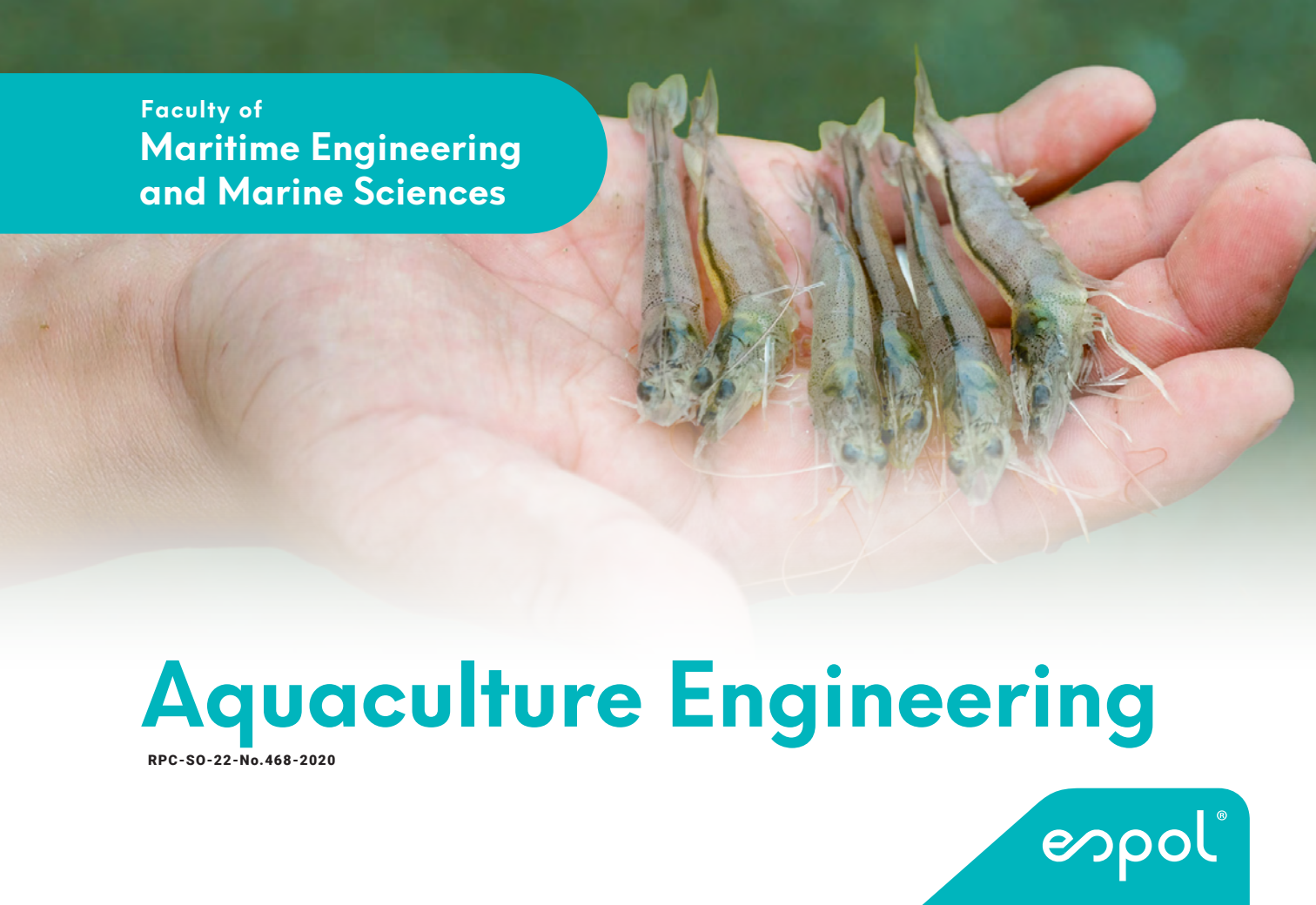




Faculty of  
**Maritime Engineering  
and Marine Sciences**

# Aquaculture Engineering

RPC-SO-22-No.468-2020

espol<sup>®</sup>

# Bachelor of Science in Aquaculture Engineering



## Applicant Profile

The Aquaculture Engineering program seeks applicants with knowledge of biology, chemistry, and mathematics who are interested in contributing to sustainable food production for the world. Teamwork, critical thinking, and innovation are valued, as well as an interest in the cultivation of fish, crustaceans, mollusks, and algae in efficient production systems.



