



London TDM

# Mechanical and Electrical Engineering Training Courses

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

**Course Date:** From 12 July 2026 To 16 July 2026

**Course Place:** Downtown Dubai

**Course Fees:** 5,000 USD

## Introduction

The "Electrical Power Generation and Distribution" course provides an in-depth understanding of the fundamental principles, techniques, and modern technology used in the generation and distribution of electrical power. This 5-day course is designed for professionals in the electrical engineering field who want to enhance their knowledge and skills in power systems to meet the growing demand for electricity in a sustainable and efficient manner.

## Objectives

- Understand the basics of electrical power generation and distribution systems.
- Explore various methods and technologies for power generation.
- Gain insight into the components of power distribution networks.
- Learn the operational and safety standards in power distribution.
- Analyze future trends and technologies in electrical power systems.

## Course Outlines

### Day 1: Introduction to Electrical Power Systems

- Overview of electrical power systems and their importance.
- Basics of electricity generation and distribution processes.
- Introduction to key terminology and concepts.
- Historical development of power systems.
- Current challenges and the future of power systems.

### Day 2: Power Generation Methods

- Overview of traditional and renewable energy sources.
- Detailed study of thermal, hydroelectric, and nuclear power plants.
- Wind and solar power generation technologies.
- Advantages and disadvantages of different generation methods.
- Environmental impacts and sustainability considerations.

### Day 3: Power Distribution Systems

- Structure and components of power distribution networks.
- Transmission lines and substations operations.
- Grid reliability and stability considerations.
- Distribution network planning and design.
- Smart grids and modern distribution technologies.

### Day 4: Operational and Safety Standards

- International standards and regulations in power systems.
- Safety protocols for electrical installations and maintenance.
- Protection systems and fault management in power networks.
- Case studies on risk management and operational safety.
- Emergency response and disaster recovery strategies.

## **Day 5: Future Trends and Innovations**

- Technological advancements in power generation and distribution.
- Integration of IoT and AI in power systems.
- The role of energy storage systems and electric vehicles.
- Decentralized power systems and microgrids.
- Workshop on innovation in electrical power systems.