



London TDM

# Mechanical and Electrical Engineering Training Courses

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

**Course Date:** From 17 May 2026 To 21 May 2026

**Course Place:** Downtown Dubai

**Course Fees:** 5,000 USD

## Introduction

This 5-day professional course on the "Fundamentals of Mechanical and Electrical Engineering" is designed to provide participants with a comprehensive understanding of key concepts in both fields. Through a blend of theoretical discussions and practical applications, attendees will gain valuable insights into the principles, tools, and technologies driving advancements in mechanical and electrical engineering.

## Objectives

- To familiarize participants with the basic concepts and terminologies in mechanical and electrical engineering.
- To provide detailed insights into the workings and applications of fundamental mechanical systems.
- To introduce participants to electrical system components and their functions.
- To impart practical knowledge on troubleshooting and maintenance of engineering systems.
- To enhance problem-solving and analytical skills with real-world engineering scenarios.

## Course Outline

### Day 1: Introduction to Mechanical Engineering

- Overview of Mechanical Engineering and its Evolution
- Basic Concepts and Terminologies
- Mechanics: Statics and Dynamics
- Introduction to Thermodynamics and Fluid Mechanics
- Applications in Various Industries

### Day 2: Core Components of Mechanical Systems

- Understanding Machine Elements: Bearings, Gears, and Springs
- Materials and Manufacturing Processes
- Principles of Machine Design
- Introduction to CAD and Simulation Tools
- Case Studies of Mechanical System Designs

### Day 3: Fundamentals of Electrical Engineering

- Introduction to Electrical Engineering Concepts
- Basic Electrical Circuits and Theorems
- Understanding AC and DC Systems
- Electrical Devices: Transformers, Generators, and Motors
- Role of Power Systems in Modern Infrastructure

### Day 4: Electrical Components and Applications

- Overview of Semiconductors and Integrated Circuits
- Introduction to Control Systems and Automation
- Energy Conversion and Power Electronics

- Basics of Signal Processing and Communication
- Real-world Applications and Innovations

### **Day 5: Integration and Advanced Topics**

- Mechatronics: Blending Mechanical and Electrical Engineering
- Introduction to Robotics and Embedded Systems
- Renewable Energy Technologies and Sustainability
- Troubleshooting and Maintenance Strategies
- Future Trends and Career Opportunities in Engineering