



Veterans Welding Class

Technical Training Center

25500 Outer Drive

Lincoln Park, Michigan 48146



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UAW-Ford Technical Training Center Welding Performance Program for Veterans

Overview:

In this six-week course, participants will learn how to set-up, maintain and use various welding processes to permanently join metal parts. Additionally participants will learn to use an oxy-acetylene torch or plasma gun for cutting metal. The welding methods learned will include the following:

1. Shielded Metal Arc Welding (SMAW or Stick)
2. Gas Metal Arc Welding (GMAW or MIG)
3. Gas Tungsten Arc Gas Welding (GTAW or TIG)
4. Oxy-acetylene Welding, Cutting and Brazing (Stick)
5. Plasma Cutting
6. Brazing and Soldering

Types of joints taught include Lap, Butt, Corner, Edge, and Tee. Participants will practice welding the following positions:

- 1G – Flat 2G – Horizontal 3G – Vertical 4G – Overhead

Objectives

After completing this training, participants will be able to:

- Describe and value safe workplace practices
- Identify and use task related electrodes
- Identify various types of ferrous and non-ferrous metals
- Set-up and operate various welding machines and torches
- Perform welds on plates, pipes and other metals
- Use industry standard tools to cut and separate metal
- Set- up and use Oxy-fuel processes to cut and weld
- Read and interpret blueprints, welding symbols and sectionings in order to calculate the dimensions to be welded
- Inspect structures or materials
- Use a propane torch to solder two pieces of alloy metal together

Week 1: Overview of Safety in all processes; Oxy-acetylene fuel - Process overview, cutting and set-up, and welding

Week 2: Welding symbols and blueprint reading; SMAW – safety, machine set-up and maintenance, process identification and electrode identification, and extensive hands-on practice

Week 3: GMAW – safety, machine set-up and maintenance, and extensive practice on sheet metal and steel

Week 4: GTAW – safety, fumes & gases, ventilation, ozone, eye protection, ultraviolet and infrared radiation, and Sil-Braze considerations, shielding gases, flow meters, tungsten electrodes, ceramic cups and filler rods, and extensive practice on mild steel, aluminum, and stainless steel

Week 5: Brazing - 6G Pipe Certification training in all positions including root pass, hot pass, and cover pass

Week 6: Practice utilizing all processes and test in all positions