

Faculty of
Electrical and Computer
Engineering

Telematics Engineering

RPC-SO-22-No.468-2020

espol[®]

Bachelor of Science in Telematics Engineering



Applicant Profile

Applicants to the Telematics Engineering program are expected to show an interest in computer science, programming, electronics, networks, and cybersecurity. They should demonstrate strong problem-solving and teamwork skills, along with enthusiasm for learning and staying current with technological advances.



Employability

A Telematics Engineer may work across various industries and companies, holding roles such as:

- ▶ Information and Communication Technologies Manager
- ▶ Data Center Director
- ▶ Cloud and Internet Solutions Specialist
- ▶ Technology Consultant and Entrepreneur
- ▶ Cybersecurity Specialist

Demand for these professionals continues to grow, driven by the need to optimize processes and make strategic use of information and communication technologies.

Alumni of this program acquire solid knowledge that enables them to design, implement, and lead multidisciplinary technological projects. They are prepared to pursue national and international technical certifications from Cisco Systems, Microsoft, Huawei, Linux, Juniper Networks, Aruba Networks, MikroTik, Oracle, among others. The program has five specialized laboratories in technological infrastructure, telematics systems, data networks, and cybersecurity.



Professional Skills

A Telematics Engineer masters the design, development, implementation, and management of communication and data transmission systems. Expertise in multidisciplinary project management, cybersecurity, networks, and systems, using telecommunications and information technologies, enables the development of efficient solutions that optimize data transmission, storage, and analysis in areas such as automation, logistics, and smart infrastructure.



In fact...

Telematics engineers are the invisible architects of the digital era. With their ability to design and lead technological projects, they are behind every click on the internet, ensuring efficient and secure connectivity. With recognized certifications and access to specialized laboratories, they are prepared to address today's most significant technological challenges.



LEARN MORE



Curriculum

N 100 - I	SINGLE VARIABLE CALCULUS	PHYSICS: MECHANICS	ARTS, SPORTS AND LANGUAGES ELECTIVE COURSES	PROGRAMMING FUNDAMENTALS	PROBLEM SOLVING	ENGLISH I
N 100 - II	VECTOR CALCULUS	PHYSICS: ELECTRICITY AND MAGNETISM	COMMUNICATION	OBJECT ORIENTED PROGRAMMING	TELEMATICS AND DIGITAL TRANSFORMATION	ENGLISH II
N 200 - I	LINEAR ALGEBRA	DISCRETE MATHEMATICS	HUMANITIES ELECTIVE COURSES	DATA NETWORKS	DATABASE SYSTEMS	ENGLISH III
N 200 - II	DIFFERENTIAL EQUATIONS	STATISTICS	DIGITAL SYSTEMS I	BASIC ELECTRICITY	INTERNETWORKING	ENGLISH IV
N 300 - I	ENTREPRENEURSHIP AND INNOVATION	SYSTEMS PROGRAMMING	EMBEDDED SYSTEMS	ELECTRONICS	NETWORK SYSTEMS AND SERVICES MANAGEMENT	ENGLISH V
N 300 - II	SUSTAINABILITY SCIENCE	EVALUATION AND SIMULATION OF NETWORKS	WIRELESS AND SENSOR NETWORKS	CYBERSECURITY AND NETWORK MANAGEMENT	CLOUD SYSTEMS	COMMUNITY SERVICE INTERNSHIPS
N 400 - I	TELEMETRY AND CYBERPHYSICAL SYSTEMS	DIGITAL DATA COMMUNICATIONS	DISTRIBUTED SYSTEMS AND CLOUD COMPUTING	MULTIMEDIA NETWORKS AND QUALITY OF SERVICE	MANAGEMENT OF IT INFRASTRUCTURE AND SERVICES	SELECTED ELECTIVE COURSE
N 400 - II					TELEMATICS ENGINEERING CAPSTONE COURSE	SELECTED ELECTIVE COURSE
						PRE-PROFESSIONAL BUSINESS INTERNSHIPS



Engineering
Accreditation
Commission



Telematics engineers may work in companies interested in using information technologies to modernize their processes, as well as start new ventures to provide modern services and solutions based on networks and the Internet. The program has alumni achievements such as the development of Ecuador's first artificial intelligence robot.

As part of their academic training, students in this program are prepared to obtain international certifications awarded by leading companies such as Cisco, Huawei, among others, which validate their knowledge of ICTs.

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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.

