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CONSTRUCTION MANAGEMENT | CM-051

Geotechnical Engineering for Construction Managers

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Course content

Why Attend

Ground conditions are one of the largest sources of uncertainty, cost overrun and delay in construction. Unexpected soft ground, rock, groundwater, contamination or old foundations can disrupt foundations, excavations, earthworks and tunnels, and poorly understood ground risk often leads to disputes.

This Geotechnical Engineering for Construction Managers training course gives non-specialist construction professionals a practical understanding of ground engineering. Participants learn how soils and rocks behave, how ground investigations are planned and interpreted, how foundations, retaining structures and earthworks are designed and built, how groundwater is controlled and how ground risk is managed contractually.

Course Methodology

• The course uses ground investigation reports, borehole logs, photographs and case studies of ground-related problems. Participants interpret data, select foundation types for scenarios, review earthworks specifications and allocate ground risks in contract exercises. Technical concepts are explained in practical, accessible terms.

Course Objectives

• Explain basic soil and rock properties and behaviour

• Understand the planning and scope of ground investigations

• Interpret ground investigation reports and borehole logs

• Describe shallow and deep foundation types and their selection

• Understand retaining structures and excavation support

• Manage earthworks, compaction and ground improvement

Target Audience

• Construction and project managers

• Site engineers and civil engineers

• Quantity surveyors and commercial managers

Course content

- Client project managers

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Course outline

Detailed course outline

Day-by-day outline for Geotechnical Engineering for Construction Managers.

Day 1 - Soils, Rocks and Ground Behaviour

- 09:00-09:34 | Why ground conditions matter in construction
- 09:34-10:08 | Soil types and their engineering properties
- 10:08-10:42 | Rock types, weathering and discontinuities
- 10:42-11:00 | Strength, compressibility and settlement explained
- 11:00-11:30 | Coffee break
- 11:30-11:46 | Strength, compressibility and settlement explained (continued)
- 11:46-12:20 | Effective stress and the role of water in soils
- 12:20-12:53 | Lessons from ground-related construction failures
- 12:53-14:00 | Exercise: identifying ground risks for a site

Day 2 - Ground Investigation

- 09:00-09:27 | Desk studies and site walkover surveys
- 09:27-09:54 | Planning intrusive investigations and boreholes
- 09:54-10:48 | In situ and laboratory testing methods
- 10:48-11:00 | Reading borehole logs and trial pit records
- 11:00-11:30 | Coffee break
- 11:30-11:45 | Reading borehole logs and trial pit records (continued)
- 11:45-12:12 | Interpreting ground investigation reports
- 12:12-13:06 | Geotechnical baseline reports and design parameters
- 13:06-14:00 | Workshop: interpreting a ground investigation report

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Day 3 - Foundations and Retaining Structures

- 09:00-09:34 | Shallow foundations: pads, strips and rafts
- 09:34-10:08 | Deep foundations: driven and bored piles
- 10:08-10:42 | Pile testing and integrity checks
- 10:42-11:00 | Retaining walls and embedded walls
- 11:00-11:30 | Coffee break
- 11:30-11:46 | Retaining walls and embedded walls (continued)
- 11:46-12:20 | Excavation support and temporary works
- 12:20-12:53 | Settlement and effects on adjacent structures
- 12:53-14:00 | Exercise: selecting foundations for scenarios

Day 4 - Earthworks, Groundwater and Ground Improvement

- 09:00-10:00 | Earthworks design, cut and fill balance
- 10:00-10:30 | Compaction specifications and testing
- 10:30-11:00 | Slope stability and embankment construction
- 11:00-11:30 | Coffee break
- 11:30-12:00 | Groundwater control and dewatering methods
- 12:00-12:30 | Ground improvement techniques and their uses
- 12:30-13:00 | Contaminated land and environmental considerations
- 13:00-14:00 | Case study: earthworks problems on a road project

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Day 5 - Managing Ground Risk

- 09:00-09:39 | Ground risk registers and risk allocation
- 09:39-10:18 | Unforeseen ground conditions clauses in contracts
- 10:18-10:57 | Observational methods and monitoring
- 10:57-11:00 | Working effectively with geotechnical specialists
- 11:00-11:30 | Coffee break
- 11:30-12:06 | Working effectively with geotechnical specialists (continued)
- 12:06-12:44 | Recording and responding to unexpected conditions
- 12:44-13:22 | Ground risk in programme and cost planning
- 13:22-14:00 | Personal action plan for ground risk management

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Seminar dates

Available seminar dates

Live dates and pricing for Geotechnical Engineering for Construction Managers 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**
4 - 8 January 2027	London	Classroom	**€2,915**
11 - 15 January 2027	Barcelona	Classroom	**€2,275**
18 - 22 January 2027	Frankfurt	Classroom	**€2,175**
25 - 29 January 2027	Geneva	Classroom	**€3,315**
8 - 12 February 2027	London	Classroom	**€2,915**
15 - 19 February 2027	Barcelona	Classroom	**€2,275**
22 - 26 February 2027	Frankfurt	Classroom	**€2,175**

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Seminar dates

Available seminar dates

Live dates and pricing for Geotechnical Engineering for Construction Managers generated from the course details page.

