

**Course Objectives/Course Outline**  
**Spokane Community College**

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**Course Title:** Hydraulic Basic and Theory

**Prefix and Course Number:** FLPT 112

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**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