



London TDM

Civil and Construction Engineering Training Courses

Course Venue: United Arab Emirates - Dubai

Course Date: From 02 November 2025 To 06 November 2025

Course Place: Downtown Dubai

Course Fees: 5,000 USD

Introduction

Concrete Technology and Mix Design is an essential course for engineers, architects, and construction professionals who aim to enhance their skills in understanding and working with concrete materials. This 5-day course gives participants a comprehensive understanding of concrete properties, mix design principles, and industry best practices for achieving high-quality and durable concrete structures.

Objectives

- Understand the fundamental properties of concrete and its components.
- Learn the principles of concrete mix design and optimization techniques.
- Familiarize with the latest technologies and advancements in concrete technology.
- Explore problem-solving strategies for common concrete-related issues.
- Gain insights into sustainable practices and innovations in concrete production.

Course Outlines

Day 1: Fundamentals of Concrete Technology

- Introduction to Concrete and its Applications
- Properties of Fresh and Hardened Concrete
- Role and Characteristics of Cement
- Aggregates in Concrete: Types and Properties
- Admixtures and their Effects on Concrete Performance

Day 2: Principles of Concrete Mix Design

- Objectives and Concepts of Mix Design
- Factors Influencing Mix Design
- Introduction to Mix Design Methods
- Workability and Durability Considerations
- Lab Session: Basic Mix Design Practice

Day 3: Advances in Concrete Technology

- High-Performance Concrete: Features and Uses
- Innovations in Concrete Materials and Techniques
- Introduction to Self-Consolidating Concrete
- Fiber-Reinforced Concrete and its Applications
- Sustainability in Concrete Production and Use

Day 4: Practical Challenges and Solutions

- Common Concrete Problems and Remedies
- Cracking in Concrete: Causes and Prevention
- Durability Challenges in Different Environments
- Formwork and Its Impact on Concrete Quality
- Case Studies: Analysis of Real-world Concrete Challenges

Day 5: Lab Sessions and Project Work

- Advanced Mix Design Techniques
- Hands-on Lab Work: Custom Mix Design Process
- Project: Developing a Concrete Mix for Specific Requirements
- Group Presentations on Project Findings
- Course Review and Feedback Session