

# Dakota County Technical College

## HCEM 2260: Machine Electronics II

### A. COURSE DESCRIPTION

Credits: 2

Lecture Hours/Week: 1

Lab Hours/Week: 1

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course is a continuation of Machine Electronics I. The student will do more in depth study of sensors and switches covered in Machine Electronics I. There will also be more troubleshooting of the sensors on actual machines in the lab. The student will be studying more in depth electrical schematics and electrical systems. The student will be using the Cummins Insight computer program to troubleshoot Cummins engines. The student will repair electrical systems on several different brands of equipment.

**B. COURSE EFFECTIVE DATES:** 12/08/2010 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

### D. LEARNING OUTCOMES (General)

1. Capture and save screens in Cat ET on a machine in the lab
2. Perform a calibration on a machine in the lab
3. Repair a machine in the lab using voltage drop
4. Repair electrical connectors on actual machines in the lab
5. Troubleshoot a Cummins engine using Cummins Insight computer program
6. Troubleshoot a machine fault code on a machine in the lab
7. Troubleshoot a machine in the lab using an electrical schematic
8. Troubleshoot analog and digital sensors on machines in the lab
9. Troubleshoot electrical problems and bugged machines in the lab
10. Use safe work procedures

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

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

### G. SPECIAL INFORMATION

None noted