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