

# Dakota County Technical College

## HCEM 1140: Diesel Engine Overhaul I

### A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: 1

Lab Hours/Week: 3

OJT Hours/Week: \*.\*

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:** 03/22/1998 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

### D. LEARNING OUTCOMES (General)

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

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted