BRAKES — HCEM 1250

A. Course Description
   - Credits: 2.00
   - Lecture Hours/Week: 1.00
   - Lab Hours/Week: 1.00
   - OJT Hours/Week: 0
   - Prerequisites:
     - HCEM 1102: General Shop Mechanics - Introduction
   - Corequisites: None
   - MnTC Goals: None

Instruction covers hydraulic and pneumatic brake theory and operation, component identification, application, and general repairs on heavy equipment. Safety and troubleshooting are stressed. Prerequisites: HCEM 1102 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. Diagnose brake problems.
   2. Exhibit safety procedures.
   3. Explain air brake operation.
   4. Explain parking brake system and operation.
   5. Explain safety procedures.
   6. Identify brake fluid.
   7. Identify hydraulic brake components.
   8. Inspect brake linings.
   9. Replace brake shoes.

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

F. Learner Outcomes Assessment
As noted on course syllabus

G. **Special Information**

None noted