

# **Designing High Performance Concrete Structures**

# Course

### **Venue Information**

Venue: London UK

Place:

**Start Date:** 2025-10-20 **End Date:** 2025-10-24

## **Course Details**

Net Fee: £4750.00 Duration: 1 Week

Category ID: CACETC

Course Code: CACETC-23

# **Syllabus**

#### **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

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#### **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

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