

# aractech

Global Learning for Operational Leaders



CONSTRUCTION MANAGEMENT | CM-002

## Concrete Structural Design For Industrial Projects

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### Address

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# Course content

## Why Attend

Industrial facilities such as factories, warehouses, refineries, and power plants demand highly specialized structural design approaches. This course provides engineers and technical professionals with the essential knowledge and practical skills to design safe, durable, and cost-effective reinforced concrete structures tailored to industrial applications. Participants will gain insight into handling heavy loads, dynamic forces, environmental exposure, and compliance with international standards. By attending, you will enhance your ability to deliver efficient designs, minimize risks, and ensure long-term structural performance in complex industrial environments.

## Course Methodology

• This course uses a combination of interactive lectures, real-world case studies, and practical design exercises. Participants will work through examples based on actual industrial projects, applying international codes and standards. Group discussions and problem-solving sessions will encourage knowledge sharing, while hands-on calculations and design reviews will strengthen technical understanding. Software demonstrations may also be included to illustrate modern structural design practices.

## Course Objectives

- Understand the principles of reinforced concrete design for industrial structures
- Identify different types of loads and load combinations specific to industrial facilities
- Apply relevant international design codes and standards
- Design key structural elements such as slabs, beams, columns, and foundations
- Evaluate structural performance under static and dynamic loads
- Address durability, sustainability, and safety considerations

## Target Audience

- Civil and Structural Engineers
- Design Engineers and Consultants
- Project Engineers and Construction Managers
- Technical Professionals in Industrial Projects

## Course outline

### Detailed course outline

Day-by-day outline for Concrete Structural Design For Industrial Projects.

### Day 1 - Fundamentals of Concrete Structural Design

- Introduction to industrial structures and their requirements
- Properties of concrete and reinforcing steel
- Design philosophies (Working Stress vs Limit State Design)
- Overview of international codes (ACI, Eurocode)
- Load types and load combinations

### Day 2 - Structural Analysis and Load Considerations

- Structural systems in industrial projects
- Dead, live, wind, seismic, and dynamic loads
- Load paths and distribution
- Structural analysis methods
- Introduction to modeling tools and software

### Day 3 - Design of Reinforced Concrete Elements

- Design of beams and slabs
- Design of columns and walls
- Shear, bending, and torsion considerations
- Serviceability limits (deflection, cracking)
- Reinforcement detailing best practices



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### Day 4 - Foundation Design for Industrial Structures

- Types of foundations (shallow and deep foundations)
- Soil-structure interaction basics
- Design of footings, raft foundations, and piles
- Foundations for heavy machinery
- Settlement and stability considerations

### Day 5 - Advanced Topics and Practical Applications

- Design for durability and harsh environments
- Industrial structures under dynamic and impact loads
- Retrofitting and strengthening techniques
- Review of real industrial case studies
- Final project and design review discussion

# Seminar dates

## Available seminar dates

Live dates and pricing for Concrete Structural Design For Industrial Projects generated from the course details page.

Date	Location	Format	Fee
15 - 19 June 2026	London	Classroom	€2,940
20 - 24 July 2026	Istanbul	Classroom	€1,995
3 - 7 August 2026	Vienna	Classroom	€2,975
7 - 11 September 2026	Barcelona	Classroom	€2,695
12 - 16 October 2026	Paris	Classroom	€3,150
9 - 13 November 2026	Frankfurt	Classroom	€2,275
14 - 18 December 2026	Barcelona	Classroom	€2,695

**Live online option**

Online delivery is available at €1,250.