

# TECHNOLOGY STUDIES: WELDING AND FABRICATION TECHNOLOGIES CERTIFICATE

**Program code:** WFBC-CC-COT

**Location:** Asnuntuck

## Program Description

This certificate provides detailed knowledge of welding principles as applied to modern manufacturing processes and applications. It will provide the student with the requisite advanced skills necessary to weld in today's technological environment. The Welding Technologies and Fabrication certificate is a practical and "hands-on" program designed to teach the technical skills required to be successful in the welding trade. This curriculum is a mix of theory and practice focusing on the four major welding processes, automation, and fabrication. The student who completes the Welding and Fabrication Technologies certificate program has a choice to pursue employment or to matriculate in an associate degree program.

The CT State Asnuntuck Campus is an American Welding Society (AWS) Accredited Test Facility

## Learning Outcomes

1. Gain detailed knowledge of welding principles as applied to modern manufacturing processes and applications.
2. Acquire the requisite advanced skills necessary to welding in today's technological environment.
3. Practice and adhere to shop safety rules as they pertain to industry standards.
4. Correctly and safely assemble, disassemble, and operate an oxyfuel cutting station.
5. Complete satisfactory welds using SMAW in the four standard welding positions (flat, horizontal, vertical, and overhead).
6. Read and interpret engineering drawings/blueprints.
7. Understand and apply the appropriate steps involved in fabricating a part from design, to layout, to finished product.
8. Show manual dexterity/competence in performing acceptable weldments applying basic metallurgical principles.
9. Prepare and weld coupons in accordance to various welding codes in preparation for certification.
10. Operate the appropriate tools and processes to successfully meet fabrication goals.
11. Select and use the appropriate welding specific metrology tools.
12. Apply arithmetic, algebraic, geometric, and trigonometric operations applied to the welding trade.

## Certificate Requirements

Code	Title	Credits
<b>Required Courses</b>		
MFG 1000	Math for Welders	3
MFG 1479	Career Awareness for Manufacturing	1

MFG 1020	Introduction to Welding	4
MFG 1050	Welding Theory I	3
MFG 1028	Blueprint Reading for Welders	3
MFG 1049	Introduction to Metal Fabrication	3
MFG 1415	Safety in the Workplace	1
MFG 2081	Advanced Welding	3
MFG 2050	Welding Theory II	3
MFG 2073	Welding Codes, Testing, and Certification	3
MFG 2080	Advanced Fabrication	3
MFG 2070	Welding Automation and Processes	3
MFG 2067	Metallurgy	3

**Total Credits** **36**

- Technology Studies: Welding and Fabrication Technologies, AS