



GAS TUNGSTEN ARC WELDING I — WELD 1140

A. Course Description

- **Credits:** 3.00
- **Lecture Hours/Week:** 0.00
- **Lab Hours/Week:** 3.00
- **OJT Hours/Week:** 0
- **Prerequisites:** None
- **Corequisites:** None
- **MnTC Goals:** None

This course develops the welding skills necessary for the Gas Tungsten Arc Welding (GTAW) process on mild steel sheet and plate in the flat and horizontal positions to include Plasma Arc Cutting (PAC)

B. Course Effective Dates: 8/27/12 – Present

C. Outline of Major Content Areas

As noted on course syllabus

D. Learning Outcomes

1. Demonstrate proper electrode and filler rod control and manipulation.
2. Demonstrate proper safety practices.
3. Demonstrate proper tungsten sharpening.
4. Demonstrate sand blaster setup and operation.
5. Determine proper settings for amperage and voltage on the welding machine.
6. Determine proper travel, speed, and work angles for GTAW welding.
7. Perform GTAW equipment setup and basic operation including gas flow settings.
8. Perform all weld processes in accordance with shop/industry standards.
9. Perform manual PAC cutting on 1/4" to 1/2" metal plate including piercing hole cuts.
10. Perform stringer bead surfacing, 1F single pass, 1G single pass, and 1G multi pass welds in the flat position.
11. Perform stringer bead surfacing, 2F single pass, 2G single pass, and 2G multi pass welds in the horizontal position.
12. Visually inspect welds and cuts to determine if standards are met.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

F. Learner Outcomes Assessment

As noted on course syllabus

G. Special Information

None noted