

Palaeontology II

Code: 101048
ECTS Credits: 6

Degree	Type	Year	Semester
2500254 Geology	OB	2	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

Other comments on languages

Some material could be in Spanish or English.

Teachers

Enric Vicens Batet

Prerequisites

Specifically, this subject requires prior knowledge obtained through the following subjects: Life on Earth and Palaeontology I.

Objectives and Contextualisation

Contextualization: The subject "Palaeontology" is subdivided into the units Palaeontology I and Palaeontology II, which are taught, respectively, in the first and second semester of the second year of the Degree in Geology.

Palaeontology II focusses on the fossil record of those groups not taught in Palaeontology I, which include a part of the invertebrates and the microfossils. Their morphology and certain geological applications (biostratigraphy, palaeoecology, palaeobiogeography) will be studied.

Competences

- Display knowledge of the techniques for identifying the principal fossil groups and use them to date and interpret ancient sedimentary environments, and relate them to the history of the Earth.
- Evaluate and carry out the selection and collection of suitable geological samples.
- Learn and apply the knowledge acquired, and use it to solve problems.
- Obtain information from texts written in other languages.
- Process, interpret and present field data using qualitative and quantitative techniques, and suitable computer programmes.

- Process, interpret and present laboratory data using qualitative and quantitative techniques, and suitable computer programmes.
- Recognise theories, paradigms, concepts and principles in the field of geology and use them in different areas of application, whether scientific or technical.
- Synthesise and analyse information critically.
- Work in teams, developing the social skills needed for this.
- Work independently.

Learning Outcomes

1. Apply the principle of overlap and the evolution of species.
2. Carry out a palaeontological sampling and reference it in the local and regional stratigraphic context.
3. Digitally process palaeontological field data.
4. Discern and describe laboratory techniques for studying the different types of fossils and quantify the associated information.
5. Display knowledge of the techniques for identifying the principal fossil groups and use them to date and interpret ancient sedimentary environments, and relate them to the history of the Earth.
6. Learn and apply the knowledge acquired, and use it to solve problems.
7. Obtain information from texts written in other languages.
8. Relate concepts and theories in palaeontology.
9. Synthesise and analyse information critically.
10. Work in teams, developing the social skills needed for this.
11. Work independently.

Content

- Introduction to microfossils: main groups
- Calcareous microfossils and nannofossils
- Siliceous microfossils and nannofossils
- Calcareous "algae"
- Palynomorphs
- Cephalopods
- Trilobites
- Bryozoans
- Graptolites
- Conodonts

Methodology

Lectures: Students will acquire the necessary scientific-technical knowledge for the course in the lectures.

Laboratory classes: Attending laboratory classes is mandatory; these classes will take place in 2 hour-long sessions per week at the Palaeontology laboratory. Practical classes will consist of the observation of the distinct fossil groups previously presented in the theory classes. Microscopes will be used on small-sized fossils. Students will be introduced to the determination of fossil sections (in rock samples and thin-section). Exercises carried out in laboratory classes or as independent work will be submitted on the dates determined by the lecturers.

Fieldwork: Attendance is mandatory. Students will visit one or more areas to put into practice the knowledge acquired in the lectures and laboratory classes.

Independent activities: students must complement the above activities with personal work and study.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Fieldwork	7.5	0.3	9, 5, 2
Laboratory work	19.5	0.78	9, 1, 6, 5, 4, 2, 7, 3, 8, 11, 10
Lectures	26	1.04	9, 1, 6, 5, 4, 2, 7, 3, 8, 11, 10
Type: Supervised			
Exercises	15	0.6	9, 4, 3
Type: Autonomous			
Personal study and work	75	3	9, 6, 7, 3, 8, 11, 10

Assessment

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

Exams: There are two exams, which-jointly-represent 70% of the final grade. These will take place during the course and will include all content covered in lectures, practical classes and the field trip. A minimum grade of 4 is required in each exam in order for an average overall grade to be calculated with the other course grades. Students who have obtained a grade lower than 4 must present themselves for re-assessment of the exams.

Laboratory classes and field trip. Attending the laboratory classes and field trip is mandatory. Students attending less than 80% of the practical sessions will not be eligible for assessment and will be awarded the grade of *Fail* (0) for laboratory classes. Non-attendance of the field trip on the day established will result in a *Fail* (0) for this activity. There is no re-assessment for the practical exercises or field trip.

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

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exams	70%	4	0.16	9, 1, 6, 5, 4, 2, 7, 3, 8, 11, 10
Practical classes and fieldtrip	30%	3	0.12	9, 1, 6, 5, 2, 3, 8, 11, 10

Bibliography

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WEB SITES

ECHINOIDS. www.nhm.ac.uk/our-science/data/echonoid-directory

TRILOBITES. www.trilobite.info

AMMONITES. www.ammonites.fr