

## 26438 - Technics in Paleontology

### Información del Plan Docente

<b>Academic Year</b>	2016/17
<b>Academic center</b>	100 - Facultad de Ciencias
<b>Degree</b>	296 - Degree in Geology
<b>ECTS</b>	5.0
<b>Course</b>	4
<b>Period</b>	Second semester
<b>Subject Type</b>	Optional
<b>Module</b>	---

### **1.Basic info**

#### **1.1.Recommendations to take this course**

#### **1.2.Activities and key dates for the course**

### **2.Initiation**

#### **2.1.Learning outcomes that define the subject**

#### **2.2.Introduction**

### **3.Context and competences**

#### **3.1.Goals**

#### **3.2.Context and meaning of the subject in the degree**

#### **3.3.Competences**

#### **3.4.Importance of learning outcomes**

### **4.Evaluation**

Evaluation

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

-short questions

-open questions

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

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

### 5.Activities and resources

#### 5.1.General methodological presentation

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.

#### 5.2.Learning activities

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)

#### 5.3.Program

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### 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.

-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.

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- 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.

### 5.4.Planning and scheduling

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.

### 5.5.Bibliography and recommended resources

<b>BB</b>	Alonso Fernández, Luis. Museología y museografía / Luis Alonso Fernández . - 1a. ed. Barcelona : Ediciones del Serbal, 1999
<b>BB</b>	Hernández Hernández, Francisca. Manual

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de museología / Francisca Hernández  
Hernández Madrid : Síntesis, D.L. 1994

**BB** Leiggi, P. & May, P.. Vertebrate  
Paleontological Techniques. Cambridge  
University Press. 2005

**BB** (Ver URLs) Pearson, P.N. 2012. Oxygen  
isotopes in foraminifera: overview and  
historical review. En: (Linda C. Ivany and  
Brian T. Huber, eds.) Reconstructing  
Earth's Deep-Time Climate&mdash;The  
State of the Art in 2012. The  
Paleontological Society Papers, Volume  
18, pp. 1-38.

### LISTADO DE URLs:

Deep-sea drilling -  
[<http://www.deepseadrilling.org/about.htm>]

Integrated Ocean Drilling Program -  
[<http://www.iodp.org/>]

Pearson, P.N. 2012. Oxygen isotopes in  
foraminifera: overview and historical  
review. En: (Linda C. Ivany and Brian T.  
Huber, eds.) Reconstructing Earth's  
Deep-Time Climate&mdash;The State of  
the Art in 2012. The Paleontological  
Society Papers, Volume 18, pp. 1-38. -  
[<http://orca.cf.ac.uk/41988/>]