

# Bachelor's degree in Environmental Engineering

The actions of industry and economic and social activities influence and directly or indirectly affect the environment and quality of life.

In coming years, societies must face climate and environmental challenges and will require professionals with a scientific grounding and global awareness of how the planet works, in physical, chemical, geological and biological terms, who can foresee and provide solutions for these challenges.

With the **bachelor's degree in Environmental Engineering**, you will become part of a profession that has a great future and impact, because you will work on designing new production processes that help to control and mitigate environmental problems and to conserve natural resources by means of clean energy and technologies.

In the fourth year you will be able to choose one of the two mentions that are offered: Urban and Industrial Environment or Natural Environment and Global Change.

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## GENERAL DETAILS

### Duration

4 years

### Study load

240 ECTS credits (including the bachelor's thesis). One credit is equivalent to a study load of 25-30 hours.

### Delivery

Face-to-face

### Language of instruction

Check the language of instruction for each subject (and timetable) in the course guide in the curriculum.

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

### Fees and grants

Approximate fees per academic year: €1,107 (€2,553 for non-EU residents). [Consult the public fees system based on income \(grants and payment options\)](#).

### Location

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

[Barcelona School of Agri-Food and Biosystems Engineering \(EEABB\)](#)

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## ADMISSION

### Places

60

### Registration and enrolment

[What are the requirements to enrol in a bachelor's degree course?](#)

### Legalisation of foreign documents

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

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## DOUBLE-DEGREE AGREEMENTS

### Double-degree pathways at the UPC

You have the possibility of complementing this bachelor's degree with a specific pathway towards a double degree by taking an additional number of credits from one of the other degrees taught at the School. Generally, this involves an additional year of study. To gain admission to a double degree of this kind you must have taken a minimum number of credits on one of the bachelor's degrees. The number of places is limited.

- Bachelor's degree in Environmental Engineering + Bachelor's degree in Mineral Resource Engineering and Mineral Recycling (EPSEM)

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## PROFESSIONAL OPPORTUNITIES

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### Professional opportunities

As a graduate in Environmental Engineering, you will be able to practise professionally at companies and institutions that work to protect the environment, control environmental management plans, soil treatment and land restoration and the design of clean technologies, and carry out environmental impact studies, among others.

- Managers and specialists in industry, engineering, administration and services.
- University lecturers.
- Freelancers.
- Researchers.
- Companies: heads of environment and quality departments; implementation of quality standards (ISO, EMAS); environmental auditing.
- Engineering offices, on projects related to minimisation of emissions and treatment of gases; recovery of degraded spaces; soil treatment; design and operation of industrial and urban wastewater and drinking water treatment plants; industrial and urban solid waste treatment plants.
- Environmental consultancies, on studies related to environmental diagnosis and environmental management plans for companies; waste minimisation and recycling (IPPC directive); proposals for clean production technologies; environmental impact studies.
- Administration: technical consulting; municipal bureaus, provincial governments; natural area management plans; environmental regulations and auditing.

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## ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

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### Academic calendar

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

### Academic regulations

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

### Language certification and credit recognition

Queries about [language courses and certification](#)

- Barcelona School of Civil Engineering (ETSECCPB)
- Barcelona School of Agri-Food and Biosystems Engineering (EEABB)

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## CURRICULUM

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Subjects	ECTS credits	Type
<b>FIRST COURSE</b>		
Biology and Ecology	6	Compulsory
Chemistry I	6	Compulsory
Chemistry II	6	Compulsory
Earth System	6	Compulsory
Environmental Economics and Sustainability	6	Compulsory

Subjects	ECTS credits	Type
Environmental Thermodynamics and Kinetics	6	Compulsory
Fundamentals of Mathematics	6	Compulsory
Geology and Edaphology	6	Compulsory
Mathematics I	6	Compulsory
Mechanics	6	Compulsory
<b>SECOND COURSE</b>		
Atmospheric Processes and Hydrology	6	Compulsory
Fluid Mechanics	6	Compulsory
Geographic Information Systems	6	Compulsory
Geomechanics	6	Compulsory
Hydraulics	6	Compulsory
Hydrogeology and Environmental Geochemistry	6	Compulsory
Mathematics II	6	Compulsory
Microbiology and Environmental Biotechnology	6	Compulsory
Principles of Ecotoxicology and Environmental Analysis	6	Compulsory
Statistics	6	Compulsory
<b>THIRD COURSE</b>		
Construction Procedures and Materials	6	Compulsory
Decontamination of Soils and Aquifers	6	Compulsory
Environmental Impact Assessment	6	Compulsory
Instrumentation, Remote Sensing and Big Data	6	Compulsory
Numerical Modeling	6	Compulsory
Solid Waste	6	Compulsory
Structures	6	Compulsory
Sustainable Transport	6	Compulsory
Wastewater and Reuse	6	Compulsory
Water Treatment	6	Compulsory
<b>FOURTH COURSE</b>		
Atmospheric and Acoustic Pollution	6	Compulsory
Climate Change and Natural Risks	6	Optional
Decision Making Systems	6	Compulsory
Energy Model Transition	6	Optional
Environmental Impact of the Great Infrastructures	6	Optional
Project Management and Environmental Legislation	6	Compulsory
Renewable Energy	6	Optional
River and Coastal Space Management	6	Optional
Supply and Drainage Networks	6	Optional
Sustainability and Environmental Ethics	6	Optional

Subjects	ECTS credits	Type
Sustainable Construction	6	Optional
Sustainable Mobility and Smart-City	6	Optional
Technologies for Sustainable Aquaculture Production	6	Optional
Bachelor's Thesis	12	Project