



**GRAU EN
TECNOLOGIES
DE CAMINS, CANALS
I PORTS**

ESCOLA DE CAMINS

Barcelona School of Civil Engineering



**UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH**

International Campus of Excellence

Participation in international networks and programmes: ERASMUS+, KA103, UNITECH, Smile-Magalhães, CINDA, CLUSTER, TIME and others

BACHELOR'S DEGREE IN CIVIL ENGINEERING TECHNOLOGIES

New social, environmental and economic models and scenarios pose significant challenges that make it necessary to adapt current structures and systems such as mobility management, transport and logistics systems, large infrastructure management, water supply, energy sources, waste reduction and environmental protection. The world is changing and it needs professionals who are able to provide innovative and creative solutions from a global perspective using the knowledge of the twenty-first century.

Civil engineering is an essential part of this development towards the societies of the future. It contributes to the improvement of people's quality of life, environmental protection and economic growth. The bachelor's degree in Civil Engineering Technologies corresponds to the grau en Tecnologies de Camins, Canals i Ports, in Catalan. It is taught at the Barcelona School of Civil Engineering and its graduates have a multifaceted, versatile approach and a solid grounding in basic sciences.

Curriculum

This information may be subject to change.
Up-to-date information is available at upc.edu

240 ECTS credits

1st year

1st semester

Physics	6
Mathematics	6
Materials Chemistry	6
Economics, Business and Law	6
Metric Geometry and Representation Systems	6

2nd semester

Algebra and Geometry	6
Geology	6
Rational Mechanics	6
Calculus	6
Construction Materials	6

2nd year

1st semester

Differential Geometry and Differential Equations	6
Urbanism	6
Strength of Materials and Structures	6
Probability and Statistics	6
Mobility and Transport Networks	6

2nd semester

Mathematical Models of Physics	6
Hydraulics and Hydrology	6
Geomatics and Geographic Information	6
Environmental Engineering	6
Communication Techniques	6

97%

of the Civil Engineering graduates are in work

Source: Sixth graduate employment survey of Catalan universities by the Catalan University Quality Assurance Agency (AQU Catalunya)

320

students on work placement every year

12

international double degrees

Why this bachelor's degree?

The bachelor's degree in Civil Engineering Technologies will provide you with a solid grounding in both science and engineering tools and technologies that will fully prepare you for the master's degree in Civil Engineering.

In the final year of the bachelor's degree you will be able to choose the optional subjects that most interest you and acquire skills as current and sought-after by companies as those involved in big data, smart cities, modelling and entrepreneurship.

Your bachelor's degree!

If you are an exacting person who thinks analytically and has a solid grounding in mathematics and physics, this degree will make you into a versatile, multidisciplinary professional who is prepared to practise internationally.

Professional opportunities

The bachelor's degree is the first part of the training to qualify as a civil engineer after you have completed the master's

degree in Civil Engineering. As a graduate, you will be able to join project engineering companies, consultancy firms, construction companies, R&D departments and also the financial and service sectors.

Complementary activities

The Barcelona School of Civil Engineering offers you the opportunity to combine theory classes, seminars and conferences with the analysis and proposal of solutions to specific problems, as well as laboratory practicals and site visits.

Languages of instruction

The bachelor's degree is taught entirely in English, which will provide you with a significant additional skill, improve your employability and allow you to perform 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 to take courses or carry out your bachelor's thesis.

International double degrees

The Barcelona School of Civil Engineering offers several international double degrees with top institutions in both engineering and management.

Companies collaboration

To promote teamwork, collaboration and negotiation, the bachelor's degree in Civil Engineering Technologies involves collaborating companies' cross-disciplinary, real-world projects, which increases graduates' employability.

Work placement

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

International recognition

Both the QS World University Rankings and the National Taiwan University Ranking (NTU Ranking) rank the Universitat Politècnica de Catalunya (UPC) as the top Spanish university in the field of civil engineering, and 23rd and 77th in the world, respectively.

3rd year

1st semester

Soil Mechanics	6
Numerical Modelling	6
Structural Analysis	6
Structural Technology I	6
Surface and Groundwater Hydrology	6

2nd semester

Roads and Railways	6
Structural Technology II	6
Maritime and Port Engineering	6
Geotechnical and Geological Engineering	6
Construction Procedures and Electrotechnics	6

4th year

1st semester

Optional Subjects *	30
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2nd semester

Optional Subjects*	12
Projects and Business Organisation	6
Bachelor's Thesis	12

* Optional subjects: Risk Assessment for Natural Hazards / Instrumentation and Remote Sensing / Machine Learning and Data Science / Programming for Science and Engineering / Sustainability, Social and Environmental Impact / Software Tools for Civil Engineering / Urban Mobility and Decision Support / Digital Twins and Augmented Reality and Entrepreneurship and Innovation.

BACHELOR'S DEGREE IN CIVIL ENGINEERING TECHNOLOGIES

GRAU EN TECNOLOGIES DE CAMINS, CANALS I PORTS

This bachelor's degree qualifies you to officially practise as a civil engineer after taking the master's degree in Civil Engineering. It constitutes an integrated academic programme with the master's degree in Civil Engineering.

The bachelor's degree in Civil Engineering Technologies brings together science and technology to serve society.



Engineering that moves the world

Further information:
camins.upc.edu

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