



Faculty of
**Maritime Engineering
and Marine Sciences**

Naval Engineering Program

RPC-SE-09-No.086-2020

espol[®]

Bachelor of Science in Naval Engineering



Applicant Profile

If you want to study Naval Engineering, you must be interested in ship design and construction, or in organizing maritime cargo and passenger transportation. Additionally, you must have skills in mathematics, physics, and chemistry, and be willing to use engineering technology tools.



Program Educational Objectives

After 4 years of study, you will be able to:

- ▶ Participate in significant ship and maritime systems projects throughout the various phases of their life cycle.
- ▶ Contribute to the development of the maritime and industrial sectors by leading multidisciplinary teams, promoting innovation, and ensuring compliance with national and international regulations.
- ▶ Carry out technical and managerial activities while demonstrating ethical conduct and social, economic, and environmental responsibility in the maritime sector.



Employability

As a Naval Engineer from ESPOL, you will be able to work in various areas of the industry: shipyards and dry docks, design offices, shipbuilding and maintenance companies, port administration, and maritime service providers. You will be able to hold the following positions:

- ▶ Heads of ship design, maintenance, and construction departments.
- ▶ Maritime transportation planners and coordinators.
- ▶ Marine supervisors or surveyors.
- ▶ Managers in engineering, naval design, and maritime projects.
- ▶ Technical advisors for marine equipment.

Curriculum Structure

LEVEL 100 - I

SINGLE VARIABLE
CALCULUS

PHYSICS:
MECHANICS

PROBLEM SOLVING

ARTS, SPORTS AND
LANGUAGES
ELECTIVE COURSES

GENERAL CHEMISTRY

ENGLISH I

LEVEL 100 - II

VECTOR CALCULUS

PHYSICS:
ELECTRICITY AND
MAGNETISM

PROGRAMMING
FUNDAMENTALS

COMMUNICATION

MATERIALS IN
MARINE
ENVIRONMENT

ENGLISH II

LEVEL 200 - I

DIFFERENTIAL
EQUATIONS AND
LINEAR ALGEBRA

NUMERICAL
METHODS

STATISTICS

VECTOR MECHANICS

ENGLISH III

LEVEL 200 - II

THERMODYNAMICS

LINES PLAN AND SHIP
HYDROSTATICS

SOLID MECHANICS

SUSTAINABILITY
SCIENCE

ENGLISH IV

LEVEL 300 - I

MARINE
MACHINERY I

SHIP STABILITY

FLUID MECHANICS

SHIP STRUCTURES

HUMANITIES ELECTIVE
COURSES

ENGLISH V

LEVEL 300 - II

MARINE MACHINERY II

ELECTRICITY AND
ELECTRONICS
FOR SHIPS

SHIP RESISTANCE AND
PROPULSION

MECHANICAL
VIBRATIONS

FINITE ELEMENTS

COMMUNITY
SERVICE
INTERNSHIPS

LEVEL 400 - I

SHIP METALLIC
CONSTRUCTIONS

SHIP DESIGN

SHIP DYNAMICS

MARITIME AND PORT
MANAGEMENT

ENTREPRENEURSHIP
AND INNOVATION

SELECTED ELECTIVE
COURSE

LEVEL 400 - II

NAVAL ENGINEERING
CAPSTONE COURSE

MARITIME
TRANSPORTATION

SELECTED ELECTIVE
COURSE

PRE-PROFESSIONAL
BUSINESS
INTERNSHIPS



By the way...

Thanks to our agreements, our students have the great opportunity to complete internships at prestigious companies and enhance their academic training with studies abroad.



International Relations

ESPOL, through its Foreign Relations Office, promotes and develops ties with international cooperation agencies and academic and research institutions. These ties generate mobility opportunities for the entire polytechnic community and contribute to the excellence that characterizes us.

More than 165 agreements allow our students to undertake stays abroad, including semester-long or annual exchanges, pre-professional internships, research internships, and participation in conferences, competitions, and other academic activities

106

universities
worldwide



Accredited Program



Did you know?

The Naval Engineering Program offers you the opportunity to grow as a professional through international internships, collaborating on experimental tests for new structural designs and engineering materials, or working in virtual or hydrodynamic test tanks at universities around the world.

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ESPOL



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