

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

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**Course Title:** Basic Hydraulic Basic and Theory

**Prefix and Course Number:** FLPT 114

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**Course Learning Outcomes:**

**By the end of this course, a student should be able to:**

- read and interpret hydraulic schematics for all major components
- safely install/operate a variety of hydraulic components

**Course Outline**

- I. Hydraulic Components
  - A. Oil Flow Measurements
  - B. Oil Pressure
  - C. Circuits
  - D. Actuators
  - E. Valves
- II. Pumps
  - A. Identification
  - B. Operation
  - C. Application
- III. Pressure Controls
  - A. Identification
  - B. Operation
  - C. Application
- IV. Directional Controls
  - A. Identification
  - B. Operation
  - C. Application
- V. Volume Controls
  - A. Identification
  - B. Operation
  - C. Application
- VI. Actuators
  - A. Identification
  - B. Operation
  - C. Application
- VII. Oil Reservoir and Fluid Conditioners
  - A. Identification
  - B. Operation
  - C. Application
- VIII. Fluid Lines and Fittings
  - A. Applications
  - B. Installation
- IX. Hydraulic Fluids and Seals
  - A. Selection
- X. Installation of Hydraulic Accessories
  - A. Pressure Gauges
  - B. Accumulators
  - C. Intensifiers

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D. Industrial Shock Absorbers