

Course Overview:

Designed for beginners in maintenance and engineering, this course provides essential knowledge of hydraulic and pneumatic systems. Participants will gain insights into the principles, components, and real-world applications of fluid power in industrial settings. The course supports technical staff in building competencies for effective system operation, troubleshooting, and maintenance.

Course Objective:

By the end of this course, participants will be able to:

- Understand fundamental principles of hydraulics and pneumatics
- Identify key system components and explain their functions
- Operate hydraulic and pneumatic systems safely and efficiently
- Perform routine maintenance and identify common system issues
- Diagnose and troubleshoot system malfunctions using appropriate tools

Course Outline:

1. Introduction to Hydraulics and Pneumatics
 - Basic Principles of Hydraulics
 - Basic Principles of Pneumatics
 - Comparison of Hydraulic and Pneumatic Systems
2. Hydraulic Components and Systems
 - Pumps and Motors
 - Valves and Cylinders
 - Hydraulic Circuits and Diagrams
3. Pneumatic Components and Systems
 - Compressors and Actuators
 - Pneumatic Control Valves
 - Pneumatic Circuit Design
4. Operation of Hydraulic and Pneumatic Systems
 - System Start-Up and Operation
 - Safety Considerations
 - Energy Efficiency in Systems
5. Maintenance of Hydraulic and Pneumatic Systems
 - Routine Maintenance Procedures
 - Preventive Maintenance
 - Common Maintenance Issues
6. Troubleshooting Techniques
 - Diagnosing System Failures
 - Troubleshooting Common Problems
 - Using Diagnostic Tools
7. Applications of Hydraulics and Pneumatics
 - Industrial Applications
 - Mobile Hydraulics
 - Pneumatics in Automation
8. Advancements in Hydraulics and Pneumatics
 - New Technologies in Hydraulics

Training Language:

English/Arabic

Training Methodology:

The course combines various teaching methods, including instructor-led presentations, group discussions, case study analyses, and assessments through quizzes and a final exam to engage participants and ensure they understand and retain the material.

Venue | Date | Fees

Riyadh | 07-09-2025 | 17,250 SAR

- Innovations in Pneumatics
- Future Trends in Fluid Power

Who Should Attend:

- Maintenance technicians
- Engineering students
- New engineers
- Technical staff in industrial settings