

## Master's Dissertation

2014/2015

Code: 43136  
ECTS Credits: 12

Degree	Type	Year	Semester
4314104 Paleontologia	OB	0	2

### Contact

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### Use of languages

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

### Teachers

Esmeralda Caus Gracia  
Eulàlia Gili Folch  
Ricard Martínez Ribas  
Enric Vicens Batet  
Àngel Galobart Lorente  
Jaume Gallemí Paulet  
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Daniel de Miguel  
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José Manuel Marmi Plana  
Marcos Furio Bruno  
Isaac Casanovas Vilar  
Joan Madurell Malapeira  
Josep Fortuny Terricabras  
Xavier Jordana Comin

### External teachers

Arnau Bolet  
Joan Muñoz Vicente

## Prerequisites

Having satisfactorily finished the modules of the first semester.

## Objectives and Contextualisation

Exercise on all necessary phases for the realization of a research work in Palaeontology, the elaboration of a memory, and the oral presentation of results.

## Skills

- Analyse data using the appropriate tools in the field of palaeontology.
- Apply the theories, paradigms and concepts of biology and ecology to analyse the biological aspects of organisms and ecosystems of the past.
- Apply the theories, paradigms and concepts of geology to achieve an appropriate holistic vision of the Earth's history
- Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
- Continue the learning process, to a large extent autonomously
- Design and conduct research in the field of palaeontology and disseminate the results.
- Develop a capacity for criticism and self-criticism in the field of palaeontology:
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Obtain and synthesise information from the scientific literature (library, databases, online journals or reliable websites) in the field of palaeontology.
- Predict and control complex situations.
- Recognise and use appropriately the fossil record to solve specific problems in the different areas of palaeontology.
- Show mastery of the various methodologies for studying the different fossil groups, gathering and integrating field and laboratory data.
- Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
- Use the different techniques for studying, conserving and disseminating the fossil record.

## Learning outcomes

1. Analyse data using the appropriate tools in the field of palaeontology.
2. Apply the theories, paradigms and concepts of biology and ecology that are appropriate for the dissertation topic.
3. Apply the theories, paradigms and concepts of geology that are appropriate for the dissertation topic.
4. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
5. Conduct research into the dissertation topic and report on the results orally and in writing.
6. Continue the learning process, to a large extent autonomously
7. Develop a capacity for criticism and self-criticism in the field of palaeontology:
8. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
9. Obtain and synthesise information from the scientific literature (library, databases, online journals or reliable websites) in the field of palaeontology.
10. Predict and control complex situations.
11. Recognise and make appropriate use of the fossil record for the dissertation topic.
12. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
13. Use the appropriate methodologies for the dissertation topic.
14. Use the appropriate techniques for the dissertation topic.
15. Write a research paper that is suitable for a high-impact publication.

## **Content**

Supervised making of a research work on a proposed topic in Palaeontology.

Elaboration of a memory.

Oral presentation and debating of the results.

## **Methodology**

Realization of a research work on Paleontology, elaboration of a memory, oral presentation and debating of the results.

The end of master's work is an original research work written by each master's student in agreement with tutor professor and presented for evaluation to a commission in a public session.

The students start with the design of a research project, following a similar structure as the I+D+i projects. Its composition is as follows:

- a) Background and actual state of the subject (explanation of the problem, starting questions, reason for the choice and justification, importance and interest of the subject);
- b) Actual state of the subject and relevant literature;
- c) General objective and concrete objectives.
  
- d) Assumptions or hypothesis, variations and concepts definition;
  
- e) Kind of research (strategy), study subjects and selection;
  
- f) Techniques for information assembling;
  
- g) Techniques for information analysis;
  
- h) Reliability, difficulties, limitations;
  
- i) Working schedule.

Starting with this design and with the tutor of the work advice the research will be developed by the student. In this tutorial process the original design may be modified and the rhythms and phases of the work to be accomplished periodically until its finalization.

Although different kinds of final memory are accepted depending of the research made, we consider that it should include the following chapters:

- 1) Introduction, including a general presentation of the work made.
- 2) Theoretical, critical and articulate analysis of the existing literature.
- 3) Methodology, detailed explanation on how the research has been made: techniques, processes and instruments used and selection of cases.
- 4) Results, is the nucleus of the work and contains the descriptive, interpretative and explanatory analysis of the assembled information made under the adopted theoretical perspective, and structured in chapters.
- 5) Conclusions, is the conclusions of the work and may include general considerations.
- 6) Bibliography, include the complete references of all the cited works in the text (following the guidelines of the main journals of Paleontology)
- 7) Appendixes.

All this in 12 ECT, that is, 300 h = 2/5 of the semester = 6 weeks.

Moreover, the end of master's work should agree with the following criteria:

Subjects may be suggested by the subjects exposed in the compulsory or the optional modules, by the tutor professors or by the students as a personal option.

The elaboration of the memory will be individual.

The memory extension will depend on the subject and the graphical part (the text, generally will not exceed 15,000 words, appendixes not counted).

Each end of master's work will have assigned a single director, the possibility of a co-direction may be considered only exceptionally.

## Activities

Title	Hours	ECTS	Learning outcomes
Type: Supervised			
Supervised research work	300	12	1, 3, 2, 4, 6, 7, 14, 5, 8, 9, 10, 15, 11, 12, 13

## Evaluation

Works will be evaluated by a commission of three members, doctor professors of the master, one of them being the master's coordinator.

The presentation and debating of the work takes place at the end of the academic period, at the dates established in the calendar. Previously, and in the date also established, one printed and book-format copy should be deposited in the Secretary, together with the director's authorization for its presentation.

The journey of debating and evaluation of the work is structured as follows: exposition by the evaluated student during 20 minutes (20-30 minutes): presentation, theoretical and methodological synthesis, main results obtained and conclusions. Intervention of each member of the commission during 10 minutes (10-15 minutes): general valuation of the work and its exposition and questions on key aspects to the student. Answer of the evaluated student during 10 minutes (10-15 minutes).

The criteria of qualification will be based on the proposal of the commission members and the qualifications range from 0 to 10 and with one decimal.

In case the commission detects previously any form of bad practice, the director and the student will be informed and the debating will be cancelled. In case this occurs during the debating, something more improbable due to the previous controls, the work will be reprovved.

## Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Oral presentation and debating of the research work	30%	0	0	4
Research work memory	70%	0	0	1, 3, 2, 6, 7, 14, 5, 8, 9, 10, 15, 11, 12, 13

## **Bibliography**

Any article published in a high impact journal of Paleontology, as well as the 'instructions for authors' of these journals.