

Construction Materials and Building Systems

Professional training programme



SPARK TRAINING

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

info@sparktraining.eu

+31 85 115 0004 | sparktraining.eu

— Workshop Overview

This Construction Materials and Building Systems training course offers a comprehensive understanding of construction materials and building systems, focusing on both traditional and modern technologies. Participants will gain insights into selecting appropriate materials, understanding their properties, and integrating efficient building systems for sustainable construction projects. This course is designed to equip professionals with practical knowledge and skills essential for the construction industry. This training course will feature:

- Understanding material properties and selection
- Sustainable construction techniques
- Integrating building systems for efficiency
- Latest trends in construction technology
- Practical case studies and real-world applications

Why Attend

This training course will utilize a variety of proven adult learning techniques to ensure maximum understanding, comprehension, and retention of the information presented. This includes lectures, interactive discussions, group exercises, and hands-on case studies to enhance practical application.

Who Should Attend

Civil engineers and architects
Project managers in construction
Building inspectors and surveyors
Sustainability consultants
Construction site supervisors

— Learning Objectives

- Understand material properties
- Analyse building systems integration
- Apply sustainable construction methods
- Design efficient structures
- Evaluate new construction technologies

Course Outline

DAY
1

Day One: Introduction to Construction Materials

- Overview of construction materials
- Types and classifications
- Properties of concrete and steel
- Factors influencing material selection
- Material sustainability and life cycle
- Case studies on material usage

DAY
2

Day Two: Building Systems and Integration

- Understanding building systems
- HVAC systems and energy efficiency
- Electrical and plumbing systems
- Smart building technologies
- Integration of systems for sustainability
- Practical examples of system design

DAY
3

Day Three: Sustainable Construction Practices

- Principles of sustainable construction
- Green building materials
- Waste management in construction
- Energy-efficient building designs
- LEED certification and standards
- Case studies in green construction

DAY
4

Day Four: Structural Design and Analysis

- Basics of structural analysis
- Load-bearing structures
- Design of reinforced concrete
- Foundations and ground stability
- Construction safety and compliance
- Hands-on design exercises

DAY
5

Day Five: Latest Trends and Innovations

- Emerging construction technologies
- Use of AI and automation in construction
- Prefabrication and modular construction
- Digital twins and BIM (Building Information Modelling)
- Future of construction materials
- Review and final project presentation

— Upcoming Classroom Dates

DATE	LOCATION	FEE
5 - 9 October 2026	Paris - France	€2,250
16 - 20 November 2026	Frankfurt - Germany	€1,625
7 - 11 December 2026	Barcelona - Spain	€1,925
11 - 15 January 2027	Barcelona - Spain	€1,925
8 - 12 February 2027	London - United Kingdom	€2,100
8 - 12 March 2027	Munich - Germany	€2,125
12 - 16 April 2027	Barcelona - Spain	€1,925
10 - 14 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.