State-Approved (Chapter 74)
Program Overview

Metal Fabricating and Joining Technologies

Metal Fabricating and Joining involves fastening metal components together—playing an important role in industries that include construction, automotive, marine, aerospace, and product manufacturing.

What Students Learn & Do

In Metal Fabrication & Joining Technologies programs, students learn skills for working with metal in fields such as construction, heavy equipment repair, ventilation and air conditioning, and creative blacksmithing. Safety standards and procedures are reinforced throughout the technical training process.

Beginning in a school-based workshop and proceeding to active job sites, students learn how to measure, cut, and bend metal to blueprint specifications using manual and semi-automatic equipment. Specific tools they use include brakes, shears, presses, rolls, forming machines, welders and punches. Over the course of the program, students master a variety of welding techniques, including brazing and soldering.

Metal Fabrication and Joining students are required to meet the same high academic standards as their peers in other high school programs. These standards are set by the State of Massachusetts. In addition, concepts of math, science and engineering are reinforced through metalworking projects.

Licenses & Certifications

Programs will prepare students to earn industry-recognized credentials, and typically students will be able to complete one or more before they graduate from high school.

- OSHA 10-hour General
- Credit toward Massachusetts Sheet Metalworker license
- Mass Department of Transportation Welding Certificate
- American Welding Society (AWS) Sense Program Performance Weld Certification

Options After High School

State-Approved (Chapter 74) programs provide precise training needed for entry-level employment in this in-demand career field. Here are some possible career opportunities.

High School Diploma

- Shop Welder
- Apprentice Iron Worker
- Apprentice Pipe Welder

Advanced Experience, Training or License

- Journeyman Iron Worker or Pipe Fitter
- Certified Welding Inspector
- Heavy Equipment Repair

Bachelor's Degree (4 Years of College)

- Structural Engineer
- Welding Engineer
- Metallurgist
- Robotic Welder Programmer

Questions to Ask a Program You Are Considering

1. **What workplace experiences do you offer to students - at school, or with an employer?**
2. **What are some common next steps for graduates of this program and how do you support them to get there?**

Learn about the differences between State-Approved (Chapter 74) and Local programs:
http://www.doe.mass.edu/ccte/cvte/cte-families/state-vs-local.html