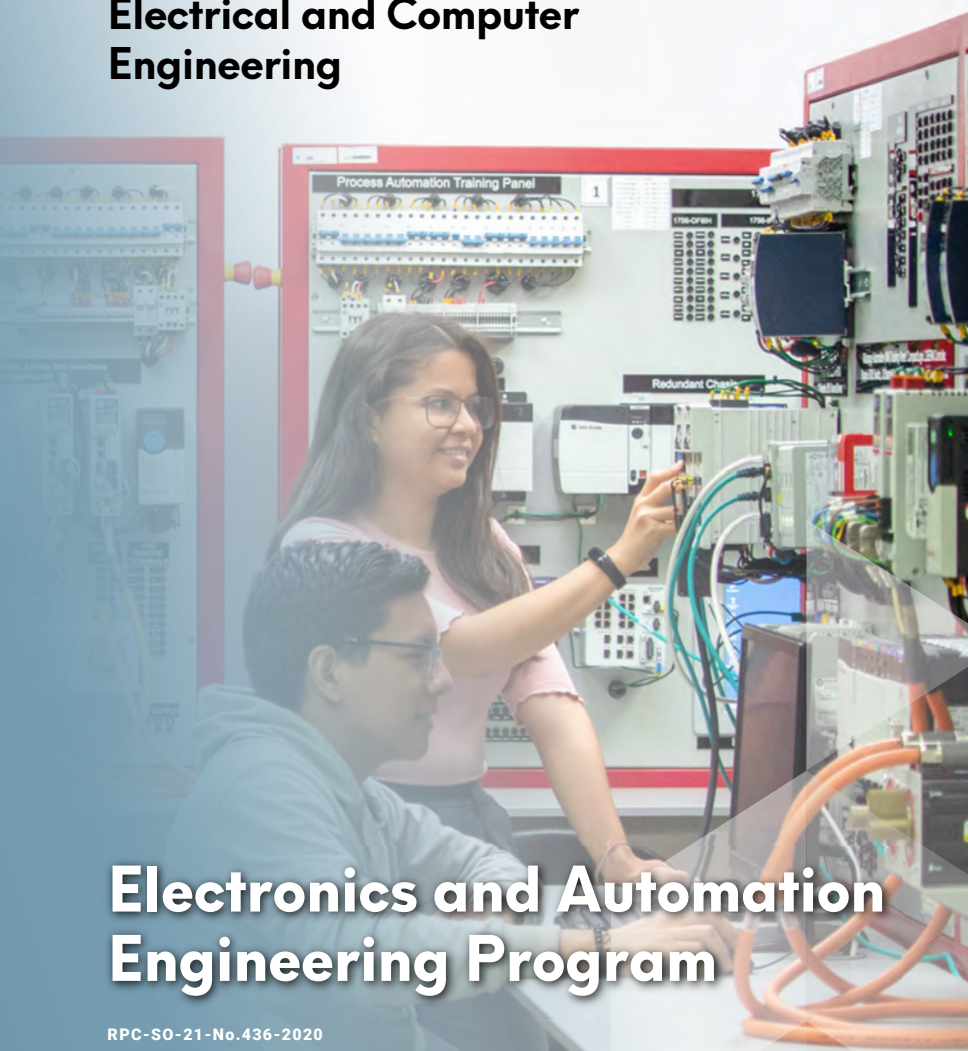
Faculty of

Electrical and Computer Engineering



Electronics and Automation Engineering Program

RPC-SO-21-No.436-2020

espol®

Bachelor of
Science in Electronics and Automation Engineering

Applicant Profile

Young individuals who demonstrate strong abilities in abstraction, logical reasoning, and comprehension, in addition to possessing foundational knowledge in experimental sciences and mathematics.

Professional skills

Professionals with solid scientific, technical, and humanistic foundations, capable of designing and implementing comprehensive solutions for modern industry in areas related to electronics, robotics, instrumentation, process control, digitalization, automated systems, and Industry 4.0.

To support this training, we offer various modernized laboratories developed through strategic partnerships with companies such as Rockwell Automation and Siemens. In addition, several of our laboratories are equipped with Digital Twin tools, aimed at optimizing resources through real-time operation and enhancing industrial processes with advanced technology as we move toward the Smart Industry.

