

# Bachelor's degree in Mineral Resource Engineering and Mineral Recycling

By taking the bachelor's degree in **Mineral Resource Engineering and Mineral Recycling**, you will acquire the competencies needed for professional practice as a technical mining engineer, particularly skills related to sustainability and the circular economy. The knowledge you will acquire will allow you to practise in a wide range of fields, such as the use of natural resources, civil works, applied geology, spatial planning and environmental management.

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## GENERAL DETAILS

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### 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

[Manresa School of Engineering \(EPSEM\)](#)

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## ADMISSION

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### Places

180

### 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

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

**Professional opportunities**

- Supervision of underground and open-cast mining activities. Management of work teams and machinery.
- Management of land restoration.
- Supervision in waste treatment plants.
- Supervision in aggregate treatment plants and cement, concrete and ornamental and industrial rock manufacturing plants.
- Groundwater management
- Blast design in mines and civil works.
- Quality control and characterisation tests of pyrotechnic materials
- Supervision in public and private works (roads, dams, buildings).
- Management of environmental impact studies.
- Management of work teams in surveying and preparation of surface and underground surveys.
- Writing and analysis of geotechnical reports.
- Technical work in spatial planning and management.
- Technical work in occupational safety.
- Technical work in organisation and quality control.
- Technical work in areas of public administration related to the profession.
- Teaching at secondary schools and universities.
- Research for R&D projects.

**ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS****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](#)

Manresa School of Engineering (EPSEM)

**CURRICULUM**

<b>Subjects</b>	<b>ECTS credits</b>	<b>Type</b>
<b>FIRST SEMESTER</b>		
Chemistry	6	Compulsory
Environmental Technologies and Sustainability	6	Compulsory
Introduction to Computing	6	Compulsory
Mathematics I	6	Compulsory
Physics I	6	Compulsory
<b>SECOND SEMESTER</b>		
Graphic Expression	6	Compulsory
Materials Science and Technology	6	Compulsory
Mathematics II	6	Compulsory
Physics II	6	Compulsory

<b>Subjects</b>	<b>ECTS credits</b>	<b>Type</b>
Statistics	6	Compulsory
<b>THIRD SEMESTER</b>		
General Surveying and Cartography	6	Compulsory
Geology and Geological Cartography	6	Compulsory
Mathematics III	6	Compulsory
Mechanical Systems	6	Compulsory
Thermodynamics and Fluid Mechanics	6	Compulsory
<b>FOURTH SEMESTER</b>		
Applied Surveying and Cartography	6	Compulsory
Mathematics Applied to Mining Engineering	3	Compulsory
Mineral Deposits	4.5	Compulsory
Mineralogy and Petrology	6	Compulsory
Strength of Materials	6	Compulsory
Technology of Mining Exploration	4.5	Compulsory
<b>FIFTH SEMESTER</b>		
Business Management in Circular Economy	6	Compulsory
Earth Engineering	6	Compulsory
Ground Modelling	6	Compulsory
Material Processing Principles	6	Compulsory
Surface Mining	6	Compulsory
<b>SIXTH SEMESTER</b>		
Electricity and Control Engineering	6	Compulsory
Recycling and Mineral Plants	6	Compulsory
Underground Works	6	Compulsory
Urban and Waste Mining	6	Compulsory
Use of Explosives	6	Compulsory
<b>SEVENTH SEMESTER</b>		
Business English	6	Optional
Construction Materials and Their Recycling	6	Optional
Downholes and Horizontal/Directional Drilling	6	Optional
Energy Resources	6	Optional
Environmental Impact and Restoration	6	Compulsory
Glass and Ceramic Industry	6	Optional
Hidrogeology	6	Optional
Maintenance Management	6	Optional
New Mining Techniques	6	Optional
Occupational Risks Prevention	6	Compulsory
Potash Mining	6	Optional

<b>Subjects</b>	<b>ECTS credits</b>	<b>Type</b>
Project Management	6	Compulsory
Quality Management and Integrated Quality, Safety and Environmental Management Systems	6	Optional
Thermal and Mineral Waters	6	Optional
Underground Mining	6	Compulsory
<b>EIGHTH SEMESTER</b>		
Bachelor's Thesis	18	Project

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