

GAS TUNGSTEN & GAS METAL WELDING – ASSOCIATE IN SCIENCE DEGREE, CERTIFICATE OF ACHIEVEMENT

Top Code: 0956.50

The curriculum prepares students to seek employment in the welding/ metal working trades as welders, welder’s helpers, cutting torch operators, or apprentice fitters. The focus of instruction and practical welding experience is on the Shielded Metal Arc Welding (SMAW), semi-automatic Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW) and oxy-acetylene welding, brazing and cutting processes. These processes are used in the aero-space and manufacturing industries. Welding practice prepares the student for the Structural Steel Groove and Light Gauge Structural Certification. Gas Tungsten Arc Welding (GTAW) will include the welding of steel, aluminum and stainless steel as used in the aero-space industry.

Metal fabrication skills including blueprint reading, shop math, metal fit-up and production welding techniques. Instruction includes structural steel welding codes and welding theory. Students are required to purchase welding materials and protective clothing.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

Program Outcomes

1. Demonstrate the necessary skills to enter the job market as welders, metal workers or transfer to a four-year school.
2. Demonstrate knowledge of the ethical and social responsibilities, understand and apply safe working procedures to a career in Welding Technology.
3. Demonstrate the value of teamwork in the field of Welding Technology.
4. Demonstrate appropriate mastery of the knowledge, techniques, skills and modern tools used in Welding Technology.
5. Demonstrate skills in Gas Welding, Tungsten Inert Gas, Gas Metal Welding, Electric Arc Welding, Shielded Metal Arc Welding and Flux Cored Arc Welding.
6. Demonstrate the skills required to obtain the American Welding Societies “Structural Steel Welding Certification” and the “Los Angeles City Structural Steel Welding” Licenses.
7. Demonstrate the proper use of related reference tables, diagrams, symbols, abbreviation graphics and charts for analysis for the interpretation of blueprints and specifications.

Requirements for the Certificate of Achievement

Code	Title	Units
Semester I		
TECH 107A	TECHNICAL CALCULATIONS	3
WELD 200A	INTRODUCTION TO STRUCTURAL WELDING	6

Semester II		
DT 008A	INTRODUCTION TO DIGITAL DESIGN AND FABRICATION	3
WELD 200C	INTRODUCTION TO FABRICATION GMAW & GTAW	6
Total Units		18

Recommended Electives

Code	Title	Units
BIT 010	BASIC COMPUTER KEYBOARDING	1
DT 017	BUILDING DESIGN & CONSTRUCTION TECHNICAL GRAPHICS	3
DT 118	3-DIMENSIONAL BUILDING DESIGN & REPRESENTATION	3
KINA 032A	BEGINNING FITNESS ACTIVITIES	1
WELD 044A	INTRODUCTION TO GAS WELDING	1
WELD 044B	INTRODUCTION TO ELECTRIC ARC WELDING	1
WELD 044C	ADVANCED ARC WELDING, FCAW & SMAW	1
WELD 145	INTRODUCTION TO TIG WELDING	1
WELD 150D	TUNGSTEN INERT GAS (TIG) WELDING	5

Visit the Program Mapper (<https://pasadena-city.programmapper.ws/academics/interest-clusters/35afad1b-8598-4ecf-a320-0ed4834a7df8/programs/0bb0cb23-c5c5-f1df-3ebb-e2bfc6b810f5/>) for a suggested sequence of courses.

General Education Requirements for the Associate in Science Degree

- General Information (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/>)
- PCC Local Gen Ed (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#pcclocaltext>)
- CSU Breadth (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#csubreadthtext>)
- IGETC (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#igetctext>)

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