

**J. Sargeant Reynolds Community College  
Course Content Summary**

**Course Prefix and Number: DSL 150**

**Credits: 3**

**Course Title:** Mobile Hydraulics and Pneumatics

**Course Description (including lecture hours, lab hours, total contacts)**

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/Corequisites** (*Entry-level competencies **required** for enrollment*)

None

**Course Objectives** (Each item should complete the following sentence.)

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
- 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 (Month, Date Year):** 2/12/09