



London TDM

# Engineering and Technical Skills Training Courses

**Course Venue:** United Arab Emirates - Dubai

**Course Date:** From 02 November 2025 To 06 November 2025

**Course Place:** Downtown Dubai

**Course Fees:** 5,000 USD

## Introduction

This 5-day professional course is designed to offer in-depth knowledge and practical skills in hydraulic and pneumatic systems. The course aims to equip participants with the necessary expertise to handle, operate, and maintain these systems effectively in various industrial settings.

## Objectives

- Understand the fundamental principles of hydraulic and pneumatic systems.
- Identify key components and their functions within these systems.
- Develop skills to design, analyze, and troubleshoot hydraulic and pneumatic circuits.
- Gain hands-on experience with equipment and tools used in the industry.
- Implement safety measures and best practices in handling these systems.

## Course Outlines

### Day 1: Introduction to Hydraulic and Pneumatic Systems

- Overview of Fluid Power Systems
- Basic Concepts of Hydraulics and Pneumatics
- Comparison between Hydraulic and Pneumatic Systems
- Applications in Various Industries
- Introduction to Course Tools and Equipment

### Day 2: Components and Functions

- Pumps, Compressors, and Motors
- Valves: Directional, Pressure, and Flow Control
- Actuators: Cylinders and Rotary Actuators
- Understanding Hydraulic Fluids and Air Treatment
- System Configurations and Components Interactions

### Day 3: Hydraulic Systems Design and Analysis

- System Design Principles and Calculations
- Reading and Creating Hydraulic Schematics
- Circuit Design: Open and Closed-loop Systems
- Efficiency Considerations in Hydraulic Systems
- Hands-on Design Workshop

### Day 4: Pneumatic Systems Design and Applications

- Fundamentals of Pneumatic Systems Design
- Circuit Symbols and Diagrams Interpretation
- Applications of Pneumatics in Automation and Control
- Designing Energy-efficient Pneumatic Systems
- Pneumatic System Design Exercise

### Day 5: Troubleshooting, Maintenance, and Safety

- Common Troubleshooting Techniques
- Maintenance Procedures for System Longevity
- Implementing Safety Protocols in Operations
- Case Studies and Real-world Problem-Solving
- Course Review and Feedback Session