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CONSTRUCTION MANAGEMENT | CM-057

Water and Drainage Infrastructure Construction

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Course content

Why Attend

Water supply networks, sewers, storm drainage, treatment plants and pumping stations are essential to public health and urban life. Building and renewing this infrastructure involves deep excavations, work near live services, groundwater, traffic disruption and strict quality requirements for pipes, joints and structures that must perform for decades.

This Water and Drainage Infrastructure Construction training course provides a practical understanding of how water and wastewater infrastructure is planned and built. Participants learn about pipe materials and design principles, open-cut and trenchless installation methods, manholes and chambers, pumping stations and treatment plant construction, testing and commissioning, and the management of safety, traffic and community impacts.

Course Methodology

• The course uses technical briefings, drawings and case studies from water and drainage projects. Participants plan a pipeline installation, select between open-cut and trenchless methods, review test results and plan traffic management, working in groups on realistic scenarios.

Course Objectives

• Explain the components of water and drainage infrastructure

• Understand hydraulic and structural design principles for pipelines

• Select pipe materials and jointing systems appropriately

• Plan open-cut pipeline construction and trench support

• Compare trenchless installation and rehabilitation methods

• Manage construction of pumping stations and treatment structures

Target Audience

• Civil engineers in water and wastewater

• Construction managers and site supervisors

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Course content

- Utility project managers
- Consulting and design engineers

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Course outline

Detailed course outline

Day-by-day outline for Water and Drainage Infrastructure Construction.

Day 1 - Water and Drainage Systems

- 09:00-09:34 | Water supply, sewerage and storm drainage systems
- 09:34-10:08 | Network components and their functions
- 10:08-10:42 | Hydraulic principles for pressure and gravity pipelines
- 10:42-11:00 | Regulatory and public health requirements
- 11:00-11:30 | Coffee break
- 11:30-11:46 | Regulatory and public health requirements (continued)
- 11:46-12:20 | Ageing infrastructure and renewal programmes
- 12:20-12:53 | Climate change and urban drainage challenges
- 12:53-14:00 | Exercise: reviewing a network layout

Day 2 - Pipes, Materials and Design

- 09:00-09:30 | Pipe materials: ductile iron, plastics, concrete and steel
- 09:30-10:00 | Jointing systems and their installation requirements
- 10:00-11:00 | Structural design of buried pipes
- 11:00-11:30 | Coffee break
- 11:30-12:00 | Bedding, backfill and pipe support
- 12:00-12:30 | Manholes, chambers and valves
- 12:30-13:00 | Corrosion and durability of pipeline materials
- 13:00-14:00 | Workshop: selecting pipe materials for scenarios

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Day 3 - Open-Cut and Trenchless Construction

- 09:00-09:34 | Planning open-cut pipeline construction
- 09:34-10:08 | Trench support and groundwater control
- 10:08-10:42 | Working near existing utilities safely
- 10:42-11:00 | Pipe jacking and microtunnelling
- 11:00-11:30 | Coffee break
- 11:30-11:46 | Pipe jacking and microtunnelling (continued)
- 11:46-12:20 | Horizontal directional drilling for pipe installation
- 12:20-12:53 | Pipe rehabilitation and relining techniques
- 12:53-14:00 | Exercise: choosing between open-cut and trenchless methods

Day 4 - Pumping Stations and Treatment Plants

- 09:00-09:54 | Pumping station design and construction
- 09:54-10:21 | Wet wells, dry wells and deep shaft construction
- 10:21-11:00 | Building water-retaining concrete structures
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Building water-retaining concrete structures (continued)
- 11:45-12:12 | Mechanical and electrical installation coordination
- 12:12-12:39 | Treatment plant construction sequencing
- 12:39-13:06 | Working on live operational sites
- 13:06-14:00 | Case study: building a sewage pumping station

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Day 5 - Testing, Commissioning and Impact Management

- 09:00-09:39 | Pressure testing of water pipelines
- 09:39-10:18 | Air and water testing of gravity sewers
- 10:18-10:57 | Disinfection and water quality sampling
- 10:57-11:00 | CCTV surveys and acceptance criteria
- 11:00-11:30 | Coffee break
- 11:30-12:06 | CCTV surveys and acceptance criteria (continued)
- 12:06-12:44 | Traffic management and community communication
- 12:44-13:22 | Handover, records and asset information
- 13:22-14:00 | Personal action plan for water infrastructure construction

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Seminar dates

Available seminar dates

Live dates and pricing for Water and Drainage Infrastructure Construction generated from the course details page.

