

Welding

Certificate

Why Welding?

According to the American Welding Society, carbon and low-alloy steel represent over 95% of the construction and fabrication metals used world wide. Good mechanical properties over a wide range of strengths combined with relatively low cost and ease of fabrication account for the wide spread use of these steels. These attributes make carbon and low-alloy steels excellent choices for use in appliances, mining and heavy equipment, bridges, buildings, machinery, pressure vessels, offshore structures, railroad equipment, ships, and a wide range of consumer products. The extensive use of these steels means that welding, brazing, and thermal cutting are essential processes of continuing importance. In addition to carbon steel, students will learn how to prepare and weld aluminum and stainless steel (GMAW and GTAW processes). Both aluminum and stainless steels are becoming more commonplace in industry because of their corrosion resistance, strength to weight ratios, recyclability, and their natural luster used for architectural features.

Why Bay College?

The [Welding certificate program](#) at Bay College provides students with specialized classroom and shop experiences concerned with all types of metal welding, brazing and flame cutting. Students will also learn skills necessary for blueprint reading. During their time in the program, students will have the opportunity to gain 2-5 American Welding Society (AWS) certifications. Expanded facilities allow students to work on up-to-date equipment, including robotic welding cells and virtual welding cells.

Career Opportunities

Regional job placement in welding is near 100%. Through the use of real world training, Bay College graduates are able to hit the shop-floor running when they reach employment. The certificate program provides individuals with a wide array of skills applicable to:

- **Construction Welding**
- **Ship Building**
- **Fitting**
- **Industrial and Production Welding**

Contact

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baycollege.edu

Welding, Certificate

Award Granted Upon Completion: Certificate in Welding
Credits/Contacts Required: 33/45

Major code: 04/485
CIP Code: 480508

Requirements (Min. 33 Credits)

Course #	Course Name	Cr
MATH 102	Introduction to Technical Math	4
TECH 100	Basic Machine Tool Operation	4
TECH 101	Blueprint Reading	2
TECH 105	Materials of Industry	4
WELD 110	Introduction to Oxygen-Fuel Welding & Cutting	3
WELD 120	Arc Welding	4
WELD 210	Advanced Arc Welding	4
WELD 220	Gas Metal Arc Welding (MIG)	4
WELD 260	Gas Tungsten Arc Welding (TIG)	4

Suggested Sequences Per Semester

First Semester

Course #	Course Name	Cr/Ct
MATH 102	Introduction to Technical Math	4
TECH 101	Blueprint Reading	2
WELD 110	Introduction to Oxygen-Fuel Welding & Cutting	3
WELD 120	Arc Welding	4
WELD 220	Gas Metal Arc Welding (MIG)	4

First Semester Total - Credit(s): 17 | Contacts: 23

Second Semester

Course #	Course Name	Cr/Ct
TECH 100	Basic Machine Tool Operation	4
TECH 105	Materials of Industry	4
WELD 210	Advanced Arc Welding	4
WELD 260	Gas Tungsten Arc Welding (TIG)	4

Second Semester Total - Credit(s): 16 | Contacts: 22

Note(s)

The following classes are not part of the certificate program, but are offered for those who are interested in pursuing a career in the pipe welding field.

- WELD 240 - Basic Pipe Welding Credit(s): 4
- WELD 280 - Advanced Pipe Welding Credit(s): 4