

Paleontologia de Vertebrats i Humana**2014/2015**Code: 43139
ECTS Credits: 6

Degree	Type	Year	Semester
4314104 Paleontologia	OT	0	2

ContactName: David Martinez Alba
Email: David.Martinez.Alba@uab.cat**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**Ángel Galobart Lorente
Salvador Moyà Solà
Raef Minwer-Barakat
Daniel de Miguel
José Manuel Marmi Plana
Marcos Furio Bruno
Isaac Casanovas Vilar
Joan Madurell Malapeira
Josep Fortuny Terricabras**Prerequisites**

In order to have the previous necessary knowledge to be able to take the module, it is recommended to have taken a degree on biology, geology or similar, or else to have taken complementary subjects providing the necessary background on general paleontology, evolutionary biology and statistics. It is also recommended to have taken previously the optative module "Concepts and Methods in Vertebrate Paleobiology" of this master degree.

Objectives and Contextualisation

Providing the scientific bases enabling the development of research capacity and professional exercise in Vertebrate Paleontology, with particular emphasis on the evolution of terrestrial tetrapods and, among them, on primate evolution.

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 acquired knowledge as a basis for originality in the application of ideas, often in a research context.
- 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 knowledge of comparative anatomy, phylogeny, taxonomy and ecology to analyse appropriately the evolution of vertebrates over time.
3. Apply the appropriate methodology for studying fossil vertebrates.
4. Apply the theories, paradigms and concepts of geology to have an appropriate, holistic vision of vertebrate evolution over time.
5. Communicate and justify conclusions clearly and unambiguously to both specialised and non-specialised audiences.
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. Initiate research in the field of taxonomy, phylogeny and evolution of fossil vertebrates and disseminate the results.
9. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
10. Obtain and synthesise information from the scientific literature (library, databases, online journals or reliable websites) in the field of palaeontology.
11. Predict and control complex situations.
12. Recognise and appropriately use the fossil record to solve specific problems in the field of vertebrate evolution.
13. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
14. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
15. Use the different techniques for studying, conserving and disseminating the vertebrate fossil record.

Content

Block 1: Paleozoic and Mesozoic tetrapods

Origin and evolution of Paleozoic tetrapods

Arcosauromorphs

Pterosaurs

Dinosaur origins and evolution

Other Mesozoic reptiles. Flight and the origin of birds

Relationships between dinosaur faunas and Mesozoic floras

Synapsid evolution. Origin and diversity of Mesozoic mammals

Block 2: Cenozoic mammals

Origin, evolution and phylogeny of eutherian mammals

Fossil micromammals: insectivores, chiropterans, rodents and lagomorphs

Fossil macromammals: ungulates and other macromammals

Block 3: Paleoprimateology and human evolution

Primate origins and evolution; plesiadapiforms and prosimians

Hominoids: evolution and fossil record

Hominoid paleobiology

Origin of Hominini and origin of human bipedalism

The fossil record of australopithecids and the origin of the human hand

The evolution of genus Homo

Methodology

Contents will be taught by means of lectures in Catalan or, depending on the professor, in Spanish, with the aid of audiovisual material (powerpoint) in English. The participation by and dialog with the students will be favored in all instances. Students will have to further consolidate and familiarize with the contents of the module autonomously by reading the specialized literature and studying the teaching material given by the professors, as well as by making various works supervised by the professors of the module.

Activities

Title	Hours	ECTS	Learning outcomes
Type: Directed			
Lectures	38	1.52	2, 3, 4, 15, 7, 8, 12
Personal study	50	2	1, 2, 3, 4, 5, 6, 15, 7, 14, 8, 9, 10, 12, 13
Type: Supervised			
Presentation of works	37	1.48	1, 5, 6, 15, 7, 14, 8, 9, 10, 11, 12, 13
Type: Autonomous			
Reading of papers	25	1	1, 3, 5, 6, 15, 7, 10, 12

Evaluation

Qualification will be based on the student's attendance and participation in lectures, and also on the basis of the grades obtained by the student in the various works.

Evaluation activities

Title	Weighting	Hours	ECTS	Learning outcomes
Attendance at lectures	50.00%	0	0	2, 3, 4, 15, 7, 14, 8, 12
Bibliographic work on Cenozoic mammals	12.50%	0	0	1, 5, 6, 15, 7, 14, 8, 9, 10, 11, 12, 13
Bibliographic work on Mesozoic tetrapods	18.75%	0	0	1, 5, 6, 15, 7, 14, 8, 9, 10, 11, 12, 13
Bibliographic work on fossil primates	18.75%	0	0	1, 5, 6, 15, 7, 14, 8, 9, 10, 11, 12, 13

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