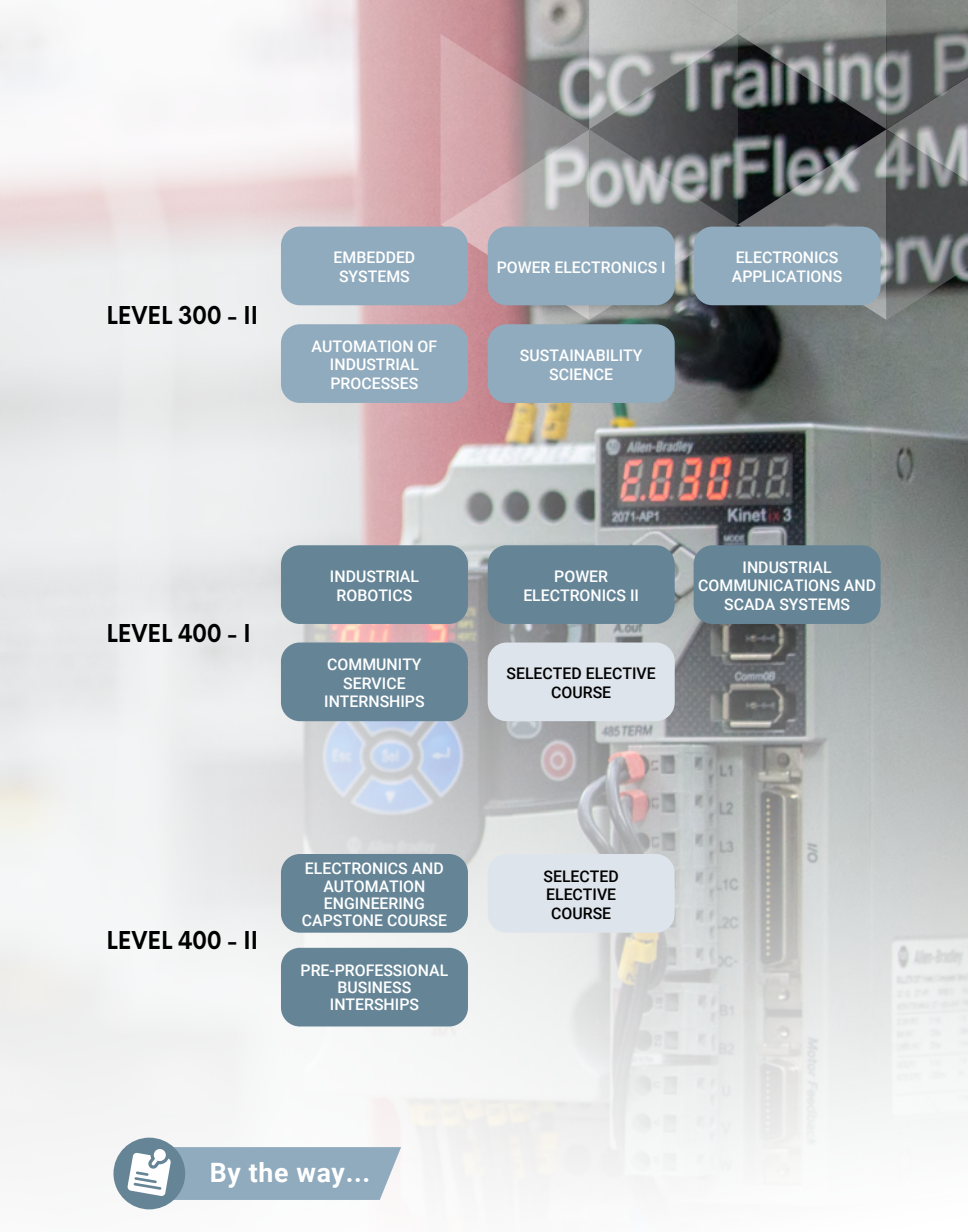
Employability

You will be able to work in the following areas:

- Consulting and implementation of projects in home automation, industrial automation, robotics, process digitalization, and Industry 4.0.
- Design and implementation of digital control systems for electrical machines, energy efficiency, renewable energy systems, and other current fields of application.
- Research in digitalization, augmented reality, and applied intelligent systems.
- Development of software applications for electrical, electronic, and industrial automation systems.
- Design and implementation of industrial electrical and electronic installations, including the management of preventive, predictive, and corrective maintenance plans.
- Development and implementation of technology-based startups.
- Design, manufacturing, and maintenance of electronic boards and equipment.
- Employment across productive sectors such as oil, gas, mining, metallurgy, manufacturing, food processing, agribusiness, aquaculture, pharmaceuticals, alternative energy, among others.

Curriculum Structure

LEVEL 100 - I	ARTS, SPORTS AND LANGUAGES ELECTIVE COURSES	PROBLEM SOLVING	SINGLE VARIABLE CALCULUS
	PHYSICS: MECHANICS	GENERAL CHEMISTRY	ENGLISH I
LEVEL 100 - II	LINEAR ALGEBRA	PROGRAMMING FUNDAMENTALS	VECTOR CALCULUS
	PHYSICS: ELECTRICITY AND MAGNETISM	HUMANITIES ELECTIVE COURSES	ENGLISH II
LEVEL 200 - I	DIFFERENTIALS EQUATIONS	STATISTICS	COMMUNICATION
	DIGITAL SYSTEMS I	ELECTRICAL CIRCUITS	ENGLISH III
LEVEL 200 - II	PROGRAMMING APPLIED TO AUTOMATION	ELECTRONIC PRINCIPLES	DIGITAL SYSTEMS II
	ELECTRICAL NETWORKS ANALYSIS	CONTROL SYSTEMS	ENGLISH IV
LEVEL 300 - I	ENTREPRENEURSHIP AND INNOVATION	ELECTRICAL INSTALLATIONS	INDUSTRIAL INSTRUMENTATION
	MACHINES AND TRANSFORMERS	ADVANCED CONTROL	ENGLISH V



