

# Designing High Performance Concrete Structures

## Course

### Venue Information

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**Venue:** London UK

**Place:**

**Start Date:** 2025-07-14

**End Date:** 2025-07-18

### Course Details

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**Net Fee:** £4750.00

**Duration:** 1 Week

**Category ID:** CACETC

**Course Code:** CACETC-23

### Syllabus

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#### Course Syllabus

#### Course Description

This course will introduce you to state-of-the-art technologies and methodologies for designing and specifying concrete subjected to extreme conditions.

#### Course Objective

**At the end of this seminar you will be able to:**

- Understand the basics of quality concrete construction
- Provide design details to minimize concrete deterioration
- Develop project specifications to improve concrete durability
- Fully utilize the latest technology in concrete materials and construction methods

## **Concrete in Extreme Conditions**

- Freeze-Thaw
- Chemical Attack
- Marine Environments
- Abrasion and Erosion
- High Strength Concrete
- Self-Consolidating Concrete
- Mass Concrete
- Roller-compacted Concrete
- Pervious Concrete
- Ultra-thin Whitetopping

## **Design Details to Reduce Corrosion**

- Crack Control
- Concrete Cover
- Materials and Mix Design

## **Characteristics**

- Membranes and sealers
- Cathodic Protection

## **Fundamentals of Quality Concrete**

- Materials
- Batching and Delivery
- Quality Control and Quality Assurance

## **Construction Methods**

- Handling and Placing Concrete
- Finishing and Curing Concrete
- Hot and Cold Weather Concrete
- Construction Scheduling

## **Specifying Concrete for High Performance**

- Prescriptive versus

## **Performance-based Specifications**

- Performance Criteria
- Construction Execution
- Pre-qualification Testing
- Acceptance Testing

