# Bachelor's degree in Naval Systems and Technology Engineering

2017-2018 academic year

The **bachelor’s degree in Naval Systems and Technology Engineering** will provide you with the knowledge and skills required to work as an expert on ship propulsion and systems. Your training will be career-oriented, focusing on technological activities linked to naval engineering in relation to ships and vessels of all types; floating and fixed platforms and structures (floating docks, structures for exploiting and utilising marine resources, and marine structures for generating renewable energy); marine nurseries and fishing systems; and other maritime industries. The following specialisations are offered: Sports and Leisure Watercraft; Business Organisation; and Inspection, Maintenance and Repair.

## INTRODUCTION

<table>
<thead>
<tr>
<th>Duration</th>
<th>4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study load</td>
<td>240 ECTS credits (including the bachelor's thesis). One credit is equivalent to a study load of 25-30 hours.</td>
</tr>
<tr>
<td>Delivery</td>
<td>Face-to-face</td>
</tr>
<tr>
<td>Fees and grants</td>
<td>Approximate fees per academic year: €2,431 (€3,646 for non-EU residents). Consult the public fees system based on income (grants and payment options).</td>
</tr>
<tr>
<td>Official degree</td>
<td>Recorded in the Ministry of Education's degree register</td>
</tr>
</tbody>
</table>
| Double-degree agreements | Double-degree pathways at a single school  
  - Bachelor's degree in Naval Systems and Technology Engineering + Bachelor's degree in Marine Technologies |

## ADMISSION

<table>
<thead>
<tr>
<th>Places</th>
<th>60</th>
</tr>
</thead>
</table>

**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.
Professional opportunities

- Technical positions with shipyards and shipbuilding companies.
- Maintenance management of maritime and industrial facilities.
- Inspection services in relation to maritime administration, safety and pollution, and recreational craft.
- Average adjustment.
- Industries related to the building, repair and maintenance of ships.
- Naval technical offices.
- Maritime administrations.
- Shipping companies.
- Classification societies.
- Quality certification bodies.
- Self-employment (projects, expert reports, consulting, etc.).

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 Nautical Studies (FNB)

CURRICULUM

<table>
<thead>
<tr>
<th>Subjects</th>
<th>ECTS credits</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fundamentals of Mathematics I</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Graphic Expression</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Informatics</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Physics</td>
<td>9</td>
<td>Compulsory</td>
</tr>
<tr>
<td><strong>SECOND SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Management and Organisation</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Chemistry</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Fundamentals of Mathematics II</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Materials Science and Technology</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Naval Technology and Mechanics</td>
<td>9</td>
<td>Compulsory</td>
</tr>
<tr>
<td><strong>THIRD SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied Thermodynamics and Thermotechnics</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Construction of Recreational Craft</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td>Electricity and Electrotechnics</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Innovation Management</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td>Subjects</td>
<td>ECTS credits</td>
<td>Type</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>Inspection, Maintenance and Repair of Electric Facilities</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td>Inspection, Maintenance and Repair of Marine Systems</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td>Inspection, Maintenance and Repair of Ship Structures</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td>Management Abilities</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td>Mathematical Methods for Engineering</td>
<td>9</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Mechanics for Naval Engineering</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Production Methods with Composite Materials</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td>Project Management</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td>Technical Inspection of Recreational Craft</td>
<td>6</td>
<td>Optional</td>
</tr>
<tr>
<td><strong>FOURTH SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid Mechanics</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Naval Construction</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Naval Electronics</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Naval Equipment</td>
<td>3</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Ship Power Plant</td>
<td>4.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Ship Theory</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td><strong>FIFTH SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naval Engines</td>
<td>9</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Production Organization and Project Management</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Propulsion</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Structures for Naval Engineering</td>
<td>6</td>
<td>Compulsory</td>
</tr>
<tr>
<td><strong>SIXTH SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials in the Naval Industry</td>
<td>7.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Naval System Design</td>
<td>9</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Numerical Calculus of Naval Structures</td>
<td>4.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Quality Management, Safety, Environment and Sustainability</td>
<td>4.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Regulation and Automatic Control</td>
<td>4.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td><strong>SEVENTH SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspection and Non-Destructive Testing</td>
<td>4.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Installations and Maintenance</td>
<td>4.5</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Ship and Naval Artifact Design</td>
<td>9</td>
<td>Compulsory</td>
</tr>
<tr>
<td><strong>EIGHTH SEMESTER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's Thesis</td>
<td>24</td>
<td>Project</td>
</tr>
</tbody>
</table>