LEVEL 300 - II

- EMBEDDED SYSTEMS
- POWER ELECTRONICS I
- ELECTRONICS APPLICATIONS
- AUTOMATION OF INDUSTRIAL PROCESSES
- SUSTAINABILITY SCIENCE

LEVEL 400 - I

- INDUSTRIAL ROBOTICS
- POWER ELECTRONICS II
- INDUSTRIAL COMMUNICATIONS AND SCADA SYSTEMS
- COMMUNITY SERVICE INTERNSHIPS
- SELECTED ELECTIVE COURSE

LEVEL 400 - II

- ELECTRONICS AND AUTOMATION ENGINEERING CAPSTONE COURSE
- SELECTED ELECTIVE COURSE
- PRE-PROFESSIONAL BUSINESS INTERSHIPS

By the way...

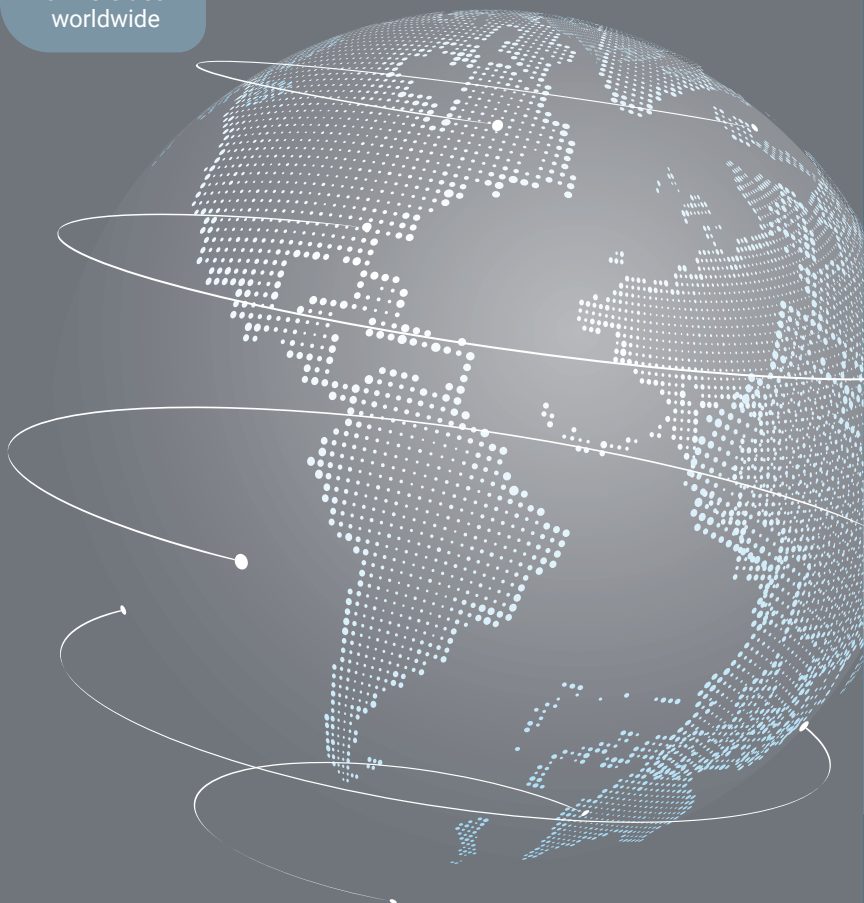
The Electronics and Automation Engineering program is accredited by ABET and EUR-ACE, internationally recognized accreditation agencies for engineering and technology programs that award a seal of excellence to academic programs meeting the highest global quality standards.

International Relations

ESPOL, through its Office of International Relations, promotes and develops partnerships with international cooperation agencies and academic and research institutions worldwide. These collaborations create mobility opportunities for the entire polytechnic community and contribute to the excellence that distinguishes our institution.

With more than 165 agreements in place, our students can pursue academic experiences abroad, including semester- or year-long exchanges, professional internships, research placements, 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 was created in response to the needs of modern industries, which require professionals with extensive knowledge in applied industrial electronics, automatic control, robotics, and intelligent automation of industrial processes.

www.fiec.espol.edu.ec

www.admision.espol.edu.ec

ESPOL espol1 @espol1 espol