

BACHELOR'S DEGREE IN CIVIL ENGINEERING

ESCOLA DE CAMINS

Barcelona School of Civil Engineering



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH

International Campus of Excellence

BACHELOR'S DEGREE IN CIVIL ENGINEERING

The organisation of transport and cities, road design, coastal and beach protection, protection against floods and earthquakes, the analysis and design of large structures and the search for and development of new energy sources—these are all areas of work for civil engineers.

Civil engineering provides the foundations for the development and improvement of modern societies, based on the constant search for alternative, environmentally friendly solutions.

With this bachelor's degree you will acquire knowledge in basic sciences and will train as a generalist engineer with a broad overview of civil engineering, which will enable you to apply knowledge in a variety of fields of work or gain access to the professional-track master's degree in Civil Engineering with rigorous academic training behind you.

The combination of lectures and seminars, analysing and solving specific problems, laboratory assignments and site visits take place at the Barcelona School of Civil Engineering. This will help you to become a versatile professional with a multidisciplinary focus who is ready to practise internationally.

Which subjects will you choose?

The bachelor's degree consists of four academic years.

240
ECTS

First year (initial stage)

You will receive training in basic and applied sciences.

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|--|-----|
| Mathematic Fundamentals | 6 |
| Physics | 6 |
| Materials Chemistry | 7.5 |
| Economy, Business and Legislation | 6 |
| Calculus | 9 |
| Algebra and Geometry | 6 |
| Geology | 6 |
| Rational Mechanics | 7.5 |
| Metric Geometry and Representation Systems | 6 |

Second year

You will take subjects in basic technologies and engineering tools.

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|--|-----|
| Strength of Materials and Structures | 9 |
| Descriptive Geometry | 6 |
| Differential Geometry and Differential Equations | 9 |
| Construction Materials | 6 |
| Continuum Mechanics | 9 |
| Probability and Statistics | 7.5 |
| Geomatics and Geographic Information | 6 |
| Construction Management and Electrotechnics | 7.5 |

320

students on work placement every year

83%

graduate employment rate (AQU 2014)

11

international double degrees

19

international teaching and research laboratories

Your bachelor's degree

If you are a person with high standards, logical reasoning and analytical skills and a solid grounding in maths and physics, this bachelor's degree will provide you with training that combines technical knowledge with the ability to make decisions and manage teams and projects.

Professional opportunities

The analytical and complex problem solving skills you will acquire on the bachelor's degree in Civil Engineering will prepare you for employment in infrastructure, engineering and consulting companies and the financial and service sectors.

The Barcelona School of Civil Engineering fosters contact between students and the business world by organising seminars with companies and through the UPC Alumni network.

Complementary activities

You will have the opportunity to participate in conferences and seminars

by top specialists and to present your work for awards promoted jointly with leading international companies.

Languages

You will take subjects taught entirely in English, which will, together with the B2 English level that you will have attained by the end of the bachelor's degree, help you to perform effectively in an international context.

Go international!

We offer more than 300 mobility places in over 24 countries from the third year of study onwards. You can choose to spend a semester or a full academic year abroad, whether taking subjects or carrying out your bachelor's thesis.

Double degrees

International double degrees with top international institutions allow you to graduate with two degrees: a degree from the Universitat Politècnica de Catalunya and a degree from the partner university, whether in engineering or management.

Double degrees at the UPC: If you are a

high-achieving student you can take the bachelor's degree in Civil Engineering with an additional bachelor's degree in Mathematics or in Informatics Engineering or in Industrial Technology Engineering or in Aerospace Technology Engineering or in Engineering Physics.

Supervision

We offer academic supervision and tutoring for all bachelor's degrees, which involves continuous monitoring of students' academic records.

Work placement

You will go on work placement at national and international companies and institutions to gain work experience.

International recognition

Every year, the School's teaching staff receive national and international prizes and awards for their teaching and research.

In both the QS World University Rankings and the National Taiwan University (NTU) Ranking, the UPC is the top Spanish university in the field of Civil Engineering and 39th and 50th in the world, respectively.

Third and fourth years

You will take subjects that focus on structural technology and analysis, water engineering, geotechnical engineering, transport and spatial engineering, numerical methods and environmental engineering.

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|---------------------------|-----|
| Soil Mechanics | 9 |
| Roads and Railways | 7.5 |
| Urbanism | 6 |
| Structural Analysis | 7.5 |
| Hydraulics and Hidrology | 9 |
| Numerical Modellization | 9 |
| Transportation | 6 |
| Environmental Engineering | 6 |

| | |
|------------------------------------|-----|
| Concrete Structures | 7.5 |
| Hydraulica Constructions | 4.5 |
| Surface and Groundwater Hydrology | 4.5 |
| Geotechnical Engineering | 4.5 |
| Geological Engineering | 4.5 |
| Projects and Business Organisation | 4.5 |
| Steel Structures | 6 |
| Maritime and Port Engineering | 6 |
| Recognised credits | 6 |
| Bachelor's Thesis | 12 |

Structural analysis and technology

Geotechnical engineering

Transport and spatial engineering

Design and construction of works and infrastructure

BACHELOR'S DEGREE IN CIVIL ENGINEERING

It qualifies you to practise the following regulated professions:

- Technical public works engineer.
- Civil engineer (after obtaining the master's degree in Civil Engineering). This bachelor's degree and the master's degree in Civil Engineering (professional track) make up an integrated academic programme.

High levels of academic performance and continuous research are essential to the sustainable development of our society.



Your talent, leading your future

Further information:

www.camins.upc.edu/estudis



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