WELDING TECHNOLOGY, ASSOCIATE OF APPLIED SCIENCE

Program Information

In Texas, industries and communities are growing, especially in the petrochemical areas. As construction rates rise, so does the demand for talented welders. The US Bureau of Labor Statistics reports that a need for 47,600 welders is expected nationwide from 2021-2031.

Welding is a process for permanently joining metals together by use of an electric-arc to melt a filler-metal into the original metal to make the two pieces as one. Welding can include joining parts such as piping, structural steel, steel plates, pressure vessels, or even small parts; and it can be performed on carbon steel, stainless steel, aluminum, and many other metals. Welding takes the skill and talent of an artist, and that skill can be acquired through training and discipline.

A welder may also be required to cut, contour, and bevel metal plates and structural shapes into dimensions as specified by blueprints, work orders, and templates using torches, saws, shears, or other machine tools.

San Jacinto College offers one of the largest and best-equipped welding training facilities in the region, where students can explore many facets of welding technology and gain access to career paths from manufacturing and industry to inspection and management.

The San Jacinto College Welding Technology program:

- Has a curriculum designed to meet the needs of the welding industry;
- Provides instruction for all positions on carbon and stainless steel plate and pipe, using the following multiple processes: Shielded Metal Arc Welding (SMAW) "Stick," Gas Metal Arc Welding (GMAW) "MIG," Gas Tungsten Arc Welding (GTAW) "TIG," and Flux Cored Arc Welding (FCAW) processes, plus Oxy-Fuels;
- Offers certificates and continuing education courses for students who want to go directly into the workforce; and
- Includes an Associate of Applied Science (AAS) degree with academic courses to make a well-rounded individual to meet the needs of industry and continued opportunities.

Earning Potential

Welders, Cutters, Solderers, and Brazers

Overall: $53,215 per year ($25.58 hr)[1]

American Welding Society (AWS) Certification Wages

- Welder $19.69 hr[2]

[1] Source: texaswages.com (http://texaswages.com), median salary Gulf Coast region, 2021

[2] American Welding Society (AWS) Payscale Research, 2023

For more information, students may contact the following:

Central campus: 281-476-1814 or 281-478-2799

North campus: 281-998-6350, x7639

Campuses

Central Campus
North Campus

Information

The growing demand for qualified welders has necessitated the availability of a curriculum designed to meet the needs of the welding industry. Students graduating from the program will be skillful and have a good understanding of the related and technical information associated with welding. Graduates should be qualified to pass the entry-level certification tests as required by industry. Students completing the program outlined below will earn credits leading to an Associate of Applied Science (AAS) degree.

The curriculum focuses on the introductory, advanced, and high-technology welding skills required in manufacturing, industry, and research.

Students enrolling into San Jacinto College programs with external learning experiences (i.e., clinical, practicum, externship, cooperative, etc.) will be required to comply with the immunization requirements and policies of the clinical/external learning sites to engage in all clinical/external learning experiences. Vaccination requirements at clinical/external learning sites are implemented pursuant to the independent authority of such facilities and are not mandated by San Jacinto College. Failure to meet the immunization requirements mandated by clinical/external learning sites may limit a student's ability to complete the program and/or may delay the student's graduation date. San Jacinto College does not process exemptions, and students should address potential vaccination exemptions directly with the clinical/external learning site.

Admission

No admission requirements.

Job entry requirements:

- Pass a drug test on a regular basis;
- Pass a criminal background check;[1]
- Some career paths require a TWIC Card; and
- Some career paths require a good driving record.

[1] Requirements vary based on type of offense and years since the offense, or the requirements of the facility where the work is being performed.

Plan of Study

3WLD

First Term		**Credits**
WLDG 1428	Introduction to Shielded Metal Arc Welding (SMAW)	4
WLDG 1204	Fundamentals of Oxy-Fuel Welding and Cutting	2
WLDG 1413	Introduction to Blueprint Reading	4
MATH 1332 or MATH 1314	Contemporary Mathematics (Quantitative Reasoning) or College Algebra	3
Language, Philosophy, and Culture (Humanities) or Creative Arts (Fine Arts)		3
	Credits	**16**
Second Term		
WLDG 1434	Introduction to Gas Tungsten Arc Welding (GTAW)	4
WLDG 2443	Advanced Shielded Metal Arc Welding (SMAW)	4
WLDG 2406	Intermediate Pipe Welding	4
ENGL 1301	Composition I	3
	Credits	**15**
Third Term		
WLDG 1430	Introduction to Gas Metal Arc Welding (GMAW)	4
WLDG 2451	Advanced Gas Tungsten Arc Welding (GTAW)	4
WLDG 2453	Advanced Pipe Welding	4
Select one of the following:		3
SPCH 1311	Introduction to Speech Communication	
SPCH 1315	Public Speaking	
SPCH 1318	Interpersonal Communication	
SPCH 1321	Business and Professional Speech	
	Credits	**15**
Fourth Term		
WLDG 1305 or NDTE 1301	Art Metals Welding and CNC Fabrication or Radiographic Film Interpretation of Weldments	3
WLDG 1412	Introduction to Flux Cored Arc Welding	4
WLDG 2480 or WLDG 2413	Cooperative Education Welding or Intermediate Welding Using Multiple Processes	4
Social and Behavioral Sciences or Government/Political Science or American History		3
	Credits	**14**
	Total Credits	**60**

Capstone Experience: WLDG 2480 Cooperative Education Welding or WLDG 2413 Intermediate Welding Using Multiple Processes