



London TDM

# Mechanical and Electrical Engineering Training Courses

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

**Course Date:** From 03 May 2026 To 07 May 2026

**Course Place:** Downtown Dubai

**Course Fees:** 5,000 USD

## Introduction

The "Heating, Ventilation, and Air Conditioning Systems" course is designed to provide an in-depth understanding of HVAC systems, covering essential concepts, practical applications, and modern technologies. This five-day course is ideal for professionals seeking to enhance their expertise in HVAC design, implementation, and maintenance.

## Objectives

- Understand the fundamental principles of HVAC systems.
- Identify the components and their functions within an HVAC system.
- Learn the latest technologies and trends in HVAC systems.
- Develop skills to design and implement efficient HVAC solutions.
- Gain insights into maintenance and troubleshooting of HVAC systems.

## Course Outlines

### Day 1: Introduction to HVAC Systems

- Overview of HVAC systems and their importance
- Basic principles of heating, ventilation, and air conditioning
- Types and classifications of HVAC systems
- Introduction to thermodynamics in HVAC systems
- Understanding indoor air quality and its impact

### Day 2: Components and Operation of HVAC Systems

- Detailed analysis of HVAC system components
- Understanding refrigeration cycles and heat exchange
- Air distribution systems and ductwork design
- Control systems and automation in HVAC
- Case studies of different HVAC system configurations

### Day 3: HVAC System Design and Implementation

- Steps in designing an efficient HVAC system
- Load calculations and sizing of HVAC components
- Energy efficiency and sustainability considerations
- Regulatory standards and compliance
- Practical session: Designing a basic HVAC system

### Day 4: Advanced HVAC Technologies

- Introduction to smart HVAC systems
- Renewable energy integration in HVAC
- Innovative technologies in heating and cooling
- Indoor air quality management systems
- Future trends and predictions in HVAC technology

## **Day 5: Maintenance, Troubleshooting, and Best Practices**

- Routine maintenance procedures for HVAC systems
- Techniques for troubleshooting and solving common issues
- Ensuring optimal performance and longevity of systems
- Health, safety, and environmental considerations
- Interactive session: Solving real-world HVAC problems