# Bachelor's degree in Civil Engineering

This **bachelor's degree in Civil Engineering**, aims to produce generalist engineers who have a solid grounding in the basic sciences and a wide-ranging view of civil engineering and its applications in developing and improving contemporary societies, and it seeks alternative solutions that respect the environment.How transport and cities are organised; designing roads; protecting coasts and beaches; defending against floods and earthquakes; analysing and designing large-scale infrastructure; and researching and developing new sources of energy—all of this is the work of civil engineers. The degree gives access to mobility pathways leading to double degrees with prestigious institutions across the world.

This bachelor's degree is taught at Barcelona School of Civil Engineering

## 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**
Subjects will be taught in Catalan and Spanish, depending on the student's level of comprehension and on the didactic objectives of the bachelor's degree course.

**Fees and grants**
Approximate fees per academic year: €2,551 (€3,826 for non-EU residents). Consult the public fees system based on income (grants and payment options).

**Official degree**
Recorded in the Ministry of Education's degree register

## ADMISSION

**Places**
100

**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.

## DOUBLE-DEGREE AGREEMENTS

**With universities around the world**

- Bachelor's degree in Civil Engineering + Master's degree in Civil Engineering and *Diplôme d'ingénieur* from the corresponding École Centrale (Lille, Lyon, Marseille, Nantes or Paris)
- Bachelor's degree in Civil Engineering + Master's degree in Civil Engineering and *Diplôme d'ingénieur* from the École Nationale des Ponts et Chaussées
- Bachelor's degree in Civil Engineering + Master's degree in Civil Engineering and *Diplôme d'ingénieur* from the École Polytechnique

- Bachelor’s degree in Civil Engineering + Master's degree in Civil Engineering and *Laurea Magistrale* (*Ingegneria Civile* or *Ingegneria per l’Ambiente e il Territorio*) from the Politecnico di Milano.
- Bachelor’s degree in Civil Engineering or bachelor's degree in Public Works Engineering + Master's degree in Civil Engineering and *Diplôme d’ingénieur* from the École des Ingénieurs de la Ville de Paris (EIVP).
- Bachelor's degree in Public Works Engineering + Master's degree in Civil Engineering and *Diplôme d’ingénieur* from the École Supérieure d’Ingénieurs des Travaux de la Construction de Caen (ESITC).
- Bachelor’s degree in Civil Engineering or bachelor's degree in Public Works Engineering + Master's degree in Civil Engineering and *Master and Diplôme d’ingénieur* within the specialisation *Travaux Publics* from the École Spéciale des Travaux Publics, du Bâtiment et de l’Industrie (ESTP).

**Within the framework of the courses offered by the Interdisciplinary Higher Education Centre (CFIS)**

You can also take an interdisciplinary double degree coordinated by the CFIS at two UPC schools.
Further information on the CFIS website

## PROFESSIONAL OPPORTUNITIES

**Professional opportunities**

- Analysis, design and planning in relation to infrastructure projects, urbanism, landmark construction projects and logistics operations.
- Management of engineering, infrastructure and consulting companies.
- Consultancy for civil engineering firms and companies in industry and the service sector.
- Technical and management positions with government agencies.
- Self-employment.

## ORGANISATION

**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)

## CURRICULUM

| Subjects | ECTS credits | Type |
|---|---|---|
| **FIRST COURSE** | | |
| Algebra and Geometry | 6 | Compulsory |
| Calculus | 9 | Compulsory |
| Economy, Business and Legislation | 6 | Compulsory |
| Geology | 6 | Compulsory |
| Materials Chemistry | 7 | Compulsory |
| Mathematic Fundamentals | 6 | Compulsory |
| Metric Geometry and Representation Systems | 6 | Compulsory |
| Physics | 6 | Compulsory |

| Subjects | ECTS credits | Type |
|---|---|---|
| Rational Mechanics | 7 | Compulsory |
| **SECOND COURSE** | | |
| Construction Management and Electrotechnics | 7 | Compulsory |
| Construction Materials | 6 | Compulsory |
| Continuum Mechanics | 9 | Compulsory |
| Descriptive Geometry | 6 | Compulsory |
| Differential Geometry and Differential Equations | 9 | Compulsory |
| Geomatics and Geographic Information | 6 | Compulsory |
| Probability and Statistics | 7 | Compulsory |
| Strength of Materials and Structures | 9 | Compulsory |
| **THIRD COURSE** | | |
| Environmental Engineering | 6 | Compulsory |
| Hydraulics and Hydrology | 9 | Compulsory |
| Numerical Modelling | 9 | Compulsory |
| Roads and Railways | 7 | Compulsory |
| Soil Mechanics | 9 | Compulsory |
| Structural Analysis | 7 | Compulsory |
| Transportation | 6 | Compulsory |
| Urbanism | 6 | Compulsory |
| **FOURTH COURSE** | | |
| Concrete Structures | 7 | Compulsory |
| Geological Engineering | 4 | Compulsory |
| Geotechnical Engineering | 4 | Compulsory |
| Hydraulic Constructions | 4 | Compulsory |
| Maritime and Port Engineering | 6 | Compulsory |
| Projects and Business Organisation | 4 | Compulsory |
| Steel Structures | 6 | Compulsory |
| Surface and Groundwater Hydrology | 4 | Compulsory |
| Bachelor's Thesis | 12 | Project |