

## 25202 - Introductory geology for environmental science

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 25202 - Introductory geology for environmental science

**Faculty / School:** 201 - Escuela Politécnica Superior

**Degree:** 571 - Degree in Environmental Sciences

**ECTS:** 6.0

**Year:** 1

**Semester:** First Four-month period

**Subject type:** Basic Education

**Module:**

### 1. General information

Scientific explanations are provided for geological processes related to the environment. The knowledge learned serves as a basis for other subjects in later years such as Soil Science, Ecology, Natural Hazards and Environmental Remote Sensing.

The goals are aligned with the following SDGs of the 2030 Agenda:

SDG 4: Guarantee inclusive, equitable and quality education.

SDG 6: Ensure water availability and its sustainable management. Specifically with Objectives 6.3 (reduce water pollution) and 6.6 (protect aquifers).

SDG 13: Adopt urgent measures to combat climate change.

SDG 15: Combating desertification, halting and reversing land degradation, halting biodiversity loss.

### 2. Learning results

**The student, in order to pass this subject, must demonstrate the following results...**

RA1: State, synthesize, analyse, relate and apply the basic principles and fundamentals of Geology.

RA2: Apply the basic principles in Geology in relation to environmental studies.

RA3: Use the most common methods and techniques of Geology, both in the field of research and applied.

RA4: Solve problems by processing geological data from different sources with an appropriate spatial-temporal mindset.

RA5: Apply the knowledge of Geology in the solution of practical problems and as a tool at the service of society in the study of the environment.

RA6: Search, manage and use information at a basic level.

RA1 and RA6 are aligned with SDG 4, while RA2 to RA5 are aligned with SDGs 6, 13 and 15.

### 3. Syllabus

1. Theory (organized in three blocks):

- History and composition of the Earth (Geological time, minerals and rocks).
- Basic concepts of stratigraphy (sedimentary processes and environments, principles of stratigraphy, dip, folds, faults and unconformities).
- Geomorphology (weathering, karst, fluvial, glacial and aeolian geomorphology, slope processes).

2. Laboratory (minerals and rocks) and laboratory practices (geological maps and cuts).

3. Field trips (two day trips in the Tena Valley and Sierra de Guara and a two-day camp in the Iberian System).

### 4. Academic activities

The activities are divided into face-to-face (40% of the total of the subject) and non-face-to-face (60%).

#### PRESENTATIONS

- Theoretical sessions - Participative lectures.
- Laboratory practices of visu of rocks and cabinet practices with geological maps. In groups of 2-3 people.
- Field trips to analyse the processes and forms seen in theory.
- Information competencies course - Two 50-minute sessions to explain the VIRTUAL COURSE OF

INFORMATION of the degree in Environmental Sciences and put it into practice.

#### NON-FACE-TO-FACE

- Study of the material taught in class (1.5 h of study per theoretical session)
- Writing of the practice booklet.
- Online realization of the VIRTUAL COURSE OF INFORMATION.
- Interdisciplinary geology-chemistry work.

Theoretical and practical sessions will be related to SDGs 6, 13 and 15.

### **5. Assessment system**

The final grade of the subject will be obtained from the sum of the partial grades of each of the evaluation activities by applying the following formula:

65% theory + 10% practice scripts + 15% interdisciplinary work + 10% Field work

The 15% of the grade for the interdisciplinary work results from the sum of the grades obtained in the virtual course (20%), Personal (30%) and Report (50%) of the work. Given the importance of the SDGs in the interdisciplinary work and practices of field, they represent 25% of the overall grade.

A minimum grade of 5 in all parts is required to pass the subject. All students who do not pass it in the first call, will be able to take an exam for those parts not passed, keeping the grade obtained in the remaining parts. Those students who wish to obtain a higher grade may also take the exam, in the latter case the best of the grades obtained will prevail.

The average success rate of the subject in the last three years is 84% (2019/2020 = 88.89%; 2020/2021 = 78.57%; 2021/2022 = 87,18%).