Revised 1/2010

NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
DSL 152 - DIESEL POWER TRAINS, CHASSIS, AND SUSPENSION (4 CR.)

Course Description

Studies the chassis, suspension, steering and brake systems found on medium and heavy-duty diesel trucks. Covers construction features, operating principles and service procedures for such power train components as clutches, multi-speed transmissions, propeller shafts, and rear axles. Teaches operations of modern equipment to correct and adjust abnormalities. Lecture 2 hours. Laboratory 4 hours. Total 6 hours per week.

General Course Purpose

This course is designed to provide the student with a comprehensive knowledge of medium/heavy-duty truck steering systems, front and rear suspension, front and rear axle alignment, transmissions and drivetrain components, and various types of truck chassis. Emphasis is placed upon suspension inspection, trouble-shooting techniques, repair, and adjustment.

Course Prerequisites/Co-Requisites

Ability to read, write, and speak the English language.

Course Objectives

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

- Explain how a pinion and crown gearset change the direction of powerflow
- Identify the types of axles used on trucks and trailers
- Describe how steering and axle alignment affect tire wear, directional stability, and handling.
- Identify the components in a truck driveline
- Explain the importance of drive shaft phasing
- Identify the components of the steering system
- Identify and describe the types of suspension systems used on current trucks
- Identify the wheel configurations used on heavy-duty trucks
- Outline the operating principles of a clutch
- Identify the types of gears used in truck transmissions
- Explain the relationship between speed and torque from input to output in different gear arrangements

Major Topics to be Included

- Transmissions and Clutches
- Steering and Suspension Systems
- Wheels and Tires
- Axles, Differential Assy. and Driveshafts
- Fifth wheels and chassis
- Suspension and steering system designs
- Steering and suspension system inspections