Postgrados

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Master's degree in

Physics

RPC-SO-02-No.039-2022

Choose ESPOL

1 **INSTITUTIONAL PRESTIGE**
The best public university in the country and one of the best in Latin America, according to international rankings.

2 **PRIVILEGED CAMPUS**
560 hectares of protected forest invite you to stay in contact with nature.

3 **LINKING WITH THE COMMUNITY**
Our programs respond to the needs of society.

4 **INTERNATIONAL PARTNERSHIPS AND ALLIANCES**
Student mobility, development of research projects and networking.

5 **MODERN INFRASTRUCTURE**
Our facilities are equipped with laboratories and technological tools that complement quality training.

6 **EMPLOYABILITY**
Graduates with a high rate of employability in domestic and foreign companies.

SCIMAGO INSTITUTIONS RANKINGS

QS WORLD UNIVERSITY RANKINGS LATIN AMERICA

THE WORLD UNIVERSITY RANKINGS

SUSTAINABLE DEVELOPMENT GOALS

Physics

Being a natural science, it is dedicated to the study of matter and interactions in the universe, both at the atomic-molecular and macroscopic levels. It analyzes not only the dynamic behavior of matter under the action of fundamental forces, but also its origin, providing theoretical or applied solutions to scientific and technological problems.

ESPOL has a physics department that has been founded more than 11 years ago. Aware of the need to strengthen human talent in the area of physics and the promotion of scientific research in the Ecuadorian coast, it offers the Master's program in Physics.

This program promotes the specialization of professionals with solid knowledge of Fundamental Physics, which allows them to independently perform research activities in order to solve scientific or technological problems. Another of the program's objectives is the propagation of research in basic sciences at the Litoral level, through the formation of working links with the institution. Finally, the program also guarantees that its graduates will be able to continue doctoral studies in the area.

Degree to be obtained:
Master in Physics

Applicant Profile

The program is aimed at graduates with third level degrees preferably in physics, mathematics, engineering and related fields. They must show an attitude to work in multidisciplinary teams, a vocation for continuous learning and additionally be interested in obtaining a solid background in physics. Applicants with other degrees may be admitted after evaluation by the academic committee.

Graduate Profile

The graduate of this program must have developed skills in the scientific method in the physical sciences that will allow him/her to pose problems through physicomathematical models, and solve them using theoretical and numerical models or through experimental techniques. He/she will have a solid background in the fundamental subjects of physics and additionally should have generated basic experience in a scientific research topic through the development of his/her thesis project that will allow him/her to carry out projects in a guided manner, as well as the beginning of his/her research career.

Duration:
2 years

Blended Learning:
Two regular terms within a year, 3 semesters of schooling and one semester dedicated to thesis work.

Classic Mechanics	240 hours
Electrodynamics	240 hours
Mathematic Methods for Physics	192 hours
Statistical Mechanics	240 hours
Quantum Mechanics 1	240 hours
Elective Course 1	240 hours
Elective Course 2	192 hours
Thesis Seminar	192 hours
Thesis work	768 hours

Advanced Disciplinary Training Qualification Elective

Arturo Pazmiño, Ph.D.

Academic Coordinator

Engineer graduated from Escuela Superior Politécnica del Litoral, Ph.D. in Physics at Stony Brook University, New York, USA. His research interests revolve around atomic, molecular and optical physics with light-matter interaction, as well as the study of physical models and experimental prototypes for science and education.

Some of our teachers:

Alexander López, Ph.D.

Physicist graduated from Universidad Central de Venezuela. D. in Sciences, with mention in Physics, at the Instituto Venezolano de Investigaciones Científicas de Venezuela. His research interests are electronic properties of low dimensional materials, quantum information and spintronics.

Esther Gutiérrez, Ph.D.

Physicist with mention in Computational Physics, graduated from Universidad Central de Venezuela. D. in Physics from the Instituto Venezolano de Investigaciones Científicas (Venezuelan Institute of Scientific Research). Teacher and Researcher at ESPOL. Her research interests focus on complex systems, nonlinear dynamics, chaos, time series analysis, neural networks, machine learning, deep learning and physics education.

Admission Process

1. Online application
2. Admission test
3. Interview
4. Response for admission
5. Signing of educational contract
6. First Payment
7. Beginning of classes

Application Requirements

- Updated resume.
- Academic or professional recommendation.
- Certificate of registration of degree issued by Senescyt (national degree).
- Grades or academic performance record of the last degree obtained.
- Updated voting certificate (national).
- Letter of motivation.
- Proof of aptitude.
- English B1 proficiency

For foreign students, please note:

- Copy of your identity card if you have one, or a color copy of your valid passport.

Financing

- ESPOL direct credit,
- Student bank credit

Investment

Enrollment: $500.00 **Fee:** $8,400.00

Payment Methods

Online payments by credit or debit card.

Schoolarships*

*Restrictions apply

- 15% Disability
- 25% Economic Condition
- 75% Academic Excellence

National Alumni:	15%	Early Application: *2 months before class begin*	20%
ESPOL Alumni:	25%	Workers and Public Servants of ESPOL:	50%
Advance Payment:	25%	Research Technician:	65%

Publication in scientific journals indexed in SCOPUS or WOS:	50%
Ranking of best grade point averages: Research experience:	25%
Inter-institutional cooperation agreements:	15%

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Facultad de Ciencias Naturales y Matemáticas

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