Bachelor's degree in Marine Sciences and Technologies

BARCELONA SCHOOL OF CIVIL ENGINEERING (ETSECCPB)

BARCELONA SCHOOL OF AGRI-FOOD AND BIOSYSTEMS ENGINEERING (EEABB)

VILANOVA I LA GELTRÚ SCHOOL OF ENGINEERING (EPSEVG)

This bachelor's degree is designed to build the scientific and technical professional skills needed to carry out research and provide advice on environmental and climate topics and on the impact of economic and social activities on the marine environment and coasts (ethical, responsible and sustainable use of marine resources, characterisation of coasts, climate change and its impact on the marine environment and coasts, etc.). It is also designed for the education of other scientists and specialists and of society in general on activities related to basic and applied marine sciences and technologies, their development and their dissemination.

You can choose one of two majors:

Marine Sciences and Engineering
You will receive multidisciplinary training that will enable you to deal with the main problems and challenges faced by coasts in the near future in a range of development and climate change scenarios.

Marine Technologies
This major focuses on applied technologies for observation, remote sensing and exploration using marine robots, which are essential for monitoring coastal bodies of water and obtaining the data needed to control human activities in the marine environment involving the exploitation of marine and coastal resources.

MAJORS

- Marine Sciences and Engineering
- Marine Technologies

GENERAL DETAILS

Duration
4 academic 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

Admission mark 2025-2026 academic year
7,662

Language of instruction

Check the language of instruction for each subject (and timetable) in the course sheet in the curriculum.

Information on language use in the classroom and students' language rights.

Fees and grants
Approximate fees per academic year: €1,061 (€1,800 for non-EU residents). Consult the public fees system based on income (grants and payment options).

Location
Barcelona School of Civil Engineering (ETSECCPB) (**coordinating** school)
Barcelona School of Agri-Food and Biosystems Engineering (EEABB)
Vilanova i la Geltrú School of Engineering (EPSEVG)

Official degree

Recorded in the Ministry of Science, Innovation and Universities

ADMISSION

Places

60

Pre-enrolment code

31096

Places via a change of degree

5

Admission mark 2025-2026 academic year

7,662. Admission mark

Weighting. University entrance examinations (PAU)

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Registration and enrolment

What are the requirements to enrol in a bachelor's degree course?

CFGS credit transfer

Consult the university studies search engine of the Universities Channel of the Generalitat de Catalunya

Legalisation of foreign documents

All documents issued in non-EU countries must be legalised and bear the corresponding apostille.

CURRICULUM

Subjects	ECTS credits	Type
FIRST COURSE		
Environmental Biology	6	Compulsory
Environmental Chemistry	6	Compulsory
Environmental Physics	6	Compulsory
Fundamentals of Geology	6	Compulsory
Fundamentals of Mathematics for Environmental Science	6	Compulsory
Geology and Coastal Geomorphology	6	Compulsory
Marine Biology	6	Compulsory
Marine Chemistry	6	Compulsory
Marine Physics	6	Compulsory
Mathematics for Environmental Science I	6	Compulsory
SECOND COURSE		
Coastal Water Cycles and Continental Inputs to the Sea	6	Compulsory
Environmental Statistics	6	Compulsory
Further Mathematics for Environmental Science II	6	Compulsory
Geographic Information Systems and Gnss	6	Compulsory
Marine Ecology, Ecosystems and Production Processes	6	Compulsory
Marine Environmental Impact	6	Compulsory

Subjects	ECTS credits	Type
Marine Physicochemical Processes	6	Compulsory
Marine Pollution: Source, Transport and Impact	6	Compulsory
Mathematics in Marine Sciences	6	Compulsory
Statistical Methods in Marine Sciences	6	Compulsory
THIRD COURSE		
Computational Analysis and Smart Solution Tools	6	Compulsory
Experimental Field and Laboratory Techniques	6	Compulsory
Global Biogeochemical Cycles	6	Compulsory
Instrumentation and Data Analysis in Marine Sciences	6	Compulsory
Integrated Modelling of Marine Systems	6	Compulsory
Living, Renewable and Non-Renewable Marine Resources	6	Compulsory
Marine Geodynamics	6	Compulsory
Ocean Biological Processes	6	Compulsory
Planetary Atmospheric and Ocean Circulation	6	Compulsory
Remote Sensing and Sensors	6	Compulsory
FOURTH COURSE		
Climate Change: Marine and Coastal Impact	6	Optional
Climate Change: Marine and Coastal Impact	6	Optional
Coastal Hydromorphodynamics	6	Optional
Coastal Hydromorphodynamics	6	Optional
Coastal Infrastructure: Impact and Integrated Management	6	Optional
Coastal Infrastructure: Impact and Integrated Management	6	Optional
Data Management: Communications, Programming and Simulation	6	Optional
Data Management: Communications, Programming and Simulation	6	Optional
Ecophysiology of Aquatic Organisms	6	Optional
Ecophysiology of Aquatic Organisms	6	Optional
Engineering of Aquaculture Projects	6	Optional
Engineering of Aquaculture Projects	6	Optional
Marine Exploration, Acoustics and Sonar Systems	6	Optional
Marine Exploration, Acoustics and Sonar Systems	6	Optional
Marine Instrumentation, Robotics and Power Systems	6	Optional
Marine Instrumentation, Robotics and Power Systems	6	Optional
Marine Platforms, Observatories and Materials Technology	6	Optional
Marine Platforms, Observatories and Materials Technology	6	Optional
Prediction and Risk Models for Coastal Management	6	Optional
Prediction and Risk Models for Coastal Management	6	Optional
Project Design and Evaluation in Marine Engineering and Sciences	6	Optional
Project Design and Evaluation in Marine Engineering and Sciences	6	Optional

Subjects	ECTS credits	Type
Renewable Marine Energies	6	Optional
Renewable Marine Energies	6	Optional
Sustainable Aquaculture Production Technologies	6	Optional
Sustainable Aquaculture Production Technologies	6	Optional
Bachelor's Thesis	18	Project

PROFESSIONAL OPPORTUNITIES

Professional opportunities

Once you graduate, you are likely to find employment in the following areas:

- Integrated management of coastal areas (marine and coastal resources).
- Maritime and coastal management in the public administration.
- Consulting on marine and coastal topics.
- Ports.
- Development of devices, sensors and infrastructure for measuring and monitoring the sea.
- Planning and optimisation of social and economic activities (and their impact) involving seas and coasts.
- Maritime service companies and their adaptation to environmental regulations.
- Environmental impact studies in marine environments and studies on marine pollution, the maintenance of the quality of seawater, and climate change and its effects on seas and coasts.
- Renewable marine energies.
- Aquaculture.
- Offshore oil and gas platforms.
- Fishing and extraction of other marine resources.
- Desalinisation of seawater to produce drinking water.
- Teaching and research.

QUALITY ACCREDITATION

Check the degree’s main quality indicators in the University Studies in Catalonia portal of the Catalan University Quality Assurance Agency. Find information on topics such as degree evaluation results, student satisfaction and graduate employment data.
Further information

ACADEMIC 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 Universitat Politècnica de Catalunya (UPC).

Language certification and credit recognition

Queries about language courses and certification