London TDM

Mechanical and Electrical Engineering Training Courses

Course Venue: United Kingdom - London

Course Date: From 14 June 2026 To 18 June 2026

Course Place: London Paddington

Course Fees: 7,500 USD

Introduction

This 5-day professional course is designed to provide participants with a comprehensive understanding and hands-on experience in PLC (Programmable Logic Controller) programming for industrial applications. Participants will gain insights into the fundamentals of PLCs, learn to create effective programs for automation, and explore various industrial applications to enhance their technical skills and knowledge.

Objectives

- Understand the fundamental concepts of PLCs and their role in industrial automation.
- Learn to develop, test, and debug PLC programs using industry-standard software.
- Explore various communication protocols and integrate PLCs with other automation systems.
- Gain hands-on experience with real-world industrial PLC applications.
- Develop troubleshooting skills and best practices for maintaining PLC systems.

Course Outlines

Day 1: Introduction to PLCs and Industrial Automation

- Overview of industrial automation systems and the role of PLCs.
- History and evolution of PLC technology.
- Understanding PLC hardware components and architecture.
- PLC software tools and programming languages.
- Basic concepts: Bits, words, and Boolean logic.

Day 2: PLC Programming Basics

- Introduction to ladder logic diagrams and other programming languages.
- Developing simple PLC programs: Inputs and outputs.
- Timers and counters: Concepts and applications.
- Create a basic automation project using simulation software.
- Hands-on exercises and problem-solving activities.

Day 3: Advanced PLC Programming Techniques

- Understanding and using advanced instructions: Compare, math, and data handling.
- Working with analog inputs and outputs.
- Implementing sequential and state-based programming techniques.
- Error handling and program debugging strategies.
- Industrial application case studies and discussions.

Day 4: Communication Protocols and Integration

- Overview of communication protocols: Ethernet/IP, Modbus, and Profibus.
- Integrating PLCs with SCADA and HMI systems.
- Networking PLCs for industrial applications.
- Data exchange techniques for real-time monitoring and control.
- Practical exercises with communication setups and tests.

Day 5: Hands-on Projects and Troubleshooting

- Execute a real-world PLC project from start to finish.
- Troubleshooting common PLC issues and implementing solutions.
- Best practices for PLC maintenance and system upgrades.
- Review and analyze project outcomes and insights.
- Course conclusion and certification of completion.