



## WELDING AND FLAME CUTTING — HCEM 1110

### 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

Students study basic arc and gas welding used in the heavy equipment industry. Theory, safety, and practice will be taught. Cutting and heat bending are also included.

Prerequisites: HCEM1101 or instructor's approval

### B. Course Effective Dates: 3/22/98 – Present

### C. Outline of Major Content Areas

As noted on course syllabus

### D. Learning Outcomes

1. apply failure analysis of weld defects
2. complete welding safety examination
3. demonstrate adjustment of regulators
4. demonstrate cutting techniques
5. demonstrate welding equipment set up
6. display shop safety procedures
7. exhibit shop safety procedures
8. identify cylinder types
9. identify oxygen and acetylene regulators
10. identify weld defects
11. identify weld joint types
12. identify welding compressed gas types
13. identify welding electrodes
14. operating heating torch
15. perform various 6011 and 7018 welding joints

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

**F. Learner Outcomes Assessment**

As noted on course syllabus

**G. Special Information**

None noted