

BACHELOR'S DEGREE IN PUBLIC WORKS ENGINEERING

ESCOLA DE CAMINS

Barcelona School of Civil Engineering



UNIVERSITAT POLITÈCNICA
DE CATALUNYA
BARCELONATECH

International Campus of Excellence

BACHELOR'S DEGREE IN PUBLIC WORKS ENGINEERING

The planning and control of civil engineering projects requires professionals with technical expertise and management skills. Graduates of the bachelor's degree in Public Work Engineering work to find solutions to complex engineering and technological problems in the implementation of infrastructure projects. Innovation and the search for creative and environmentally friendly solutions are characteristic of construction engineers.

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.

Mathematic Fundamentals	6
Lineal Algebra	6
Chemistry of Materials	7.5
Applied Geology	6
Mechanics	9
Applied Physics	6
Business and Construction Legislation	6
Graphic Design	7.5
Calculus	6

Basic sciences

Science for engineering

Participation in international networks: CLUSTER, EUCEET, TIME, CINDA and Smile-Magalhães

The aim of the bachelor's degree is to produce engineers who are capable of managing and executing infrastructure projects.

Specialisation pathways

Hidrology

- Work and construction related to marine and inland waters.
- Forecast and exploitation of hydraulic contributions and environmental engineering.

Civil constructions

- Implementation and maintenance of civil engineering works.
- Structural design of road and building works.

Transport and urban services

- Construction, maintenance and operation of works, facilities and urban services.
- Conservation and use of roads and ports, and planning, management and operation of transport.

Second year

You will take subjects on engineering tools and introduction to technology.

Geomatics and Surveying	7.5
Descriptive Statistics	7.5
Differential Equations	4.5
Construction Materials	6
Hydraulics of pipe lines	9
Strength of Materials	6
Numerical Methods and Informatics	7.5
Representation Techniques	6
Construction Methods and Electrical Engineering	6

Introduction to technology

Engineering tools

320

students on work placement every year

3

international double degrees

19

international teaching and research laboratories

Your bachelor's degree

If you are a person with high standards, logical reasoning skills and a solid grounding in maths and physics, this bachelor's degree will allow you to adapt to working environments that require technical knowledge and the ability to make decisions and solve problems. Once you finish the bachelor's degree, you will be able to seek admission to the master's degree in Civil Engineering (professional track).

Professional opportunities

Thanks to your technical and organisational expertise, as a graduate of the bachelor's degree in Public Works Engineering you will be qualified for employment in infrastructure, engineering and design companies, consultancy firms and laboratories, the service sector and public administration, and for self-employment.

Complementary activities

You will have the opportunity to participate in conferences and seminars by leading

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.

Work placement

Through the Barcelona School of Civil Engineering you will go on work placement at national and international companies and institutions as part of the curriculum.

Go international!

We offer more than 120 mobility places in 20 countries. You can take subjects or carry out your bachelor's thesis.

Double degrees

As a student of the bachelor's degree in Public Works Engineering you may choose to take a double degree with

a top international institution. You will graduate with a degree from the Universitat Politècnica de Catalunya and a degree from the partner university.

Supervision

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

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

The subjects focus on structures and foundations, water technology, transport infrastructure and urbanism, depending on the pathway you choose.

Structures	6
Transport Infrastructures	7.5
Surface and Groundwater Hydrology	4.5
Organisation, Measurement and Budget for Public Works	7.5
Geotechnics	9
Reinforced Concrete	6
Metallic Constructions	6
Urbanism and Regional Systems	4.5
Environmental Technology	4.5
Project and Construction of Public Works	4.5

Maritime Constructions	4.5
Geotechnical Engineering	4.5
Specialisation in Civil Constructions	33
Specialisation in Transport and Urban Services	33
Specialisation in Hydrology	33
Recognised credits	6
Bachelor's Thesis	12

Structures and foundations

Transport infrastructure and urbanism

Water technology

Design and construction of works and infrastructure

BACHELOR'S DEGREE IN PUBLIC WORKS 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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