

HYD 110
HYDRAULICS/PNEUMATICS I

COURSE DESCRIPTION:

Prerequisites: MAT 060 or DMA 010, 020, 030; or satisfactory score on placement test

Corequisites: None

This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting. Course Hours Per Week: Class, 2. Lab, 3. Semester Hours Credit, 3.

COURSE OBJECTIVES:

- a. Understand the operation of a fluid power system with emphasis on the design and engineering of the system components
- b. Understand the basic components and functions of hydraulic and pneumatic systems
- c. Understand standard symbols, pumps, control valves, control assemblies, and actuators

OUTLINE OF INSTRUCTION:

1. Introduction to Fluid Power, Basic Principals of Hydraulics
2. Hydraulic Pumps
3. Hydraulic Cylinders
4. Hydraulic Motors
5. Hydraulic Directional Control
6. Hydraulic Pressure Control
7. Hydraulic Flow Control
8. Ancillary Hydraulic Components
9. Basic Principals of Pneumatics

REQUIRED TEXTBOOK:

Johnson, James L. Introduction to Fluid Power. ISBN 107668-2365-2.

STATEMENT OF STUDENTS WITH DISABILITIES:

Students who require academic accommodations due to any physical, psychological, or learning disability are encouraged to request assistance from a disability services counselor within the first two weeks of class. Likewise, students who potentially require emergency medical attention due to any chronic health condition are encouraged to disclose this information to a disability services counselor within the first two weeks of class. Counselors can be contacted by calling 919-536-7207, ext. 1413 or by visiting the Student Development Office in the Phail Wynn Jr. Student Services Center, room 1209.