

**Regional Geology Field Work**

Code: 101038  
ECTS Credits: 6

Degree	Type	Year	Semester
2500254 Geology	FB	1	2

**Contact**

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**Use of Languages**

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No

**Teachers**

Enric Vicens Batet

**External teachers**

Eduard Saura Parramon  
Eloi Carola Molas  
Joan Escuer Solé  
Marta Roigé Taribo  
Miquel Poyatos Moré  
Ramón Mercedes Martín

**Prerequisites**

There are no prerequisites to take this course, although it is recommendable to have taken Basic Geology subject. The overlapping in timing between these two units has already been taken into consideration, and their contents have been duly synchronised.

**Objectives and Contextualisation**

The subject Regional Geology Field Work is the application of the subject Basic geology to the Catalonia area.

The objectives are adapted to the professional work requirements and based on real cases. These are:

- To acquire the basic theoretical notions of the geological units of Catalonia and its geological history.
- To learn the technical methodologies before the field work (documentation, etc.).
- To learn the fieldwork methodologies required in geology during the field trip (observations, annotations, deductions etc.)

- To learn methodologies required after the field trip (Integration of data, etc.)
- To study the main events in the geological history of Catalonia from the studied cases.
- To know the general context of the geology of the Iberian Plate.

## Competences

- Display understanding of the fundamental principles of geology and the ability to identify the basic types of minerals, rocks and structures.
- Display understanding of the size of the space and time dimensions of Earth processes, on different scales.
- Evaluate moral and ethical problems in research and acknowledge the need to follow professional codes of conduct.
- Suitably transmit information, verbally, graphically and in writing, using modern information and communication technologies.
- Work in teams, developing the social skills needed for this.
- Work independently.

## Learning Outcomes

1. Conduct individual fieldwork with honesty.
2. Describe the fundamental principles of Earth processes and their time and space scales.
3. Display ethical, socially-responsible behaviour during field trips.
4. Recognise in the laboratory and in the field the principal types of rocks and structures and the most common minerals.
5. Suitably transmit information, verbally, graphically and in writing, using modern information and communication technologies.
6. Work in teams, developing the social skills needed for this.
7. Work independently.

## Content

### Theory content:

The main morphostructural units in the Iberian Peninsula.

The morphostructural units in Catalonia.

The geological history of Catalonia

Land relief in Catalonia

Rocks in Catalonia

The geological resources of Catalonia

Theoretical aspects in regional geology fieldwork

Theoretical aspects of geological work before the field trip.

Theoretical aspects of geological work carried out during the field trip (acquisition of data, levels of observation, etc.)

Theoretical aspects of geological work after the field trip

Interaction between regional geology and local observations.

### Practical content:

Identification of large morphostructural units

Identification of land relief

Identification of rocks and minerals

Identification of tectonic and sedimentary structures

Identification of geological processes

Identification of cross-cutting relationships

Identification of geological history

## **Methodology**

There will be five field trips, each of 1 day:

Field trip 1: Far de Sant Sebastià and Cala Pedrosa (contacts and criteria of relative chronology in Variscan intrusions in granitoids and rocks with contact metamorphism). Aiguablava (leucogranites, fracture systems and lamprophyre veins). Platja de Pals Illa Roja (the Cenozoic cover and its relationship with the Palaeozoic basement).

Field trip 2: Boadella-Darnius area (the relationship between the cover and basement in the Pyrenees south side and the effects of the Alpine tectonics). Sant Joan les Fonts (Neogene basalt lava flows). Olot (pyroclastic deposits from Montsacopa volcano).

Field trip 3: Collserola (Variscan igneous and intrusive rocks and view of the Barcelona plain). Vallès-Penedès rift (Neogene distension, the example of the Neogene in the Vallès) and its limits (Riera de Sant Jaume - La Puda).

Field trip 4: Montseny (Variscan rocks and peneplain and late Hercynian peneplain). El Brull and Pla de la Calma. Ebro basin. The succession of Eocene sedimentary rocks in Tavertet. The evolution from marine to continental sediments and evaporites in Gurb (el Pont del Llop).

