



London TDM

# Mechanical and Electrical Engineering Training Courses

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

**Course Date:** From 23 November 2025 To 27 November 2025

**Course Place:** Downtown Dubai

**Course Fees:** 5,000 USD

## Introduction

This comprehensive 5-day professional course on Pumps and Compressors Operation and Maintenance is designed for engineers, technicians, and professionals involved in the selection, operation, and maintenance of mechanical systems. Participants will gain in-depth knowledge and practical skills to ensure the efficient and reliable operation of pumps and compressors in various industrial applications.

- Understand the fundamentals of pumps and compressors.
- Learn the operational principles of different types of pumps and compressors.
- Develop skills for troubleshooting and maintenance.
- Enhance productivity through effective operation strategies.
- Ensure safety and reliability in system performance.

## Course Outline

### Day 1: Introduction to Pumps and Compressors

- Overview of pump and compressor types and applications
- Principles of operation and performance characteristics
- Selection criteria for pumps and compressors
- Understanding system curves and performance curves
- Introduction to basics of fluid dynamics

### Day 2: Centrifugal Pumps

- Design and construction of centrifugal pumps
- Operation principles and efficiency factors
- Cavitation, NPSH, and troubleshooting techniques
- Pump curves and system matching
- Maintenance best practices and preventive strategies

### Day 3: Positive Displacement Pumps

- Types and applications of positive displacement pumps
- Operational features and comparison with centrifugal pumps
- Flow rate, pressure management, and efficiency
- Maintenance procedures and common issues
- Safety considerations and operational limits

### Day 4: Compressor Technologies

- Introduction to rotary and reciprocating compressors
- Understanding compression processes and thermodynamics
- Energy efficiency and power requirements
- Troubleshooting and diagnostics techniques
- Compressor system protection and safety measures

### Day 5: Maintenance and Troubleshooting

- Routine maintenance and inspection procedures
- Diagnosis of common pump and compressor issues
- Advanced troubleshooting methods
- Case studies and real-world problem-solving
- Developing a proactive maintenance strategy