



London TDM

Engineering and Technical Skills Training Courses

Course Venue: United Arab Emirates - Dubai

Course Date: From 30 November 2025 To 04 December 2025

Course Place: Downtown Dubai

Course Fees: 5,000 USD

Introduction

This intensive 5-day professional course on Electromechanical Systems and Integration is designed to provide participants with a comprehensive understanding of the principles, applications, and innovations in electromechanical systems. Throughout the course, participants will gain practical insights into the integration of mechanical and electrical components to create efficient and advanced systems. By the end of the course, learners will be equipped with the skills and knowledge to design, analyze, and integrate electromechanical systems effectively.

Objectives

- Understand the fundamentals and key components of electromechanical systems.
- Learn the principles of system integration and design methodologies.
- Acquire hands-on experience with the latest tools and technologies.
- Analyze and solve real-world electromechanical integration challenges.
- Explore future trends and innovations in electromechanical engineering.

Course Outlines

Day 1: Fundamentals of Electromechanical Systems

- Introduction to Electromechanical Systems
- Components and Types of Electromechanical Systems
- Basic Electrical and Mechanical Principles
- Motor and Actuator Technologies
- Energy Conversion and Power Flow

Day 2: System Design and Analysis

- Design Methodologies for Electromechanical Systems
- Computer-Aided Design (CAD) Tools
- System Modeling and Simulation Techniques
- Structural and Thermal Analysis
- Design Optimization and Validation

Day 3: Integration of Mechanical and Electrical Components

- Principles of System Integration
- Interfacing Electrical and Mechanical Subsystems
- Control Systems and Automation
- Embedded Systems in Electromechanical Integration
- Case Studies on System Integration

Day 4: Advanced Technologies and Applications

- Emerging Technologies in Electromechanical Systems
- Robotics and Automation in Industrial Applications
- Renewable Energy Systems Integration
- Electromechanical Systems in Automotive Industry

- Innovative Applications in Healthcare and Aerospace

Day 5: Future Trends and Hands-on Project

- Trends in Electromechanical System Development
- Impact of IoT and Artificial Intelligence
- Sustainability and Environmental Considerations
- Group Project: Designing an Integrated Electromechanical System
- Presentation and Feedback Session