Field trip 5: Bagà-Coll de Pal (Cadí thrust sheet). Maçaners and Vallcebre (Pedraforca thrust sheets). Berga (Pyrenean thrust front and conglomerates associated with Ebro basin limit).

Attending all the field trips is MANDATORY to pass the subject.

There will be lectures (8 hours) to explain the theoretical contents of the subject. These sessions will take place at the beginning of the semester and before the field trips.

The four seminars'sessions (two hours each) will provide additional aspects to the field trips. The first two seminars will be before the field trips, and they will aim to document the geographical and geological settings of the areas to be visited. The last two seminars will be after the field trips to reinforce the observations made in the field sessions. Attendance at all seminars is mandatory.

About 15 minutes will be allocated from one of the sessions to respond to the assessment surveys of teaching and the assessment of the subject.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## **Activities**

Title	Hours	ECTS	Learning Outcomes
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Type: Directed			
Field work	35	1.4	3, 2, 1, 4, 7, 6
Lectures	8	0.32	2, 5
Seminars	8	0.32	2, 5, 6
Type: Supervised			
Dossiers and seminars	11	0.44	2, 7, 6
Type: Autonomous			
Processing field data	82	3.28	7, 6

## Assessment

Assessment is based on:

- an exam with questions based on the field trips, seminars and lectures,
- exercises performed during the field trips, and
- activities performed during the seminars.

The weight of each assessment activity is shown as a percentage in the corresponding assessment activities. Attitude and participation will also be assessed.

A minimum overall grade of 5 is required to pass the subject.

**RE-ASSESSMENT:** Students who fail to attain an overall grade of 5 will have to take re-assessment of the exam, which will include contents related to the field trips, seminars and lectures. There is no re-assessment for the other activities of this subject.

This subject is based on the work carried out during the field trips. For this reason, attending all the field trips is **ABSOLUTELY MANDATORY**. Students who do not attend all the field trips will be directly awarded a fail grade for the subject. Attending the seminars is also mandatory.

All students registered on this subject (whether for the first time or not) are required to carry out the same activities (lectures, seminars and field trips) and will be subject to the same assessment criteria.

Schedule of the assessment activities

The dates of the assessment activities and the submission of exercises will be published in the Campus Virtual (CV). They may be subject to changes in programming due to unforeseen eventualities. Any modification will be announced through this platform.

Assessment activities will not be permitted for any student at different dates or times to that the ones already established, unless for justified causes duly advised before the activity, and with the lecturer's previous consent. In all other cases, if an activity has not been carried out, this cannot be re-assessed.

### Irregularities committed by the student, copy and plagiarism

According to the UAB academic regulations, assessment activities will be qualified with a zero (0) whenever a student commits academic irregularities that may alter such assessment.

Irregularities contemplated in this procedure include, among others:

- the total or partial copying of a test, practical exercise, report, or any other evaluation activity;
- allowing others to copy;
- presenting group work that has not been done entirely by the members of the group;
- presenting any materials prepared by a third party as one's work, even if these materials are translations or adaptations, including work that is not original or exclusively that of the student;
- having communication devices (such as mobile phones, smartwatches, etc.) accessible during theoretical-practical assessment tests (individual exams).

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exams	65%	2	0.08	2, 1, 4, 5, 7
Exercises in the field	15%	0	0	3, 2, 1, 4, 5, 7, 6
Seminar	20%	4	0.16	2, 5, 7, 6

## Bibliography

Roca, A., Miranda, J. (eds). 2010. *Atles geològic de Catalunya*. Institut Geològic de Catalunya, Institut Cartogràfic de Catalunya, Generalitat de Catalunya, Barcelona, 463 pp

Vera, J.A. (ed.). 2004. *Geología de España*. Sociedad Geológica de España e Instituto Geológico y Minero de España. pp. 884.

<http://www.icgc.cat>

<http://www.igme.es>

## Software

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