London TDM

Civil and Construction Engineering Training Courses

Course Venue: Malaysia - Kuala Lumpur

Course Date: From 01 February 2026 To 05 February 2026

Course Place: Royale Chullan Hotel

Course Fees: 6,000 USD

Introduction

The "Structural Design and Analysis" professional course is designed to provide engineers, architects, and construction professionals with a comprehensive understanding of modern structural engineering principles. Participants will gain insights into key design elements, analytical techniques, and practical applications to enhance their ability to develop safe and efficient structures. This course combines theory with practical exercises, ensuring a well-rounded and applicable learning experience.

Objectives

- Understand the fundamental principles of structural design and analysis.
- Apply analytical techniques to assess structural integrity and performance.
- Utilize modern tools and software for structural analysis and design.
- Incorporate sustainability considerations into structural engineering projects.
- Develop solutions for complex structural challenges through case studies.

Course Outlines

Day 1: Introduction to Structural Engineering

- Overview of Structural Engineering Principles
- Types of Structures and Materials
- Structural Loads and Their Impacts
- Introduction to Building Codes and Standards
- Basic Tools for Structural Analysis

Day 2: Structural Analysis Techniques

- Static and Dynamic Analysis Methods
- Load Path and Stress Distribution
- Introduction to Finite Element Analysis (FEA)
- Using Software for Structural Analysis
- Practical Exercises and Examples

Day 3: Design of Steel Structures

- Material Properties and Behavior of Steel
- Design Considerations for Steel Structures
- Connections and Joint Design
- Buckling and Stability Issues
- Case Study: Design of a Steel Frame Building

Day 4: Concrete and Composite Structures

- Properties of Concrete and Reinforcement
- Design Principles for Reinforced Concrete Structures
- Composite Materials and Their Applications
- Advanced Topics: Pre-stressed and Post-tensioned Concrete
- Workshop: Concrete Structure Design Session

Day 5: Sustainability and Advanced Topics

- Sustainability in Structural Engineering
- Seismic Design Considerations
- Retrofit and Rehabilitation of Structures
- Emerging Materials and Technologies
- Final Project: Innovative Structural Design Solution