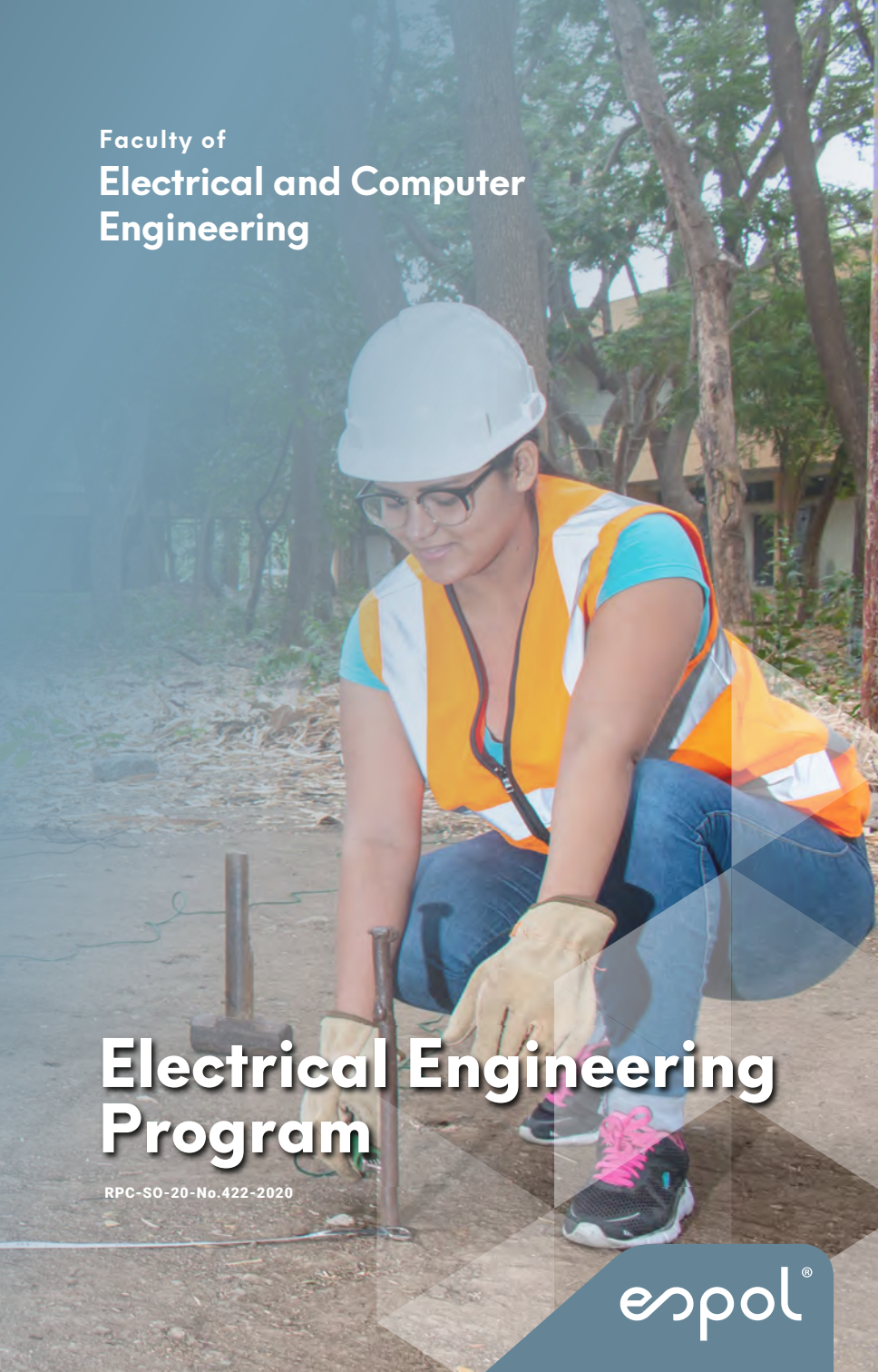


Faculty of

Electrical and Computer Engineering

Electrical Engineering Program

RPC-SO-20-No.422-2020

espol®

Bachelor of
Science in Electrical Engineering

Applicant Profile

Applicants must be visionary and innovative so that, through problem-solving and communication skills, they have the interest to work in multidisciplinary teams, as well as acquire knowledge in sustainability and social responsibility, since the career focuses more and more on energy efficiency and the use of renewable energy, as well as on the social and environmental impact of decisions in the field of electric energy.

Professional skills

At the end of the degree, they will obtain the following skills:

- Skills to design and analyze electrical systems.
- Management, design and implementation of projects related to the generation, transmission and distribution of electric energy.
- Expertise in energy efficiency optimization and comprehensive management of smart grids.
- Efficient development of renewable energy projects.
- Ability to lead and communicate effectively in multidisciplinary teams, developing innovative solutions to complex problems in electric power and maintaining productive interactions with customers and professionals.

Employability

The Electrical Engineer from Espol receives training with solid knowledge in the areas of generation, transmission, distribution and use of electrical energy. During the degree, our students acquire competencies that will allow them to assume positions such as:

Plant Manager

- Project Manager.
- Manager of private and public technical companies.
- Advisor and consultant.
- Inspector and evaluator.
- Entrepreneur.

Head of operations

- Head of company maintenance.
- Technical Support Engineer.
- Student of postgraduate programs (technical, scientific or administrative)

We have the first Real-Time Power System Simulation Laboratory, where advanced simulations are carried out, including the Hardware in the Loop (HIL) technique.

