

26421 - Micropalaeontology

Syllabus Information

Academic year: 2023/24

Subject: 26421 - Micropalaeontology

Faculty / School: 100 - Facultad de Ciencias

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

ECTS: 6.0

Year: 3

Semester: Second semester

Subject type: Compulsory

Module:

1. General information

The main objective of the subject is that the student applies the most important concepts, methods and models of micropaleontology, in order to have a global vision of the micropaleontological record and its biostratigraphic, paleoenvironmental, paleoceanographic and paleoclimatic applications.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/>), so that the acquisition of the learning results of the subject provides training and competence to contribute to some extent to their achievement:

Goal 13: Climate action

Goal 14: Underwater life.

2. Learning results

As learning results, the student, in order to pass this subject, must demonstrate:

- 1.- To be able to understand, explain and relate the basic knowledge of Micropaleontology, the main taxonomic groups, their applications and the relationship between Micropaleontology and the rest of the geological and biological sciences.
- 2.- To be able to explain in a logical and orderly manner the evolution and extinction of microorganisms on Earth from their origins to the present day
- 3.-To work autonomously in the recognition in the laboratory and in the field of the main micropaleontological groups represented in the fossil record.
- 4.- To obtain biostratigraphic, paleoecological and paleoenvironmental inferences useful to geologists that can be drawn from microfossils

3. Syllabus

The subject develops the following thematic blocks and units:

I. Fundamentals of Micropaleontology:

II. Main marine micropaleontological groups: Planktonic (Globigerinina) and benthic (Lagenina, Rotaliina, Miliolina, Fusulinina and Textularina) foraminifera. Other microfossils of protists (mainly radiolarians, tintinids, calcareous nannofossils, diatoms, silicoflagellates, and dinoflagellates), invertebrates (mainly bryozoans and ostracods), and vertebrates (mainly conodonts)

III. Applications of Micropaleontology: paleoecology, paleoenvironmental reconstruction, environmental micropaleontology, paleoclimatology, paleoceanography, biostratigraphy, biostratigraphy, biostratigraphy, biostratigraphy, biostratigraphy, biostratigraphy, event reconstruction, and astrobiology.

4. Academic activities

1. Master class. 25 hours.
2. Laboratory practices: 30 hours, including the study of a levigated sample as individual practical work.

3. Special practices: 1 Field practice.
4. Assessment tests. 6 hours.

5. Assessment system

The student must demonstrate that they have achieved the expected learning results through the following activities: - Theoretical exam (will account for 30% of the grade): exercises of a practical and applied nature will be posed.

- Practical exam (30% of the grade): it will consist of the identification of taxa in a test-cell, in a thin film and in a rock sample, and in biochronological and paleoenvironmental interpretation
- Field exercise (10% of the grade): it will consist of the identification of microfossil genera and the analysis of the paleoenvironmental evolution along the stratigraphic succession studied
- Micropaleontological report (30% of the grade): it will consist of the study of a levigate, and the realization of biochronological, paleoenvironmental and paleoclimatic interpretations

The parts passed are saved until the second call, so that the parts failed in the first call are not compensated with the parts passed and the final grade will be:

- *The average of the grades, if this value does not exceed 5,*
- *4.9 if the grade point average exceeds 5.*

For those who have not been able to justifiably complete the micropaleontological report, the study of a micropaleontological sample will be scheduled in the global evaluation tests. For those who have not been able to attend the field practice for a justified reason, the practical exam will account for 40% of the grade.