Course Prefix and Number: DSL 150  
Credits: 3

Course Title: Mobile Hydraulics and Pneumatics

Course Description: Introduces the theory, operation, and maintenance of hydraulic/pneumatic systems and devices used in mobile applications. Emphasizes the properties of fluid, fluid flow, fluid states, and application of Bernoulli's equation. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

General Course Purpose: To examine the basic fundamentals and principles of hydraulics and pneumatics, their theory of operation, and their application to modern construction, agriculture, and transport equipment.

Course Prerequisites and Co-requisites: None

Course Objectives:  
Upon completing the course, the student will be able to  
a. Understand the theory and principles of hydraulics and pneumatics (fluid power);  
b. Identify the various types of hydraulic and pneumatic systems (fluid power);  
c. Identify the various components of these systems and their function;  
d. List maintenance procedures for the various components of the systems;  
e. List the causes of failures within the systems and the remedies of these failures;  
f. List the basic steps to be followed in diagnostic and testing procedures;  
g. Read and understand schematics;  
h. Perform basic troubleshooting skills; and  
i. Perform basic repairs.

Major Topics to Be Included:  
a. Theory of hydraulics  
b. Hydraulic components  
c. Theory of pneumatics  
d. Pneumatic components  
e. Troubleshooting hydraulic/pneumatic systems  
f. Fluid power symbology

Effective Date of Course Content Summary: February 12, 2009