

Course Code: DPE 133

Course Title: Diesel Power Generation I

Department: Agricultural Technologies

Effective Date: Summer 2026

PCS Code: 1.2 - Occupational/Technical Instruction

CIP Code: 47.0605

Repeatability: 0

Credit Hours

Catalog Notation: 2-2-3

Credit Hour Distribution:

Lecture: 2

Lab: 2

Clinical: 0

Total: 3

General Course Information

Catalog Description

Introduction to diesel and power generation engine systems with emphasis on mechanical fundamentals and base fuel systems. Students perform complete engine teardown, inspection, measurement, and rebuilding procedures using manufacturer service manuals. Includes foundational diesel fuel system theory, component identification, and safe service practices aligned with modern power generation applications.

General Course Objectives

- Safely disassemble and reassemble diesel engines
- Inspect and measure engine components for wear
- Interpret manufacturer service manuals and specifications
- Explain diesel engine mechanical operation
- Describe basic diesel fuel system operation

Minimum Placement Levels

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

Prerequisites

None

Methods of Evaluation

Students will be evaluated using online exams and quizzes, lab performance assessments, engine teardown and reassembly practicals, measurement exercises, and a comprehensive final practical and written/online exam. 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.

Basic recommended tooling requirements

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 Fundamentals	1. Describe diesel engine operating principles. 2. Demonstrate safe shop practices and proper tool usage.	8	2	0
Engine Teardown and Component Identification	1. Identify major diesel engine components. 2. Perform complete engine disassembly following service manuals.	6	10	0
Inspection and Precision Measurement	1. Use precision measuring tools correctly. 2. Measure engine components and evaluate wear.	2	2	0
Engine Rebuilding and Assembly Procedures	1. Apply proper assembly procedures, adjustments, and torque specifications. 2. Reassemble engine to manufacturer standards.	7	12	0
Introduction to Diesel Fuel Systems	1. Describe basic diesel fuel system components and operation. 2. Explain and demonstrate fuel safety and filtration requirements.	7	4	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0