

The background of the slide is a photograph of two divers underwater. One diver, wearing a yellow wetsuit, is in the foreground, reaching towards a white, dome-shaped ROV (Remotely Operated Vehicle) mounted on a purple buoy. Another diver is visible in the background. Bubbles are rising from the divers, and the water is a deep blue.

Faculty of
**Maritime Engineering
and Marine Sciences**

Oceanographic Engineering

RPC-SO-24-No.526-2020

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Bachelor of Science in Oceanographic Engineering



Applicant Profile

Applicants should be curious about understanding the ocean, marine and coastal areas, and their dynamics. They should have an interest in researching natural phenomena, designing coastal protection solutions, and evaluating environmental impacts. They should also be committed to sustainable development and integrated coastal management.



Employability

Professionals may work in coastal and port engineering, oceanography, and sustainable management of marine and coastal resources, participating in:

- ▶ Research in oceanography, climate, and their impacts
- ▶ Studies on coastal dynamics and ecosystem restoration
- ▶ Design and evaluation of coastal works and maritime structures
- ▶ Management and execution of projects in the coastal zone
- ▶ Solutions addressing marine and coastal risks, climate change, and sustainability

Employment opportunities are available in national and international institutions such as INOCAR, Jan De Nul, Consulsua Engineering Consulting, IPIAP, SNGRE, fishing companies, among others, as well as in autonomous governments.



Professional Skills

Professionals in Oceanographic Engineering analyze and solve problems related to oceanic, marine and coastal processes and their socio-environmental implications. They work in multidisciplinary teams and contribute to development.



In fact...

For applicants interested in the study and design of solutions to problems related to the country's oceanic, marine, and coastal zone, this program is an excellent option.



LEARN MORE



Curriculum

N 100 - I

SINGLE VARIABLE
CALCULUS

PHYSICS:
MECHANICS

GENERAL
CHEMISTRY

PROBLEM SOLVING

ARTS, SPORTS AND
LANGUAGES ELECTIVE
COURSES

ENGLISH I

N 100 - II

VECTOR CALCULUS

PROGRAMMING
FUNDAMENTALS

PHYSICS:
THERMODYNAMICS
AND OPTICS

FUNDAMENTALS OF
OCEANOGRAPHIC
ENGINEERING

DESCRIPTIVE
OCEANOGRAPHY

ENGLISH II

N 200 - I

STATISTICS

DIFFERENTIAL
EQUATIONS AND
LINEAR ALGEBRA

NUMERICAL
METHODS

COMMUNICATION

CLIMATOLOGY AND
METEOROLOGY

ENGLISH III

N 200 - II

VECTOR MECHANICS

FLUID MECHANICS

PHYSICAL
OCEANOGRAPHY

MARINE GEOLOGY

MARINE
BIOGEOCHEMISTRY

ENGLISH IV

N 300 - I

STRENGTH OF
MATERIALS

MARINE WAVES

SOIL AND ROCK
MECHANICS

ENTREPRENEURSHIP
AND INNOVATION

ENGLISH V

N 300 - II

STRUCTURAL
ANALYSIS

OCEANOGRAPHIC
INFORMATION
ANALYSIS

COASTAL
OCEANOGRAPHY

SUSTAINABILITY
SCIENCE

MARINE POLLUTION

COMMUNITY
SERVICE
INTERNSHIPS

N 400 - I

REINFORCED
CONCRETE
DESIGN

DREDGING
PLANNING

COASTAL MODELING

ESTUARINE
PROCESSES

COASTAL-MARINE
ENVIRONMENTAL
IMPACT

PORT DIMENSIONING

N 400 - II

PORT CONSTRUCTION

DREDGING
MANAGEMENT

COASTAL DESIGN

COASTAL
MANAGEMENT
TECHNIQUES

PLANNING AND
CONSTRUCTION

SELECTED
ELECTIVE
COURSE

N 500 - I

OCEANOGRAPHIC
ENGINEERING
CAPSTONE
COURSE

COASTAL-MARINE
ZONES
MANAGEMENT

HUMANITIES
ELECTIVE
COURSES

SELECTED
ELECTIVE
COURSE

PRE-PROFESSIONAL
BUSINESS
INTERNSHIPS



Accredited Program



Engineering
Accreditation
Commission



Did you know?

Since 1973, the Oceanographic Engineering program has trained professionals in the study of the ocean and marine and coastal zones. It addresses topics such as climate variability, the El Niño–Southern Oscillation, coastal processes, natural hazards, and coastal engineering. In addition, it promotes exchanges, practical training, and internships in national and international institutions.

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International Relations

Through its External Relations Office, ESPOL promotes and develops partnerships with international cooperation organizations, academic institutions, and research centers. These partnerships create mobility opportunities for the entire ESPOL community and contribute to the excellence that distinguishes the institution.

More than 226 international agreements allow students to participate in experiences abroad, including semester or year-long exchange programs, pre-professional internships, research placements, and participation in conferences, competitions, and other academic activities.

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universities
around the world

