Course Title: Hydraulic Basic and Theory
Prefix and Course Number: FLPT 112

Course Learning Outcomes:
By the end of this course, a student should be able to:

- list advantages of using fluid power
- draw hydraulic schematic symbols for all major components
- have an adequate fluid power vocabulary
- have a working knowledge of each hydraulic component studies; this includes component parts identification, principle of operation, typical usage in hydraulics system, and application knowledge

Course Outline

I. Hydraulic Basics
   A. Basic Rules
   B. List Common Sense Items

II. Pumps
   A. Identification
   B. Operation
   C. Application
   D. Schematic Symbol
   E. Vocabulary

III. Pressure Controls
   A. Identification
   B. Operation
   C. Application
   D. Schematic Symbol
   E. Vocabulary

IV. Directional Controls
   A. Identification
   B. Operation
   C. Application
   D. Schematic Symbol
   E. Vocabulary

V. Volume Controls
   A. Identification
   B. Operation
   C. Application
   D. Schematic Symbol
   E. Vocabulary
VI. Actuators
   A. Identification
   B. Operation
   C. Application
   D. Schematic Symbol
   E. Vocabulary

VII. Oil Reservoir and Fluid Conditioners
   A. Identification
   B. Operation
   C. Application
   D. Schematic Symbol
   E. Vocabulary

VIII. Fluid Lines and Fittings
   A. Steel Tubing
   B. Pipe
   C. Hydraulic Hose
   D. Fittings
   E. Vocabulary

IX. Hydraulic Fluids and Seals
   A. Oil Basics
   B. Application
   C. Vocabulary

X. Hydraulic Accessories
   A. Pressure gauges
   B. Accumulators
   C. Intensifiers
   D. Industrial Shock Absorbers

XI. Vocabulary