University of Arkansas - Fort Smith
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General Syllabus

DIES 2154 Introduction to Diesel Systems

Credit Hours: 4 Lecture Hours: 2 Laboratory Hours: 4

Prerequisite or corequisite: ATDI 1234 Theory and Maintenance

Effective: 2018-2019

I. Course Information

A. Catalog Description

Functions of diesel engines and diesel systems are introduced. Experience gained working with engine controls, fuel management, emissions control systems, engine components and operation.

B. Additional Information

Shop or laboratory work gives the students hands-on experience. Students learn maintenance troubleshooting and repair of diesel engines and related systems. Students may work on components supplied by the instructor or on operational vehicles.

II. Student Learning Outcomes

A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Explain the operating principles and interaction of the major diesel engine components.
2. Perform suspension systems diagnosis and repair.
3. Perform wheel alignment diagnosis, adjustment and repair.
4. Perform wheel and tire diagnosis and repair.
5. Perform shop organization and safety functions.
6. Take customer's complaints.

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Communication Skills

Students must deal effectively with customers' complaints and ask effective questions to elicit more information.

Analytical Skills
Critical Thinking Skills: Students must analyze data gathered from customer complaints, inspections, tests, etc. in order to diagnose diesel engines and diesel systems problems.

Ethical Decision Making Skills
Students will identify ethical issues and affected parties related to the diesel repair industry.

III. Major Course Topics

A. Diesel Engines
B. Diesel Intake and Exhaust Systems
C. Diesel Fuel and Injection Systems
D. Diesel Cooling and Lubrication Systems
E. Diesel Electrical Systems
F. Shop Organization and Safety