



GAS METAL ARC WELDING I — WELD 1120

A. Course Description

- **Credits:** 2.00
- **Lecture Hours/Week:** 0.00
- **Lab Hours/Week:** 2.00
- **OJT Hours/Week:** 0
- **Prerequisites:** None
- **Corequisites:** None
- **MnTC Goals:** None

This course develops the welding skills necessary for the Gas Metal Arc Welding (GMAW) process on carbon steel plate in flat and horizontal positions to be performed in short circuiting and spray arc transfer.

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 for carbon steel welds.
2. Demonstrate proper safety practices.
3. Determine proper settings for amperage and voltage on the welding machine for GMAW welds.
4. Determine proper travel, speed, and work angels for GMAW welding for carbon steel welds.
5. Perform GMAW equipment setup and basic operation including gas flow settings for carbon steel welds.
6. Perform iron worker and band saw setup and operation.
7. Perform sheet metal cutting and forming.
8. Perform stringer bead surfacing, 1F single pass, 1G single pass, and 1G multi pass welds in the flat position on carbon steel in short circuiting and spray arc transfer modes.
9. Perform stringer bead surfacing, 2F single pass, 2G single pass, and 2G multi pass welds in the horizontal position on carbon steel in short circuiting and spray arc transfer modes.
10. 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