

# Career-Level Programs (continued)

" I went to WTTI so that I could become a professional welder, basically to be trained in a skill that would allow me to get a good job. So one of my biggest questions was whether or not the welding program would truly qualify me for employment after graduation? The answer is a definite 'YES'. The largest part of training was hands-on, in the shop, day in and day out until I felt confident in my own ability. And after I graduated, WTTI even helped me to get in touch with a company that hired me."

Stephen P. Gonzales, graduate of WTTI



Student practicing a weld on pipe

## COMBINATION WELDING PROGRAM (740 HOURS):



**Yes! Financial aid is available for those who qualify.**

**DESCRIPTION:** The Combination Welding course consists of metal cutting utilizing the Oxyacetylene torch and employing five common processes, detailed below. The program concentrates on the basic techniques required to make sound welds on carbon steel plate and pipe. The shop projects include various joint designs in all positions on plate and pipe. In Shielded Metal Arc Welding, several electrode types and sizes are employed with both AC and DC electrical arc welding machines. Two semi-automatic processes are taught, Gas Metal and Flux Cored Arc Welding. Structured theory classes cover welding safety, proper machinery set ups and adjustments, basic metallurgy, weld wire selection, welding joint design, and shop math. Instruction in blueprint reading includes additional shop math, welding symbols, and the basics required to read, understand, and follow welding blueprints.

**OBJECTIVES:** The Combination Welding graduate should be proficient in both manual and semi-automatic welding processes. The student should be able to pass performance tests in accordance with the American Welding Society (AWS) Structural Welding Code. The Combination Welder graduate possesses a great deal of versatility which can be applied in the welding field. The graduate is prepared to enter the welding field as a Combination Welder on an entry level, employing any one of the five welding processes on both plate and pipe. Specifically, the Combination Welding graduate should be able to:

1. Understand and follow established safety practices in the welding shop.
2. Weld and cut using a Plasma/Oxyacetylene process.
3. Weld carbon steel plate in the flat, horizontal, vertical, & overhead positions using the Shielded Metal and Gas Metal Arc Welding processes.
4. Weld carbon steel plate in the flat, horizontal, & vertical positions using Gas Tungsten and Flux Cored Arc Welding processes.
5. Weld carbon steel pipe in three positions using Shielded Metal Arc Welding process.
6. Set up and operate different types of welding machines.
7. Understand and discuss basic welding theory.
8. Understand and follow basic welding shop blueprint.

## COURSE OF STUDY:

|  |          |
|--|----------|
| Plasma/Oxyacetylene Welding/Cutting.....                               | 60 hours |
| Electric Arc Flat Position.....  | 90 hours |
| Electric Arc Horizontal Position.....                                  | 60 hours |
| Electric Arc Vertical Position.....                                    | 90 hours |
| Electric Arc Overhead Position.....                                    | 60 hours |
| Gas Metal Arc Welding (MIG).....                                       | 60 hours |
| <i>(Short Arc/Globular/Spray Arc/Pulsed Arc transfer applications)</i> |          |
| Flux Cored Arc Welding (Self-Shielded/ Gas Shielded).....              | 30 hours |
| Pipe Welding All Positions.....  | 60 hours |
| Gas Tungsten Arc Welding (TIG).....                                    | 60 hours |
| Theory.....  | 75 hours |
| Blueprint Reading.....   | 35 hours |
| Testing (certification at additional charge).....                      | 60 hours |

**TOTAL = 740 hours**



Student using TIG welder