Date	Location	Format	Fee
1 - 5 February 2027	Istanbul	Classroom	**€2,825**
15 - 19 March 2027	London	Classroom	**€2,915**
22 - 26 March 2027	Barcelona	Classroom	**€2,275**
1 - 5 March 2027	Frankfurt	Classroom	**€2,175**
8 - 12 March 2027	Kuala lumpur	Classroom	**€2,425**
26 - 30 April 2027	London	Classroom	**€2,915**
5 - 9 April 2027	Barcelona	Classroom	**€2,275**
12 - 16 April 2027	Frankfurt	Classroom	**€2,175**
19 - 23 April 2027	Madrid	Classroom	**€3,400**
3 - 7 May 2027	London	Classroom	**€2,915**

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Seminar dates

Available seminar dates

Live dates and pricing for Geotechnical Engineering for Construction Managers generated from the course details page.

Date	Location	Format	Fee
10 - 14 May 2027	Barcelona	Classroom	**€2,275**
17 - 21 May 2027	Frankfurt	Classroom	**€2,175**
24 - 28 May 2027	Munich	Classroom	**€2,425**
7 - 11 June 2027	London	Classroom	**€2,915**
14 - 18 June 2027	Barcelona	Classroom	**€2,275**
21 - 25 June 2027	Frankfurt	Classroom	**€2,175**
19 - 23 July 2027	London	Classroom	**€2,915**
26 - 30 July 2027	Barcelona	Classroom	**€2,275**
5 - 9 July 2027	Frankfurt	Classroom	**€2,175**
12 - 16 July 2027	Rome	Classroom	**€2,830**

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Seminar dates

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Live dates and pricing for Geotechnical Engineering for Construction Managers generated from the course details page.

Date	Location	Format	Fee
23 - 27 August 2027	London	Classroom	**€2,915**
2 - 6 August 2027	Barcelona	Classroom	**€2,275**
9 - 13 August 2027	Frankfurt	Classroom	**€2,175**
16 - 20 August 2027	Vienna	Classroom	**€3,425**
6 - 10 September 2027	London	Classroom	**€2,915**
13 - 17 September 2027	Barcelona	Classroom	**€2,275**
20 - 24 September 2027	Frankfurt	Classroom	**€2,175**
11 - 15 October 2027	London	Classroom	**€2,915**
18 - 22 October 2027	Barcelona	Classroom	**€2,275**
25 - 29 October 2027	Frankfurt	Classroom	**€2,175**

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Seminar dates

Available seminar dates

Live dates and pricing for Geotechnical Engineering for Construction Managers generated from the course details page.

Date	Location	Format	Fee
4 - 8 October 2027	Cape Town	Classroom	**€1,825**
15 - 19 November 2027	London	Classroom	**€2,915**
22 - 26 November 2027	Barcelona	Classroom	**€2,275**
1 - 5 November 2027	Frankfurt	Classroom	**€2,175**
8 - 12 November 2027	Dubai	Classroom	**€2,845**
27 - 31 December 2027	London	Classroom	**€2,915**
6 - 10 December 2027	Barcelona	Classroom	**€2,275**
13 - 17 December 2027	Frankfurt	Classroom	**€2,175**
20 - 24 December 2027	Geneva	Classroom	**€3,315**
7 - 11 December 2026	Online / Live	Online / Live	**€1,625**

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Live dates and pricing for Geotechnical Engineering for Construction Managers 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**
4 - 8 January 2027	Online / Live	Online / Live	**€1,625**
11 - 15 January 2027	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**
8 - 12 February 2027	Online / Live	Online / Live	**€1,625**
15 - 19 February 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**

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Date	Location	Format	Fee
15 - 19 March 2027	Online / Live	Online / Live	**€1,625**
22 - 26 March 2027	Online / Live	Online / Live	**€1,625**
1 - 5 March 2027	Online / Live	Online / Live	**€1,625**
8 - 12 March 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**
12 - 16 April 2027	Online / Live	Online / Live	**€1,625**
19 - 23 April 2027	Online / Live	Online / Live	**€1,625**
3 - 7 May 2027	Online / Live	Online / Live	**€1,625**
10 - 14 May 2027	Online / Live	Online / Live	**€1,625**

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17 - 21 May 2027	Online / Live	Online / Live	**€1,625**
24 - 28 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**
19 - 23 July 2027	Online / Live	Online / Live	**€1,625**
26 - 30 July 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**
23 - 27 August 2027	Online / Live	Online / Live	**€1,625**

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2 - 6 August 2027	Online / Live	Online / Live	**€1,625**
9 - 13 August 2027	Online / Live	Online / Live	**€1,625**
16 - 20 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**
11 - 15 October 2027	Online / Live	Online / Live	**€1,625**
18 - 22 October 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**

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22 - 26 November 2027	Online / Live	Online / Live	**€1,625**
1 - 5 November 2027	Online / Live	Online / Live	**€1,625**
8 - 12 November 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**
13 - 17 December 2027	Online / Live	Online / Live	**€1,625**
20 - 24 December 2027	Online / Live	Online / Live	**€1,625**