Course Information Form (CIF)

Course Code: DPE 233

Course Title: Diesel Power Generation II

Department: Agricultural Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 47.0605
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 2-2-3
Credit Hour Distribution:

Lecture: 2	Lab: 2	Clinical: 0	**Total: 3**

General Course Information

Catalog Description

Advanced study of diesel and power generation engine electronic systems. Emphasis on common rail fuel systems, electronic injection, diagnostics, fault codes, valve and injector adjustment procedures, injector replacement, engine parameter adjustment, engine performance and monitoring functions, aftertreatment systems, and CAN bus communications using industry-standard diagnostic tools.

General Course Objectives

- Diagnose electronic diesel engine systems
- Service and identify common rail fuel system components
- Interpret and clear diagnostic fault codes and follow fault trees
- Perform various valve and injector service procedures and adjustments
- Comprehend and diagnose aftertreatment and CAN bus systems

Minimum Placement Levels

English	Reading	Math
Placement into ENG 098	Placement into CCS 098	Placement into MAT 059

Prerequisites

Credit in DPE 133

Methods of Evaluation

Students will be evaluated through diagnostic and engine performance labs, performance-based assessments, lab workbooks and online exams, injector and valve service practicals, and a comprehensive final diagnostics project. Assessments will range between 10-16 assignments in the semester.

Instructional Materials and Additional Supplies

Medium/Heavy Duty Truck Engines, Fuel & Computerized Management Systems, by Sean Bennett. 6th Edition.

Students will be required to have recommended basic tool set .

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Engine Electronics and Control Systems	1. Explain electronic engine control strategies. 2. Identify sensors, actuators, and control modules and functions.	6	6	0
Common Rail Fuel Systems	1. Describe common rail system operation with high pressure fuel system precautions. 2. Perform injector removal and replacement procedures.	6	6	0
Diagnostics and Fault Code Analysis	1. Interpret diagnostic trouble codes. 2. Use scan tools to diagnose system faults.	6	6	0
Engine Adjustments and Parameter Settings	1. Perform various overhead valve adjustments. 2. Adjust and verify electronic engine operating parameters.	6	6	0
Aftertreatment and CAN Bus Diagnostics	1. Diagnose aftertreatment system faults. 2. Analyze and read CAN bus communication issues.	6	6	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0