

## 26438 - Technics in Paleontology

### Información del Plan Docente

<b>Academic Year</b>	2018/19
<b>Subject</b>	26438 - Technics in Paleontology
<b>Faculty / School</b>	100 - Facultad de Ciencias
<b>Degree</b>	296 - Degree in Geology
<b>ECTS</b>	5.0
<b>Year</b>	4
<b>Semester</b>	Second semester
<b>Subject Type</b>	Optional
<b>Module</b>	---

### **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)**

Evaluation

70%- Exam at the end of the semester, including:

-short questions

-open questions

-exercises/problems similar to those addressed in the laboratory and during field work campaigns.

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30%- Individual essay on a specific subject of Technical Palaeontology. The essay will be presented and defended during a seminar.

### 4. Methodology, learning tasks, syllabus and resources

#### 4.1. Methodological overview

The course is eminently practical, and the proposed activities are aimed at understanding and assimilation of content from personal experience ("Hands-on"). The knowledge acquired in lectures is complemented by practical laboratory activity and seminars, where the student will learn and demonstrate methods and analyses, and their application. In personal work, the student must demonstrate the ability to investigate, present and defend a report on subjects related to technical Paleontology.

For better monitoring of the learning process, students will be encouraged to use the tutorials through various systems and methods: conventional tutorials, more specific tutorials related to practical work-type seminar, and the possibility of carrying out telematic tutorials.

#### 4.2. Learning tasks

The following activities are offered to help the student to achieve the expected results:

Programmed activities

1. Lectures (14 hours, 1,4 ECTS)
2. Laboratory (16 hours, 1,6 ECTS).
3. Case studies and seminars. (8 hours, 0,8 ECTS)
4. Field work (12 hours, 3 days, 1,2 ECTS)

#### 4.3. Syllabus

1. Lectures (14 hours, 1,4 ECTS)

- Introduction. The professionalization of Palaeontology. The role of a palaeontologist in companies, as freelance, or as a technician in the administration and in museums.

- Paleontological techniques I. Field work. Prospecting, sampling and collection of fossils. Excavation and documentation techniques.

- Paleontological techniques II. Laboratory work. Fossils reconstruction, conservation and documentation.

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- Museum techniques in Palaeontology. Paleontological heritage.
- Management of collections. Documentation and storage techniques. Special collections.
- Techniques to work with fossils from ocean cores.
- Techniques in molecular palaeontology and organic biomarkers.
- Paleontological techniques applied to environmental monitoring (water quality, pollution). Applications of Palaeontology in criminalistics and forensic sciences.

### 2. Laboratory (16 hours, 1,6 ECTS).

- Paleontological techniques in the laboratory: macrofossil reconstruction, preparation, conservation and replicates.
- Palaeontology in the museums: techniques.
- Management of collections.
- Moulds of macro and microfossils.
- Digitalization techniques.

### 3. Case studies and seminars. (8 hours, 0,8 ECTS)

- Seminars for essay presentations.
- Paleontological techniques applied to exploration of geological resources, oceanographic studies, and environmental monitoring. Techniques to work with ocean cores.

### 4. Field work (12 hours, 3 days, 1,2 ECTS)

- Advanced field work techniques: fossil prospection, sampling and collection. Coring and excavation techniques.

#### **4.4.Course planning and calendar**

This course is a second semester course. Classes will start the first academic week.

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Students can refer to the Faculty of Sciences and Earth Sciences Department websites (<https://ciencias.unizar.es> [1]; <https://cienciatierra.unizar.es/>) for timetable, classroom or assessment dates.

The lectures will be held on Wednesday and Thursday from 11:00 to 12:00 throughout the second semester. The practical sessions will be held on Wednesday from 12:00 to 14:00.

Further information regarding this course (examination, individual or group assignments...), will be provided on the first day of class.

Dates for each field trip will be published at the Earth Sciences Department website.

Tutorials: Office hours will be also provided the first day of class.

### 4.5. Bibliography and recommended resources