

BSc IN GEOLOGY

Duration: 4 years full time. 60 ECTS per year. **Language:** Spanish

Presentation:

The Aragonese territory is characterized by the great diversity of its geological record, reflected in a wealth of points of geological interest. This wealth is distributed in three morphological–structural units: the Pyrenees, the Ebro Basin and the Iberian Mountain Range. The diversity of its landscapes, its mineral, energetic and water resources, and its geological and paleontological record place Aragon in a privileged position to study geology in all its fields. Many of the pioneering geologic works in Spain were carried out in this territory, and it is a long–established tradition for foreign geologists to visit the region in order to develop their research and/or teaching. The outstanding geological heritage of Aragon makes the region a privileged area that can be considered a nature classroom. All fields of geology are imparted in the BSc in Geology of the Faculty of Science of the University of Zaragoza, which allows future geologists to acquire a plural and versatile vision of their careers.

Program aims:

The BSc in Geology aims at training professionals capable to develop their activity respecting an ethical code and being aware of the need to act in an environmentally friendly way. With this objective in mind, it offers students training in the fields of Geology and Earth Sciences, through an interdisciplinary curriculum combining basic scientific subjects with specialized ones in different fields of Geology, which will enable graduates to successfully meet current and future employment needs in this discipline.

The main objectives are:

- To know and apply the basic concepts, principles and methods of Geology.
- To apply this knowledge to the exploration and exploitation of natural resources, to the assessment and mitigation of geological hazards, or to civil engineering.
- To know and interpret the history of the Earth and life drawing on the geological and paleontological record.
- To understand the past, present and future interactions between the natural environment and the human environment, as well as analyze and predict their effects.

Structure:

Year 1. In the first year, students must enroll in the following subjects:

Subjects	E	S
26405 - Mathematics ^{ELF}	8	Y
26403 - Physics	9	YL
26401 - Biology	6	S1
26404 - Fundamentals of Geology and Geological	9.5	S1
26407 - Chemistry ^{ELF}	6	S1
26402 - Crystallography ^{ELF}	6.5	S2
26406 - General and Marine Paleontology ^{ELF}	9	S2
26400 - Stratigraphic Analysis ^{ELF}	6	S2

S1: Semester 1. Mid-September to mid-January

S2: Semester 2. Beginning-February to end-May

YL: Year-long. Mid-September to end-May

ELF: English-language friendly subject (see introduction)

Year 2. In the second year, students must enroll in the following subjects:

Subject	ECTS	Semester
26409 - Geomorphology ^{ELF}	8.5	YL
26411 - Mineralogy ^{ELF}	8.5	YL
26414 - Sedimentary Processes and	9	YL
26415 - Statistical and IT Analyses of Geological	6	S1
26408 - Structural Geology (English)	9	S1
26410 - Hydrogeology ^{ELF}	7	S2
26412 - Continental Paleontology	6	S2
26413 - Sedimentary Petrology ^{ELF}	6	S2

Year 3. In the third year, students must enroll in the following subjects:

Subject	ECT	Semester
26422 - Igneous and Metamorphic Petrology ^{ELF}	9	YL
26416 - Geological Mapping ^{ELF}	9	S1
26417 - Stratigraphic Correlation and Synthesis ^{ELF}	7	S1
26418 - Geophysics and Global Tectonics ^{ELF}	6	S1
26420 - Geochemistry ^{ELF}	7	S1
26419 - Historical and Regional Geology and Geology	9	S2
26421 - Micropaleontology	6	S2
26423 - Mineral and Energy Resources ^{ELF}	7	S2

Year 4. In the fourth year, students must enroll in the following subjects:

Subject	ECTS	Semester
26424 - Environmental Geology ^{ELF}	6	S1
26425 - Geotechnics and Geophysical	7	S1
26426 - Projects and Legislation in	6	S2
26427 - Geological Hazards ^{ELF}	6.5	S2
26428 – Undergraduate Dissertation *	9.5	YL

In the fourth year, they must also select five subjects from the list of optional subjects:

Subject	ECTS	Semester
26429 - Basin Analysis	5	S1
26430 - Structural Analysis: Techniques and	5	S1
26443 - Remote Sensing ^{ELF}	5	**
26441 - Applied Sedimentology and Coal & Petroleum	5	S1
26440 - Industrial Rocks and Minerals ^{ELF}	5	S1
26437 - Vertebrate and Human Paleobiology ^{ELF}	5	S1
26435 - Applied Geochemistry ^{ELF}	5	**
26431 - Geomorphological and Geoenvironmental	5	S2
26434 - Clay Geology ^{ELF}	5	S1
26436 - Engineering Geology ^{ELF}	5	S2
26438 - Technics in Paleontology ^{ELF}	5	S2
26442 - Tectonics: Basins and Orogens ^{ELF}	5	S2
26444 - Mineral Deposits ^{ELF}	5	S2
26432 - Teaching and Public Understanding of Geology	5	**
26433 - Fundamentals of Petrogenesis	5	**

***Undergraduate Dissertation**

The Undergraduate Dissertation (UD) is a 250-hour work project on any of the modules of the Degree. It is done during the 4th year. Students are supervised by a professor who defines the objectives of the Project and guides them along the work. Students must write a report and make a public defense of the work.