Perform Flux Cored Arc Welding (FCAW) to industry standards
- Perform Gas Tungsten Arc Welding (GTAW) to industry standards
- Identify materials and apply metallurgy knowledge to solve practical welding problems
- Interpret drawings including welding symbols and make accurate calculations

The SPSCC college-wide abilities are embedded into each program:

- Effective Communication
- Information Literacy
- Analytical Reasoning
- Multicultural Awareness
- Social Responsibility

## Courses

### Course Requirements

Code	Title	Credits
CCS 101	Pathways to Success	3
WELD 102	Welding Theory I	5
WELD 103	Thermal Cutting and Gouging	1
WELD 104	Oxyacetylene Welding	3
WELD 106	Shielded Metal Arc Welding I	5
WELD 125	Welding Theory II	5
WELD 127	Shielded Metal Arc Welding II	9
WELD 220	Gas Tungsten Arc Welding	12