Course: DIES222   Electronic Engine Diagnostics

Department: Diesel

Course Description:
This course covers the introduction and uses of computer-based diagnostic applications. Students learn basic Windows and then learn engine-specific diagnostic applications that are used in the calibration and repair of today's electronic diesel engines. Students learn to open and create new job orders using engine software applications. Students learn how to diagnose engine faults using diagnostic programs and follow appropriate troubleshooting procedures. Electronic engine control module calibrations and customer-controlled parameters are covered in depth. The primary focus in this class is on the Cummins Insite and the Caterpillar ET diagnostic programs, although others are discussed.
Lecture: 2 hours. Laboratory: 2 hours.

COURSE OUTCOMES	SAMPLE OUTCOMES ACTIVITIES	SAMPLE ASSESSMENT TOOLS
Upon successful completion of this course students should:	To achieve these outcomes students may engage in the following activities:	Student learning may be assessed by:
1. The student will be able to navigate in Windows and use standard Windows data entry tools to control job orders and other information. (WC, IL and CCT)	• Textbook readings • On-line demonstration • Video presentations • Classroom discussions	• Tests, quizzes • Mechanical drawings • Homework assignments
2. The student will be able to identify basic functions of a diagnostic program and use these fundamental features to identify and troubleshoot engine faults. (CCT)	• Textbook and on-line readings • Video presentations • Classroom discussions • Laboratory demonstrations	• Tests & Quizzes • In-class conversations • Laboratory evaluations
3. The student will be able to connect a PC to a microprocessor-controlled engine	• Textbook and on-line readings • Video presentations	• Tests, quizzes • Classroom discussion

in the Diesel Lab and use the diagnostic program to identify and troubleshoot real engine problems, access and program customer-controlled parameters. (CCT) (IT)	• Classroom discussions • Laboratory demonstrations	• Laboratory evaluations

This course includes the following core competencies: Critical and Creative Thinking (CCT), Information Literacy (IL), and Written Communication (WC).