

# Bachelor's degree in Marine Technologies

The **bachelor's degree in Marine Technologies** will give you a solid grounding in the operation, maintenance and management of power plants and ship systems, and in the design, reengineering and construction of vessels. In addition to working on board ships, graduates also have the skills needed to fill positions related to the operation of offshore platforms for oil and gas extraction, dredgers, underwater machinery, and any other industrial activity carried out in the maritime and land-based sector. You can choose between two majors:

## Major in On-Board Practicals

You will be assigned to a merchant ship as a student trainee to complete part of the work experience component required to qualify as a marine engineering officer.

## Major in Marine Electrotechnics

In this course you will develop the knowledge and skills required to work as an electro-technical officer. You will learn about electrical systems, automatic control and computer networks, radio navigation equipment, radio communication systems and other specialised topics.

## Majors

- On-Board Practicals
- Marine Electrotechnics

## 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

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

Information on [language use in the classroom and students' language rights](#).

### Fees and grants

Approximate fees per academic year: €1,107 (€2,253 for non-EU residents). [Consult the public fees system based on income \(grants and payment options\)](#).

### Location

[Barcelona School of Nautical Studies \(FNB\)](#)

### Official degree

[Recorded in the Ministry of Education's degree register](#)

## ADMISSION

### Places

**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****Double-degree pathways at a single school**

- Bachelor's degree in Marine Technologies + bachelor's degree in Naval Systems and Technology Engineering

**PROFESSIONAL OPPORTUNITIES****Professional opportunities**

- Management and coordination of activities related to production, operation, maintenance and repair of power plants and industrial facilities.
- Technical and management positions at thermal and nuclear power plants.
- Maintenance management in maritime and industrial facilities.
- Technical and management positions with shipyards, shipbuilders and shipping companies.
- Customs supervision.
- Drafting and development of technical projects and reports.
- Inspection and certification of civilian vessels.
- Average adjustment.
- Projects related to quality, the environment, maritime safety, and occupational hazard prevention.
- Teaching.

**ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS****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 Nautical Studies (FNB)

**CURRICULUM**

Subjects	ECTS credits	Type
<b>FIRST SEMESTER</b>		
Fundamentals of Mathematics I	6	Compulsory
Graphic Expression	6	Compulsory
Informatics	6	Compulsory
Physics	9	Compulsory
<b>SECOND SEMESTER</b>		
Business Management and Organisation	6	Compulsory
Chemistry	6	Compulsory

<b>Subjects</b>	<b>ECTS credits</b>	<b>Type</b>
Fundamentals of Mathematics II	6	Compulsory
Maritime Technical English	6	Compulsory
Mechanics and Strength of Materials	9	Compulsory
<b>THIRD SEMESTER</b>		
Applied Thermodynamics and Thermotechnics	6	Compulsory
Construction of Recreational Craft	6	Optional
Electricity and Electrotechnics	6	Compulsory
Innovation Management	6	Optional
Inspection, Maintenance and Repair of Electric Facilities	6	Optional
Inspection, Maintenance and Repair of Marine Systems	6	Optional
Inspection, Maintenance and Repair of Ship Structures	6	Optional
Management Abilities	6	Optional
Marine Data and Information Processing Using Matlab	6	Optional
Maritime Medicine	3	Compulsory
Mathematical Methods for Engineering	9	Compulsory
Mechanics Technology	6	Compulsory
Production Methods with Composite Materials	6	Optional
Project Management	6	Optional
Technical Inspection of Recreational Craft	6	Optional
<b>FOURTH SEMESTER</b>		
Fluid Mechanics	6	Compulsory
Materials Science and Technology	6	Compulsory
Naval Construction	6	Compulsory
Naval Electronics	6	Compulsory
Professional Communication for Engineers	3	Optional
Ship Theory	6	Compulsory
<b>FIFTH SEMESTER</b>		
Automatic Regulation and Control	6	Compulsory
Marine Pollution Prevention and Sustainability	6	Compulsory
Maritime Legislation	3	Compulsory
Maritime Safety & Security	6	Compulsory
Propulsion	4.5	Compulsory
Refrigeration and Air Conditioning Facilities	4.5	Compulsory
<b>SIXTH SEMESTER</b>		
Internal Combustion Engines	9	Compulsory
Marine Turbomachines and Steam Generators	9	Compulsory
Operation and Maintenance of Marine Engines and Systems	6	Compulsory
<b>SEVENTH SEMESTER</b>		

<b>Subjects</b>	<b>ECTS credits</b>	<b>Type</b>
Electric Propulsion and Power Electronics	4.5	Compulsory
Inspection and Non-Destructive Testing	4.5	Compulsory
Installations and Maintenance	4.5	Compulsory
Transport of Dangerous, Hazardous and Harmful Goods	4.5	Compulsory
Work Placement	30	Compulsory
<b>EIGHTH SEMESTER</b>		
Automatic Control Systems and Computer Networks on Board	6	Compulsory
Maintenance and Repair of Equipment and Electric Systems on Board	6	Compulsory
Maintenance and Repair of Equipment and Electronic Systems	6	Compulsory
Maintenance and Repair of Radionavigation Equipment and Radio Communication Systems	6	Compulsory
Operation and Maintenance of High Voltage Systems	6	Compulsory
Bachelor's Thesis	12	Project