Date	Location	Format	Fee
7 - 11 December 2026	London	Classroom	**€2,915**
14 - 18 December 2026	Barcelona	Classroom	**€2,275**
21 - 25 December 2026	Frankfurt	Classroom	**€2,175**
18 - 22 January 2027	London	Classroom	**€2,915**
25 - 29 January 2027	Barcelona	Classroom	**€2,275**
4 - 8 January 2027	Frankfurt	Classroom	**€2,175**
11 - 15 January 2027	Rome	Classroom	**€2,830**
22 - 26 February 2027	London	Classroom	**€2,915**
1 - 5 February 2027	Barcelona	Classroom	**€2,275**
8 - 12 February 2027	Frankfurt	Classroom	**€2,175**

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Seminar dates

Available seminar dates

Live dates and pricing for Water and Drainage Infrastructure Construction generated from the course details page.

Date	Location	Format	Fee
15 - 19 February 2027	Vienna	Classroom	**€3,425**
1 - 5 March 2027	London	Classroom	**€2,915**
8 - 12 March 2027	Barcelona	Classroom	**€2,275**
15 - 19 March 2027	Frankfurt	Classroom	**€2,175**
22 - 26 March 2027	Amsterdam	Classroom	**€3,215**
12 - 16 April 2027	London	Classroom	**€2,915**
19 - 23 April 2027	Barcelona	Classroom	**€2,275**
26 - 30 April 2027	Frankfurt	Classroom	**€2,175**
5 - 9 April 2027	Cape Town	Classroom	**€1,825**
17 - 21 May 2027	London	Classroom	**€2,915**

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Seminar dates

Available seminar dates

Live dates and pricing for Water and Drainage Infrastructure Construction generated from the course details page.

Date	Location	Format	Fee
24 - 28 May 2027	Barcelona	Classroom	**€2,275**
3 - 7 May 2027	Frankfurt	Classroom	**€2,175**
10 - 14 May 2027	Dubai	Classroom	**€2,845**
7 - 11 June 2027	London	Classroom	**€2,915**
14 - 18 June 2027	Barcelona	Classroom	**€2,275**
21 - 25 June 2027	Frankfurt	Classroom	**€2,175**
5 - 9 July 2027	London	Classroom	**€2,915**
12 - 16 July 2027	Barcelona	Classroom	**€2,275**
19 - 23 July 2027	Frankfurt	Classroom	**€2,175**
26 - 30 July 2027	Istanbul	Classroom	**€2,825**

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Seminar dates

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Live dates and pricing for Water and Drainage Infrastructure Construction generated from the course details page.

Date	Location	Format	Fee
9 - 13 August 2027	London	Classroom	**€2,915**
16 - 20 August 2027	Barcelona	Classroom	**€2,275**
23 - 27 August 2027	Frankfurt	Classroom	**€2,175**
2 - 6 August 2027	Kuala lumpur	Classroom	**€2,425**
6 - 10 September 2027	London	Classroom	**€2,915**
13 - 17 September 2027	Barcelona	Classroom	**€2,275**
20 - 24 September 2027	Frankfurt	Classroom	**€2,175**
25 - 29 October 2027	London	Classroom	**€2,915**
4 - 8 October 2027	Barcelona	Classroom	**€2,275**
11 - 15 October 2027	Frankfurt	Classroom	**€2,175**

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Seminar dates

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Live dates and pricing for Water and Drainage Infrastructure Construction generated from the course details page.

Date	Location	Format	Fee
18 - 22 October 2027	Munich	Classroom	**€2,425**
1 - 5 November 2027	London	Classroom	**€2,915**
8 - 12 November 2027	Barcelona	Classroom	**€2,275**
15 - 19 November 2027	Frankfurt	Classroom	**€2,175**
22 - 26 November 2027	Paris	Classroom	**€2,810**
13 - 17 December 2027	London	Classroom	**€2,915**
20 - 24 December 2027	Barcelona	Classroom	**€2,275**
27 - 31 December 2027	Frankfurt	Classroom	**€2,175**
6 - 10 December 2027	Rome	Classroom	**€2,830**
7 - 11 December 2026	Online / Live	Online / Live	**€1,625**

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Live dates and pricing for Water and Drainage Infrastructure Construction generated from the course details page.

