Course Information Form (CIF)

Course Code: DPE 235

Course Title: Advanced Hydraulics

Department: Agricultural Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 47.0302
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

Hydraulic systems of major power equipment; interpretation of fluid hydraulic schematic diagrams; electronic and computer-controlled systems; diagnosing and testing to solve system problems; tear down and repair of systems on agricultural and construction equipment.

General Course Objectives

- Learn advanced troubleshooting and diagnostic skills as they apply to hydraulics.
- Learn how to accurately use and read flow meters.
- Learn how to troubleshoot open center hydraulic systems.
- Learn how to troubleshoot closed center hydraulics systems.
- Learn how to troubleshoot pressure and flow compensating hydraulic systems.
- Learn to read hydraulic schematics in detail.
- Learn component evaluation during component disassembly.

Minimum Placement Levels

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

Prerequisites

Credit in DPE 135

Methods of Evaluation

Students will be given a minimum of 6 chapter quizzes, 1 unit exam, and 10 lab practicals.

Instructional Materials and Additional Supplies

Students will need the required tool set for the Diesel Power program.

Course Content

General Learning Outcomes (GLOs)

- Critical Thinking and Information Literacy: Students will demonstrate the ability to evaluate perspectives, evidence, and implications, and to locate, assess, and use information effectively.
- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.
- 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
Open Center Hydraulic System Schematic Reading and Diagnosis	1. Identify standard hydraulic symbols. 2. Interpret detailed schematics and identify subsystems. 3. Demonstrate how to troubleshoot open center systems, including where test points are and where to hook up flow meter and test gauges.	7	6	0
Closed Center Hydraulic System Schematic Reading and Diagnosis	1. Identify standard hydraulic symbols. 2. Interpret detailed schematics and identify subsystems. 3. Demonstrate how to troubleshoot closed center systems, including where test points are and how to hook up test equipment.	7	6	0
Pressure Flow Compensated (PFC) Hydraulic System Schematic Reading and Diagnosis	1. Identify standard hydraulic symbols. 2. Interpret detailed schematics and identify subsystems. 3. Demonstrate how to troubleshoot pressure and flow compensating systems and how to hook up test equipment.	12	10	0
Component Evaluation	1. Disassemble and reassemble pumps, motors, valves, and couplers. 2. Evaluate component parts to determine if they need replacement.	4	8	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0