London TDM

Civil and Construction Engineering Training Courses

Course Venue: Malaysia - Kuala Lumpur

Course Date: From 31 May 2026 To 04 June 2026

Course Place: Royale Chullan Hotel

Course Fees: 6,000 USD

Introduction

This 5-day professional course on "Soil Mechanics and Foundation Engineering" is designed for civil engineers, geotechnical specialists, and construction professionals who seek to deepen their understanding of the principles and practices in soil mechanics and foundation design. The course combines theoretical concepts with practical applications, equipping participants with essential skills for effective project planning and execution in various soil conditions.

Objectives

- Understand the fundamental principles of soil mechanics.
- Identify various soil properties and their implications on construction.
- Analyze and design different types of foundations.
- Apply engineering principles in soil testing and investigation.
- Troubleshoot and solve complex geotechnical engineering problems.

Course Outlines

Day 1: Introduction to Soil Mechanics

- Overview of Soil Mechanics and its importance in engineering.
- Classification of soils and basic soil properties.
- Soil formation and its geological impact.
- Field identification and soil exploration techniques.
- Introduction to soil compaction and its significance.

Day 2: Soil Properties and Classification

- Detailed study of soil physical properties: texture, structure, and color.
- Understanding soil plasticity and consistency.
- Grain size analysis and soil classification systems.
- Atterberg limits and their engineering significance.
- Concept of soil densification and stabilization methods.

Day 3: Soil Behaviour and Testing Methods

- Stress-strain behavior of soils under different conditions.
- Introduction to permeability and seepage in soils.
- Compaction tests and proctor test method.
- Shear strength of soils: Direct shear and triaxial tests.
- Use of geotechnical lab instruments for soil analysis.

Day 4: Foundation Engineering Principles

- Introduction to foundation engineering and its significance.
- Types of foundations: Shallow vs. deep foundations.
- Design and analysis of footings and rafts.
- Pile foundation types and construction methods.
- Settlement analysis and control in foundation design.

Day 5: Advanced Foundation Design and Case Studies

- Advanced topics in foundation design: caissons and cofferdams.
- Study of special foundations for difficult soils.
- Case studies of foundation failures and their remedies.
- Introduction to software tools for geotechnical analysis.
- Project work and group discussion on real-world geotechnical projects.