

Road Construction Materials and Construction Technologies

Course code: CM-003



SPARK TRAINING

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

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— Workshop Overview

Road infrastructure is a critical component of economic development and connectivity. This course provides a comprehensive understanding of the materials and modern construction technologies used in road projects. Participants will learn how to select appropriate materials, apply best construction practices, and ensure quality and durability in various environmental and traffic conditions. By attending, you will enhance your ability to deliver cost-effective, sustainable, and high-performance road projects while minimizing maintenance and lifecycle costs.

Why Attend

The course combines interactive lectures, practical examples, and case studies from real road construction projects. Participants will engage in group discussions, material evaluation exercises, and problem-solving sessions. Demonstrations of construction techniques and quality control procedures will be included, along

Who Should Attend

Civil Engineers and Highway Engineers
Construction and Site Engineers
Project Managers and Supervisors
Quality Control and Materials Engineers
Consultants and Contractors in infrastructure projects

— Learning Objectives

- Identify and evaluate materials used in road construction
- Understand the properties and performance of asphalt, concrete, and aggregates
- Apply appropriate construction techniques for different road types
- Implement quality control and assurance procedures
- Analyze common road defects and failures
- Select suitable maintenance and rehabilitation methods
- Understand sustainable and innovative road construction technologies
- Interpret technical specifications and standards

— Course Outline

DAY
1

Fundamentals of Road Construction Materials

- Introduction to road construction and pavement types
- Overview of flexible and rigid pavements
- Properties of aggregates and their classification
- Bituminous materials and asphalt basics
- Cement and concrete for road construction

DAY
2

Material Testing and Quality Control

- Laboratory and field testing of aggregates
- Asphalt testing methods (penetration, viscosity, etc.)
- Concrete testing and mix design basics
- Quality assurance vs quality control
- Standards and specifications (ASTM, AASHTO, EN)

DAY
3

Road Construction Techniques

- Site preparation and earthworks
- Subgrade, subbase, and base construction
- Asphalt paving techniques and equipment
- Concrete road construction methods
- Compaction methods and equipment

DAY
4

Pavement Performance and Maintenance

- Common pavement distresses and failures
- Causes of cracking, rutting, and potholes
- Preventive maintenance techniques
- Rehabilitation and overlay methods
- Life-cycle cost considerations

DAY
5

Advanced Technologies and Sustainable Practices

- Modern road construction technologies
- Use of recycled materials (RAP, recycled concrete)
- Sustainable and green road construction practices
- Smart roads and innovative materials

- Case studies and project review

— Upcoming Classroom Dates

DATE	LOCATION	FEE
5 - 9 October 2026	Barcelona - Spain	€1,925
16 - 20 November 2026	Paris - France	€2,250
7 - 11 December 2026	Frankfurt - Germany	€1,625
11 - 15 January 2027	Amsterdam - Netherlands	€2,125
8 - 12 February 2027	London - United Kingdom	€2,100
8 - 12 March 2027	Istanbul - Türkiye	€1,425
12 - 16 April 2027	Cape Town - South Africa	€2,125
10 - 14 May 2027	Barcelona - Spain	€1,925

— 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.