Universidad Zaragoza

Year : 2019/20

26400 - Stratigraphic Analysis

Syllabus Information

Academic Year: 2019/20
Subject: 26400 - Stratigraphic Analysis
Faculty / School: 100 -

Degree: 296 - Degree in Geology
588 - Degree in Geology

ECTS: 6.0
Year: 588 - Degree in Geology: 1
296 - Degree in Geology: 1

Semester: Second semester
Subject Type: Compulsory
Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, laboratory sessions, fieldwork, autonomous work and study, tutorials and exams.

4.2.Learning tasks

This course is organized as follows:

- **Lectures** (3 ECTS, 30 hours). Two weekly hours.
- **Laboratory sessions** (1.7 ECTS, 17 hours). Two weekly hours through 8 weeks (+ 1h). Students will choose a 2h-group.
- **Fieldwork** (1.3 ECTS, 4 field trips)
- **Autonomous work and study** (85 hours). Analysis of data, exercises and study time

- **Tutorials**
- **Exam** (5 hours)

4.3.Syllabus

This course will address the following topics:

Lectures

- **Topic 1**. Concept, Objectives, Principles and Methods in Stratigraphy: Stratigraphy. Objectives. Methods and techniques.
- **Topic 2**. Sedimentary Processes of the External Geologic Cycle: Introduction, Transport: processes and effects. Sedimentation: processes and properties of sediments. Diagenesis.
- **Topic 3**. Characteristics of Stratified Rocks: Stratification. Sedimentary structures: Classification. Sedimentary structures formed by unidirectional, bidirectional and multidirectional flows. Sedimentary structures formed by deformation. Biogenic sedimentary structures. Diagenetic sedimentary structures.
- **Topic 4**. Associations of Strata: Concepts of transgression, regression and facies. Sequences. Stratigraphic units. Discontinuities.

Laboratory sessions

- **Exercise 1**. Measuring of stratigraphic sections: Clues for fieldwork and for graphic illustration of data.
- **Exercise 2**. Grain size analysis: graphic analysis and interpretation.
- **Exercise 3**. Sedimentary structures: visual identification through rock samples and analysis of paleocurrent data.
- **Exercise 4**. Sedimentary cycles: analysis of stratigraphic sections.

Fieldwork (4 days)

- **Days 1 and 2**: Measuring stratigraphic sections in sequences made of horizontal and inclined strata.
- **Day 3**: Measuring detailed stratigraphic sections and identification of sedimentary structures.
- **Day 4**: Identification of sedimentary cycles.

4.4.Course planning and calendar

Laboratory sessions begin after a few theory classes. The calendar for field trips will be published by the Department of Earth Sciences on its web.

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the Faculty of Sciences website and Moodle.

4.5.Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=26400&year=2019