

Metal Fabrication Fundamentals

CERTIFICATE COURSE

FMA



Certificate Course Outline

Explore the basics of cutting, bending, and welding all in one condensed interactive format. Using FMA's textbook "Metal Fabrication: A Practical Guide", the workshop follows the full process of metal fabrication. Training is augmented by extensive shop time with college faculty and industry experts. On the last day, students will take FMA's Fundamentals of Metal Fabrication certificate exam.

Learning Objectives

Cutting Techniques

- Review lab safety, measuring and software (handheld tools), and layout methods.
- Assess techniques for cutting sheet metal, including shearing with a plate shear, punching with an iron worker, and cutting with plasma and oxy torches.

Forming Processes

- Review press brake operation using iron workers, tube and pipe bending with a ring roller, and plate bending with a plate roller.
- Explore laser cutting with CO2 lasers and engage in project time in the lab for tool and process review.

Welding Methods

- Review various welding and joining techniques, including oxy welding, MIG welding, spot welding, TIG welding, and stick welding.

