

# Master's degree in Geotechnical Engineering

The general objective of the **master's degree in Geotechnical Engineering** is to produce expert professionals in infrastructure construction related to land (building foundations, containment of underground excavations, tunnels, embankments, stone slopes and earth dams, stabilisation of natural and artificial slopes, etc.) within the framework of emerging paradigms associated with climate change, energy transition, sustainable development goals and territorial resilience.

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## GENERAL DETAILS

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### Duration and start date

1.5 academic years, 90 ECTS credits. Starting September

### Timetable and delivery

Mornings and afternoons. Face-to-face

### Fees and grants

Approximate fees for the master's degree, **excluding other costs** (does not include non-teaching academic fees and issuing of the degree certificate):

€2,490 (€9,496 for non-EU residents).

[More information about fees and payment options](#)

[More information about grants and loans](#)

### Language of instruction

Spanish

Information on [language use in the classroom and students' language rights](#).

### Location

[Barcelona School of Civil Engineering](#)

### Official degree

[Recorded in the Ministry of Education's degree register](#)

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## ADMISSION

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### General requirements

[Academic requirements for admission to master's degrees](#)

### Places

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### Pre-enrolment

Pre-enrolment closed (consult the new pre-enrolment periods in the [academic calendar](#)).

[How to pre-enrol](#)

### Enrolment

[How to enrol](#)

### Legalisation of foreign documents

All documents issued in non-EU countries must be [legalised and bear the corresponding apostille](#).

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## PROFESSIONAL OPPORTUNITIES

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### Professional opportunities

- Management and implementation of reconnaissance and terrain characterisation campaigns that involve the

design and construction of geotechnical infrastructure.

- Assessment and reduction of geological and seismic risks.
- Forensic analysis of cases with geotechnical problems.
- Adaptation of geotechnical solutions to climate change by integrating solutions inspired by nature in geotechnical and land use projects for energy purposes.
- Career development in national and international geotechnical laboratories, companies, administrations and consultancies as geotechnical engineers, project managers, consultants and other professional capacities.
- Development of a research career in R&D centres and/or universities.

## Competencies

### Generic competencies

Generic competencies are the skills that graduates acquire regardless of the specific course or field of study. The generic competencies established by the UPC are capacity for innovation and entrepreneurship, sustainability and social commitment, knowledge of a foreign language (preferably English), teamwork and proper use of information resources.

### Specific competencies

- Implement conventional and non-conventional solutions in the field of geotechnical engineering.
- Lead geotechnical engineering projects.
- Integrate innovation and research in geotechnical engineering as elements of social, territorial and business development, addressing specific aspects that allow them to be promoted and strengthened in the professional field.
- Integrate continuing education in the field of geotechnical engineering as an element of individual and group development in order to face new challenges for socioeconomic and environmental improvement.
- Carry out and present and defend before an examination committee an original, individual piece of work consisting of a study or project in the field of geotechnical engineering that synthesises the competencies acquired, incorporates new developments and contributes new ideas.
- Integrate the values of sustainability and understand the complexity of systems, with the aim of undertaking or promoting actions that restore and maintain the health of ecosystems and improve justice, thereby generating visions of sustainable futures.
- Analyse problems that require making autonomous, informed and reasoned decisions in order to act with social responsibility following ethical values and principles.
- Develop the ability to evaluate inequalities based on sex and gender to design solutions that resolve them.

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## ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

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### UPC school

[Barcelona School of Civil Engineering \(ETSECCPB\)](#)

### Academic calendar

[General academic calendar for bachelor's, master's and doctoral degrees courses](#)

### Academic regulations

[Academic regulations for master's degree courses at the UPC](#)

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## CURRICULUM

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### Subjects