Curriculum Structure

LEVEL 100 - I	SINGLE VARIABLE CALCULUS	PHYSICS: MECHANICS	GENERAL CHEMISTRY
	PROBLEM SOLVING	ARTS, SPORTS AND LANGUAGES ELECTIVE COURSES	ENGLISH I
LEVEL 100 - II	LINEAR ALGEBRA	VECTOR CALCULUS	PHYSICS: ELECTRICITY AND MAGNETISM
	PROGRAMMING FUNDAMENTALS	HUMANITIES ELECTIVE COURSES	ENGLISH II
LEVEL 200 - I	DIFFERENTIALS EQUATIONS	COMMUNICATION	STATISTICS
	ELECTRICAL CIRCUITS	DIGITAL SYSTEMS I	ENGLISH III
LEVEL 200 - II	NUMERICAL METHODS	ELECTRONIC PRINCIPLES	ELECTRICAL NETWORKS ANALYSIS
	CONTROL SYSTEMS	ELECTROMAGNETIC THEORY	ENGLISH IV
LEVEL 300 - I	ENTREPRENEURSHIP AND INNOVATION	POWER SYSTEMS I	ELECTRICAL INSTALLATIONS
	ELECTRICAL MACHINERY I	ENGLISH V	

LEVEL 300 - II

- POWER ELECTRONICS I
- POWER SYSTEMS II
- ELECTRICAL MACHINERY II
- SUSTAINABILITY SCIENCE
- COMMUNITY SERVICE INTERNSHIPS

LEVEL 400 - I

- HIGHER MATHEMATICS
- POWER SYSTEMS OPERATION
- ELECTRICAL DISTRIBUTION I
- RENEWABLE ENERGY
- POWER STATIONS
- INDUSTRIAL ELECTRICAL CONTROLS

LEVEL 400 - II

- ELECTRICAL PROTECTIONS
- POWER SYSTEMS PLANNING
- ELECTRICAL DISTRIBUTION II
- POWER SYSTEMS STABILITY AND CONTROL
- TRANSMISSION LINES AND SUBSTATIONS
- SELECTED ELECTIVE COURSE

LEVEL 500 - I

- MANAGEMENT AND REGULATORY FRAMEWORK OF THE ELECTRICAL SECTOR
- ELECTRICAL ENGINEERING CAPSTONE COURSE
- SELECTED ELECTIVE COURSE
- PRE-PROFESSIONAL BUSINESS INTERNSHIPS

By the way...

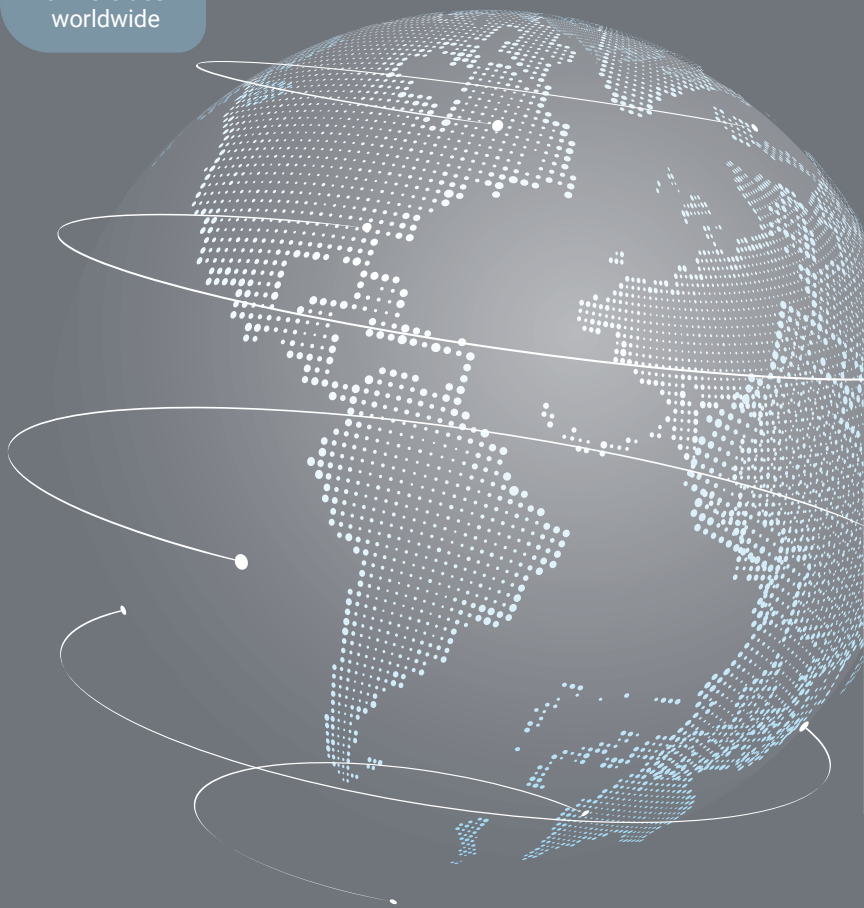
- We have the Safe Electrical Installations program that not only turns on light bulbs, but also hopes. By applying electrical expertise, we extend a helping hand to communities that need it most.
- Explore our specialized elective: Power System Optimization, where we fine-tune every detail for maximum efficiency; and SCADA applied to Power Systems, integrating cutting-edge technology for impeccable management.

International Relations

ESPOL, through its External Relations Management, promotes and develops links with cooperation organizations and academic and research institutions at an international level. These links generate mobility opportunities for the entire polytechnic community and contribute to the excellence that characterizes us.

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

106
universities
worldwide



Accredited Program

ABET Engineering Accreditation Commission

European Accreditation of Engineering Programmes EUR-ACE®

Did you know?

This program is oriented to the management, generation and use of electrical energy. The Electrical Engineer is able to innovate, design, manage, build and operate conventional and renewable generation systems, transmission systems, distribution and industrial facilities, contributing to the socioeconomic development of their environment.

www.fiec.espol.edu.ec

www.admision.espol.edu.ec

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