



DIESEL ENGINE OVERHAUL I — HCEM 1140

A. Course Description

- **Credits:** 4.00
- **Lecture Hours/Week:** 1.00
- **Lab Hours/Week:** 3.00
- **OJT Hours/Week:** 0
- **Prerequisites:** None
- **Corequisites:** None
- **MnTC Goals:** None

This course teaches engine tear down, failure analysis, cylinder head repair, minor overhaul, and use of proper precision measuring instruments on engines used in the heavy equipment field such as Cat, John Deere, Perkins, Case, Ford, and Cummins. This course also includes basic fundamentals of diesel engine design, including the study of cylinder heads and blocks, lubrication, air intake, exhaust, electrical, cooling, and fuel systems. Precision measuring is included, along with preventive maintenance and minor repair as well as testing on stationary and mobile engines used in the heavy equipment industry. Safety and troubleshooting are stressed. Offered: Fall
Prerequisites: HCEM1101

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

C. Outline of Major Content Areas

As noted on course syllabus

D. Learning Outcomes

1. assemble diesel engine
2. demonstrate professionalism
3. demonstrate shop safety
4. disassemble diesel engine
5. identify engine types
6. spec. out all engine parts
7. use hand tools
8. use specialized tooling and equipment

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

F. Learner Outcomes Assessment

As noted on course syllabus

G. Special Information

None noted