



## GAS METAL ARC WELDING II — WELD 1240

### 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, aluminum, and stainless steel. Welds are performed in flat, horizontal, vertical, and overhead positions in short circuiting, spray arc transfer, and pulse mode. Prerequisites: Gas Metal Arc Welding I, Welding Safety and Theory I, and must be taken at same time as Welding Safety and Theory II

### 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 procedures.
3. Determine proper settings for amperage and voltage on the welding machine for GMAW welds.
4. Determine proper travel, speed, and work angles 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 fillet and groove welds with pulse spray metal transfer.
7. Perform iron worker and band saw setup and operation.
8. Perform sheet metal cutting and forming.
9. Perform stringer bead surfacing, 3F single pass, 3G single pass, and 3G multi pass welds in the vertical position on carbon steel in short circuiting, spray arc, and pulse transfer modes.
10. Perform stringer bead surfacing, 3F single pass, and 3G singles pass welds in the vertical position on aluminum in short circuiting and spray arc transfer modes.
11. Perform stringer bead surfacing, 4F singles pass, 4G single pass, and 4G multi pass welds in the overhead position on carbon steel in short circuiting, spray arc, and pulse transfer modes.
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