## Professional Skills

After four years in the program, students will be able to:

- ▶ Design, manage, and optimize aquaculture systems by integrating engineering, sustainability, and the efficient use of resources
- ▶ Evaluate and improve production, health, and cultivation conditions through technical analysis
- ▶ Identify, formulate, and solve problems in real-world contexts within the sector
- ▶ Develop innovative solutions with a global, ethical, and data-based approach
- ▶ Understand and interpret scientific and technical material in English



## Employability

Professionals from this program may practice in areas such as aquaculture production, environmental management, research, and technological development. They may participate in the design, operation, and optimization of sustainable production systems, as well as join companies in the sector, research centers, and public entities. Aquaculture is a growing activity locally and globally, which expands employment opportunities. The program shows high employability levels, with strong job placement upon completion of studies.



## In fact...

Students in the Aquaculture Engineering program will be able to supervise and organize all activities, from stocking to harvesting, processing, and marketing aquaculture products.



LEARN MORE



# Curriculum

|            |                                         |                                 |                                    |                                                 |                             |                                       |
|------------|-----------------------------------------|---------------------------------|------------------------------------|-------------------------------------------------|-----------------------------|---------------------------------------|
| N 100 - I  | SINGLE VARIABLE CALCULUS                | PHYSICS: MECHANICS              | PROBLEM SOLVING                    | ARTS, SPORTS AND LANGUAGES ELECTIVE COURSES     | GENERAL CHEMISTRY           | ENGLISH I                             |
| N 100 - II | CALCULUS OF SEVERAL VARIABLES           | PROGRAMMING FUNDAMENTALS        | AQUACULTURE ISSUES                 | GENERAL BIOLOGY                                 | ORGANIC CHEMISTRY           | ENGLISH II                            |
| N 200 - I  | COMMUNICATION                           | STATISTICS                      | AQUATIC ECOSYSTEMS                 | INTRODUCTION TO AQUACULTURE                     | BIOCHEMISTRY                | ENGLISH III                           |
| N 200 - II | FUNDAMENTALS OF AQUACULTURE ENGINEERING | AQUATIC DATA ANALYSIS           | AQUACULTURE MANAGEMENT             | MORPHOLOGY AND PHYSIOLOGY OF AQUATIC ORGANISMS  | AQUATIC NUTRITION           | ENGLISH IV                            |
| N 300 - I  | AQUACULTURE ENGINEERING I               | ENTREPRENEURSHIP AND INNOVATION | GOOD AQUACULTURE PRACTICES         | AQUACULTURE PATHOLOGY I                         | HUMANITIES ELECTIVE COURSES | ENGLISH V                             |
| N 300 - II | AQUACULTURE ENGINEERING II              | AQUACULTURE SYSTEMS             | SUSTAINABILITY SCIENCE             | AQUACULTURE PATHOLOGY II                        | PLANKTON CULTURE            | COMMUNITY SERVICE INTERNSHIPS         |
| N 400 - I  | FISH FARMING                            | ORNAMENTAL AQUACULTURE          | CULTURE OF NON TRADITIONAL SPECIES | TOOLS FOR THE DIAGNOSIS OF AQUACULTURE DISEASES | AQUACULTURE PRODUCTION I    | SELECTED ELECTIVE COURSE              |
| N 400 - II |                                         |                                 |                                    | AQUACULTURE CAPSTONE COURSE                     | AQUACULTURE PRODUCTION II   | SELECTED ELECTIVE COURSE              |
|            |                                         |                                 |                                    |                                                 |                             | PRE-PROFESSIONAL BUSINESS INTERNSHIPS |



## Accredited Program



## Did you know?

ESPOL has been part of the growth of aquaculture since the 1980s and it's a pioneer in the training of professionals and in the development of technology, research, and production of shrimp, fish, mollusks, and algae. The institution has the largest aquaculture research center in the South Pacific, CENAIM, where students may complete internships as part of their professional training.

[www.fimcm.espol.edu.ec](http://www.fimcm.espol.edu.ec)

[www.admision.espol.edu.ec](http://www.admision.espol.edu.ec)



## 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.

**163**

universities  
around the world

