Faculty of

Electrical and Computer Engineering

Telematics Engineering Program

RPC-SO-22-No.468-2020

espol®

Bachelor of
Science in Telematics Engineering

Applicant Profile

Applicants to the Telematics Engineering program should have an interest in computer science, programming, electronics, networks, and cybersecurity. They should excel at problem-solving, teamwork, and demonstrate enthusiasm for continuous learning and technological advancement.

Professional skills

A telematics engineer is proficient in the design, development, implementation, and management of communication and data transmission systems. Their expertise in managing multidisciplinary projects, cybersecurity, networks, and systems using telecommunications and computer technologies enables them to create efficient solutions that optimize data transmission, storage, and analysis in areas such as automation, logistics, and smart infrastructure.

Employability

A telematics engineer can work in various industries and companies, holding roles such as:

- Manager of Information and Communication Technologies
- Director of projects for systems and services based on telecommunications networks
- Data Center Director
- Entrepreneur, creating their own telematics services company
- Specialist in network- and Internet-based solutions
- Network Operations Center (NOC) Director
- Technological Infrastructure Manager
- Technology project consultant
- Network and communications engineer
- Cybersecurity specialist

The demand for these professionals continues to grow due to the need to optimize processes and take advantage of information and communication technologies.

Our graduates from this program receive a solid foundation that enables them to design, implement, and manage multidisciplinary technology projects. They are prepared to obtain national and international technical certifications from organizations such as Cisco Systems, Microsoft, Huawei, Linux, Juniper Networks, Aruba Networks, MikroTik, and Oracle, among others. We have three specialized laboratories focused on technological infrastructure, telematics systems, and data networks.

Curriculum Structure

LEVEL 100 - I	SINGLE VARIABLE CALCULUS	PHYSICS: MECHANICS	ARTS, SPORTS AND LANGUAGES ELECTIVE COURSES
	PROGRAMMING FUNDAMENTALS	PROBLEM SOLVING	ENGLISH I
LEVEL 100 - II	VECTOR CALCULUS	PHYSICS: ELECTRICITY AND MAGNETISM	COMMUNICATION
	OBJECT ORIENTED PROGRAMMING	TELEMATICS AND DIGITAL TRANSFORMATION	ENGLISH II
LEVEL 200 - I	LINEAR ALGEBRA	DISCRETE MATHEMATICS	HUMANITIES ELECTIVE COURSES
	DATA NETWORKS	DATABASE SYSTEMS	ENGLISH III
LEVEL 200 - II	DIFFERENTIALS EQUATIONS	STATISTICS	DIGITAL SYSTEMS I
	BASIC ELECTRICITY	INTERNETWORKING	ENGLISH IV
LEVEL 300 - I	ENTREPRENEURSHIP AND INNOVATION	SYSTEMS PROGRAMMING	EMBEDDED SYSTEMS
	ELECTRONICS	NETWORK SYSTEMS AND SERVICES MANAGEMENT	ENGLISH V

LEVEL 300 - II

SUSTAINABILITY SCIENCE	EVALUATION AND SIMULATION OF NETWORKS	WIRELESS AND SENSOR NETWORKS
CYBER SECURITY AND NETWORK MANAGEMENT	CLOUD SYSTEMS	COMMUNITY SERVICE INTERNSHIPS

LEVEL 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

LEVEL 400 - II

TELEMATICS CAPSTONE COURSE	SELECTED ELECTIVE COURSE	PRE-PROFESSIONAL BUSINESS INTERNSHIPS

By the way...

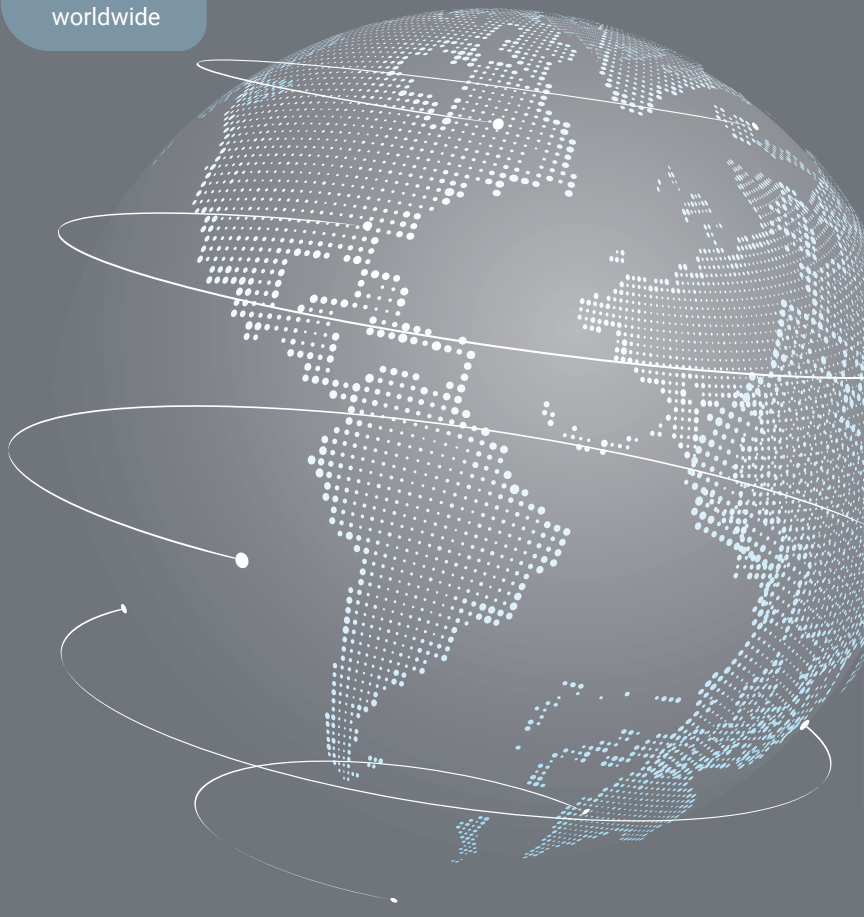
Did you know that telematics engineers are the invisible architects of our digital age? With their ability to design and manage technological projects, they are behind every click on the internet, ensuring an efficient and secure connection. With recognized certifications and access to specialized laboratories, they are ready to face today's most important technological challenges.

International Relations

ESPOL, through its Foreign Relations Office, promotes and develops partnerships with international cooperation agencies and academic/research institutions, creating mobility opportunities for the entire university community and contributing to the excellence that defines us.

More than 165 agreements allow students to participate in semester- or year-long exchanges, internships, research placements, conferences, competitions, and other academic activities abroad.

106
universities
worldwide



Accredited Program

ABET Engineering Accreditation Commission

European Accreditation of Engineering Programmes EUR-ACE®

Did you know?

Telematics engineers can work in companies interested in using information technologies to modernize their processes, as well as start new businesses to provide modern services and solutions based on networks and the Internet. One of our graduates created the first robot with artificial intelligence developed in Ecuador. As part of their academic training, our students are prepared to obtain international certifications awarded by leading companies such as CISCO, Huawei, among others that endorse their knowledge in ICTs.

www.fiec.espol.edu.ec

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