

Academic Year/course: 2022/23

63236 - Disciplinary Content of Geology

Syllabus Information

Academic Year: 2022/23

Subject: 63236 - Disciplinary Content of Geology

Faculty / School: 107 - Facultad de Educación

Degree: 584 -

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ECTS: 6.0

Year: 1

Semester: Second semester

Subject Type: Optional

Module:

1. General information

2. Learning goals

2.2. Learning goals

- Explains and clearly relates fundamental concepts, models and theories of Geology.
- It is competent of analyzing and synthesizing information on topics related to Geology, and of exposing and defending in public presentations with this information.
- It is competent of integrating the social and technological dimension of geology, understanding the advantages and problems that its development poses to the natural environment, to the human being and to society.
- It is competent to transmit basic geological knowledge fluently to middle school students

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The subject has a basic orientation, so the proposed activities are focused on the understanding and assimilation of selected contents of Geology. With the teaching load of this subject it is not possible to have a vision of all the fundamental aspects of

Geology. Therefore, on the one hand, a conceptual framework (Plate Tectonics) has been selected to explain the fundamentals of all geological disciplines, and on the other hand, topics have been selected which are of great teaching interest to introduce future teachers and their students to geology.

4.2. Learning tasks

The theory classes will be held as theoretical-practical classes of a participatory nature. These classes will be taught with the help of computer presentations complemented by short videos that complement some concepts explained. The general vision of the knowledge acquired in the participatory lectures is complemented by the practical activities of rocks and fossils where the student will be able to observe objects that have been explained in the same theory classes. In addition, specific geology exercises will be carried out, a visit to the Museum of Natural Sciences of the University of Zaragoza, a slide show of geological structures, for their identification.

A special practice is proposed to learn geology in the field, where basic principles of this science included in the program will be taught. Likewise, the realization of a seminar is proposed, where the student must demonstrate their ability to develop a work on issues related to the enhancement of Geology individually and defend it orally.

For better monitoring of the learning process, students will be encouraged to use tutorial hours through various systems and modalities: conventional tutorials, more specific tutorials related to seminar-type practical work and even. The theory classes in pdf format will be delivered to the students so that they can have a copy.

4.3. Syllabus

- Fundamentals of Geology. Basic disciplines. Principles of Geology. The work of the geologist. Geological time. How to interpret maps and geological sections.
- Fundamental Types of Rocks. The geological cycle. Most common sedimentary, volcanic, plutonic and metamorphic rocks. How to recognize them in hand samples. How to identify the most common sedimentary structures and the paleoenvironmental information they offer.
- Plate tectonics: The theory that explains the terrestrial dynamics (Internal Geodynamics). Internal structure of the Earth. Paleomagnetism.
- Major geological events in the history of the Earth. The Cretaceous-Paleogene boundary. Paleogeography history of the Earth.
- Fossils. Types of conservation of organisms. Basic concepts of Taphonomy and Paleoecology. The dinosaurs of Aragon
- Main evolutionary milestones in the history of life on Earth. The origin of life. The Cambrian Explosion. The conquest of the Earth.
- Quaternary Geology. Climate and geomorphology. Processes that model the terrestrial landscape. Quaternary glaciations. Climate change. Water on earth, reservoirs, study and conservation
- Major milestones in human evolution. The first Europeans and the sites of the Sierra de Atapuerca.
- Field practices. Tella Cave and Cave Bear Museum

4.4. Course planning and calendar

This course is organized into 6 ECTS. 23 hours of theoretical classes and 32 of laboratory practices will be taught, some of them will be carried out in the laboratories of the Geological Building. The field trip will be a full day, with 5 hours of teaching load. Classes will be held in the classrooms and times indicated on the website of the Faculty of Education.