London TDM

Engineering and Technical Skills Training Courses

Course Venue: United Kingdom - London

Course Date: From 31 May 2026 To 04 June 2026

Course Place: London Paddington

Course Fees: 7,500 USD

Introduction

Industrial Electrical Systems Design is a comprehensive course aimed at equipping participants with the skills and knowledge necessary to excel in designing electrical systems for industrial environments. This course covers fundamental principles, advanced techniques, and practical applications, ensuring participants can effectively create efficient, safe, and innovative electrical designs.

Objectives

- Understand the fundamental concepts of industrial electrical systems.
- Develop skills in designing robust and efficient electrical systems for industrial applications.
- Apply practical knowledge of safety standards and regulations in electrical design.
- Utilize advanced tools and techniques for electrical system modeling and analysis.
- Enhance troubleshooting and problem-solving capabilities in complex electrical systems.

Course Outlines

Day 1: Fundamentals of Industrial Electrical Systems

- Introduction to industrial electricity and power distribution systems.
- Understanding electrical components and their functions.
- Basics of electrical circuit design and schematics.
- Overview of electrical power generation and transmission.
- Introduction to power factor correction and energy efficiency.

Day 2: System Design and Specifications

- Principles of designing industrial electrical systems.
- Developing system specifications and standardization.
- Electrical load estimation and demand calculation techniques.
- Selection of cables, switchgear, and protective devices.
- Introduction to electrical schematic and layout design software.

Day 3: Safety Standards and Testing

- Understanding electrical safety standards and codes (e.g., IEEE, IEC).
- Design considerations for safety in industrial environments.
- Methods for testing and verifying electrical installations.
- Grounding and bonding practices in industrial systems.
- Case studies on safety incidents and preventive measures.

Day 4: Advanced Topics in Electrical Design

- Introduction to automation and control systems in industry.
- Designing for harmonics and power quality management.
- Integration of renewable energy sources in industrial systems.
- Advanced protection and coordination studies.
- Using simulation tools for system analysis and optimization.

Day 5: Troubleshooting and Maintenance

- Diagnosing common problems in industrial electrical systems.
- Preventive and predictive maintenance strategies.
- Fault analysis and repair methodologies.
- Understanding system resilience and reliability concepts.
- Final project and course wrap-up with questions and feedback session.