Date	Location	Format	Fee
14 - 18 December 2026	Online / Live	Online / Live	**€1,625**
21 - 25 December 2026	Online / Live	Online / Live	**€1,625**
18 - 22 January 2027	Online / Live	Online / Live	**€1,625**
25 - 29 January 2027	Online / Live	Online / Live	**€1,625**
4 - 8 January 2027	Online / Live	Online / Live	**€1,625**
11 - 15 January 2027	Online / Live	Online / Live	**€1,625**
22 - 26 February 2027	Online / Live	Online / Live	**€1,625**
1 - 5 February 2027	Online / Live	Online / Live	**€1,625**
8 - 12 February 2027	Online / Live	Online / Live	**€1,625**
15 - 19 February 2027	Online / Live	Online / Live	**€1,625**

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Date	Location	Format	Fee
1 - 5 March 2027	Online / Live	Online / Live	**€1,625**
8 - 12 March 2027	Online / Live	Online / Live	**€1,625**
15 - 19 March 2027	Online / Live	Online / Live	**€1,625**
22 - 26 March 2027	Online / Live	Online / Live	**€1,625**
12 - 16 April 2027	Online / Live	Online / Live	**€1,625**
19 - 23 April 2027	Online / Live	Online / Live	**€1,625**
26 - 30 April 2027	Online / Live	Online / Live	**€1,625**
5 - 9 April 2027	Online / Live	Online / Live	**€1,625**
17 - 21 May 2027	Online / Live	Online / Live	**€1,625**
24 - 28 May 2027	Online / Live	Online / Live	**€1,625**

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Date	Location	Format	Fee
3 - 7 May 2027	Online / Live	Online / Live	**€1,625**
10 - 14 May 2027	Online / Live	Online / Live	**€1,625**
7 - 11 June 2027	Online / Live	Online / Live	**€1,625**
14 - 18 June 2027	Online / Live	Online / Live	**€1,625**
21 - 25 June 2027	Online / Live	Online / Live	**€1,625**
5 - 9 July 2027	Online / Live	Online / Live	**€1,625**
12 - 16 July 2027	Online / Live	Online / Live	**€1,625**
19 - 23 July 2027	Online / Live	Online / Live	**€1,625**
26 - 30 July 2027	Online / Live	Online / Live	**€1,625**
9 - 13 August 2027	Online / Live	Online / Live	**€1,625**

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Date	Location	Format	Fee
16 - 20 August 2027	Online / Live	Online / Live	**€1,625**
23 - 27 August 2027	Online / Live	Online / Live	**€1,625**
2 - 6 August 2027	Online / Live	Online / Live	**€1,625**
6 - 10 September 2027	Online / Live	Online / Live	**€1,625**
13 - 17 September 2027	Online / Live	Online / Live	**€1,625**
20 - 24 September 2027	Online / Live	Online / Live	**€1,625**
25 - 29 October 2027	Online / Live	Online / Live	**€1,625**
4 - 8 October 2027	Online / Live	Online / Live	**€1,625**
11 - 15 October 2027	Online / Live	Online / Live	**€1,625**
18 - 22 October 2027	Online / Live	Online / Live	**€1,625**

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Date	Location	Format	Fee
1 - 5 November 2027	Online / Live	Online / Live	**€1,625**
8 - 12 November 2027	Online / Live	Online / Live	**€1,625**
15 - 19 November 2027	Online / Live	Online / Live	**€1,625**
22 - 26 November 2027	Online / Live	Online / Live	**€1,625**
13 - 17 December 2027	Online / Live	Online / Live	**€1,625**
20 - 24 December 2027	Online / Live	Online / Live	**€1,625**
27 - 31 December 2027	Online / Live	Online / Live	**€1,625**
6 - 10 December 2027	Online / Live	Online / Live	**€1,625**