

Faculty of
Geosciences Engineering

Geological Engineering

RPC-SE-09-No.086-2020



espol[®]

Bachelor of Science in Geological Engineering



Applicant Profile

Applicants are expected to be curious and passionate about nature, with an interest in fieldwork, research, and problem-solving related to natural resources, environmental management, and geological risks.



Employability

Professionals will be prepared to understand, analyze, and manage projects related to the study of the Earth. They may work in industries and sectors such as:

- ▶ Mining exploration and extraction
- ▶ Oil, gas, and renewable energy
- ▶ Geotechnics and construction
- ▶ Geographic Information Systems
- ▶ Risk management and prevention
- ▶ Consulting and natural resource assessment
- ▶ Public and private institutions and autonomous governments
- ▶ Research and development centers
- ▶ Environmental geology

Geological Engineering's alumni have stood out in national and foreign institutions such as Equinor, GeoLage, Holcim, IPAC, Schlumberger, CELEC EP, IIGE, IGME, IGEPN, INOCAR, and SGR, as well as in autonomous governments.



Professional Skills

Students in the Geological Engineering program will be able to:

- ▶ Apply knowledge in geosciences to evaluate natural resources
- ▶ Manage geological engineering projects considering technical, environmental, and socioeconomic constraints
- ▶ Solve geological problems related to major engineering works
- ▶ Generate solutions in Earth sciences that promote the scientific, technological, social, economic, and environmental development of the country



In fact...

Students in the program analyze the composition and structure of the Earth and engage in the search for natural resources that are essential to society, such as oil, minerals, and groundwater. In addition, they play a crucial role in the assessment and mitigation of geological risks.



LEARN MORE



Curriculum

N 100 - I		SINGLE VARIABLE CALCULUS	PHYSICS: MECHANICS	PROBLEM SOLVING	MINERALOGY	GENERAL GEOLOGY	ENGLISH I
N 100 - II	PROGRAMMING FUNDAMENTALS	VECTOR CALCULUS		GENERAL CHEMISTRY	OPTICAL MINERALOGY	APPLIED PALEONTOLOGY	ENGLISH II
N 200 - I	ARTS, SPORTS AND LANGUAGES ELECTIVE COURSES	DIFFERENTIAL EQUATIONS AND LINEAR ALGEBRA	COMMUNICATION	MECHANICS OF GEOLOGICAL MATERIALS	SEDIMENTARY PETROLOGY	STRATIGRAPHY AND SEDIMENTATION	ENGLISH III
N 200 - II		STATISTICS	PHYSICS: ELECTRICITY AND MAGNETISM	GEOLOGY OF ECUADOR	IGNEOUS AND METAMORPHIC PETROLOGY	STRUCTURAL GEOLOGY	ENGLISH IV
N 300 - I	ENTREPRENEURSHIP AND INNOVATION	GEOGRAPHIC INFORMATION SYSTEMS	GEOSTATISTICS	HUMANITIES ELECTIVE COURSES	GEOCHEMISTRY	TECTONICS	ENGLISH V
N 300 - II	SUSTAINABILITY SCIENCE	GEOMORPHOLOGY	GEOPHYSICAL METHODS		MINERAL DEPOSITS	GEOLOGICAL ENGINEERING	COMMUNITY SERVICE INTERNSHIPS
N 400 - I		VULNERABILITY AND GEOLOGICAL RISK	HYDROGEOLOGY	PETROLEUM GEOLOGY	EVALUATION OF MINERAL DEPOSITS	GEOLOGICAL FIELD DESIGN	SELECTED ELECTIVE COURSE
N 400 - II					LEGISLATION AND ENVIRONMENTAL MITIGATION	GEOLOGY CAPSTONE COURSE	SELECTED ELECTIVE COURSE
							PRE-PROFESSIONAL BUSINESS INTERNSHIPS



Accredited Program



Engineering
Accreditation
Commission



Did you know?

Students in the program have participated in academic mobility programs with recognized universities in Italy, Spain, the United Kingdom, Chile, Canada, and the United States, as well as in research expeditions in Antarctica.

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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.

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universities
around the world

