



**FLUID POWER**

# Hydraulics and Pneumatics Fundamentals

This course will review the skills required to install, maintain, design, and troubleshoot pneumatic controls. Instructors will use a combination of lecture, classroom discussion, and hands-on labs to ensure those attending have a complete understanding of the materials.

The course is for anyone needing to understand pneumatic fundamentals, but is tailored to electrical engineers, mechanical engineers, electricians, facility maintenance personnel, and project managers.

Throughout this course, you will have the opportunity to practice the skills you have learned through a variety of hands-on exercises. These exercises focus on the skills introduced in each lesson.

You will also have the opportunity to combine and practice groups of key skills by completing multiple integrated practices during the course.

**Tuesday, October 13 -  
Thursday, October 15**

**8 AM - 5 PM**

**SMC Joplin  
923 W. 4<sup>th</sup> Street  
Joplin, MO**

**Cost: \$2,972  
Includes Lunch**

To register, please contact Suzan McPherson at [smcpherson@smcelectric.com](mailto:smcpherson@smcelectric.com)

# Course Agenda

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REGISTER HERE



## DAY 1

- Listing the Advantages of Hydraulics and Pneumatics
- Discuss Hydraulic and Pneumatic Components
- Disassembling, Cleaning, Inspecting, and Reassembling a Hydraulic and/or Pneumatic Control Valve
- Operating a Hydraulic and/or Pneumatic Cylinder Using a Given Medium

## DAY 2

- Operating Multiple Hydraulic Cylinders Using a Hydraulic Medium
- Disassembling, Cleaning, Inspecting, and Reassembling a Hydraulic and/or Pneumatic Control Valve

## DAY 3

- Operating a Pneumatic Cylinder Using a Pneumatic Medium
- Operating Multiple Pneumatic Cylinders Using a Pneumatic Medium
- Lab
- Review and Exam



## PREREQUISITES

- Understanding of mechanical theory and mechanical systems

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