



London TDM

# Engineering and Technical Skills Training Courses

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

**Course Date:** From 25 January 2026 To 29 January 2026

**Course Place:** Downtown Dubai

**Course Fees:** 5,000 USD

## Introduction

This 5-day professional course provides an in-depth understanding of pumps, valves, and piping systems, essential components in various engineering and industrial applications. Participants will gain comprehensive knowledge of the selection, operation, and maintenance of these systems to ensure optimal performance and reliability in real-world scenarios.

## Objectives

- Understand the fundamental principles of pumps, valves, and piping systems.
- Identify different types of pumps and their applications.
- Detail the operation and maintenance practices for valves and piping systems.
- Analyze system design considerations for improved efficiency.
- Implement troubleshooting techniques to diagnose and resolve issues effectively.

## Course Outlines

### Day 1: Introduction to Pumping Systems

- Overview of pump types and applications
- Principles of pump operation and performance curves
- Selection criteria for pumps
- Understanding pump efficiency and energy consumption
- Common issues and preventive maintenance

### Day 2: Valves: Types and Functions

- Introduction to valve types and classification
- Mechanisms and operations of different valves
- Valve selection for specific applications
- Maintenance and troubleshooting of valves
- Safety considerations in valve operations

### Day 3: Design and Function of Piping Systems

- Components of piping systems
- Material selection for pipes and fittings
- Design principles for piping systems
- Flow measurement and control in piping systems
- Safety standards and regulatory compliance

### Day 4: System Integration and Design Considerations

- Integrating pumps, valves, and piping into a cohesive system
- Design optimization techniques
- Case studies on system efficiencies
- Simulation and modeling tools for design verification
- Cost analysis and lifecycle assessment

## **Day 5: Troubleshooting and Maintenance Strategies**

- Identification of common system failures
- Diagnostic tools and techniques
- Developing preventive maintenance schedules
- Hands-on troubleshooting scenarios and workshops
- Future trends and innovations in system management