

Concrete Structural Design For Industrial Projects

Course code: CM-002



SPARK TRAINING

Professional training courses for leaders, specialists, and organizations seeking practical capability development.

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— Workshop Overview

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.

Why Attend

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

Who Should Attend

Civil and Structural Engineers
Design Engineers and Consultants
Project Engineers and Construction Managers
Technical Professionals in Industrial Projects
Engineering Graduates seeking specialization in structural design

— Learning 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
- Interpret structural drawings and design documentation
- Solve practical design challenges in industrial projects

— Course Outline

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

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

— Upcoming Classroom Dates

DATE	LOCATION	FEE
12 - 16 October 2026	Paris - France	€2,250
9 - 13 November 2026	Frankfurt - Germany	€1,625
14 - 18 December 2026	Barcelona - Spain	€1,925
18 - 22 January 2027	London - United Kingdom	€2,100
15 - 19 February 2027	Istanbul - Türkiye	€1,425
15 - 19 March 2027	Vienna - Austria	€2,125
19 - 23 April 2027	Barcelona - Spain	€1,925
17 - 21 May 2027	Paris - France	€2,250

— Certificate and Registration

Participants who attend and complete the full programme receive a SPARK Training Certificate of Completion. For registration, in-house delivery, or availability questions, contact info@sparktraining.eu or +31 85 115 0004.