

Archaeozoology: Social Management of Faunal Resources

Code: 44479
ECTS Credits: 6

Degree	Type	Year	Semester
4317545 Prehistoric Archaeology	OT	0	1

Contact

Name: Rafael Mico Perez
Email: rafael.mico@uab.cat

Use of Languages

Principal working language: spanish (spa)

Teachers

Maria Saña Segui

External teachers

Alejandro Sierra (Laboratorio de Arqueozoología, Departamento de Prehistoria, UAB)

Florent Rivals (IPHES-CERCA, Tarragona)

Lídia Colominas (Institut Català d'Arqueologia Clàssica, Tarragona)

Roger Alcàntara (pre-EINA, Departament d'Història, Geografia i Art, Universitat Jaume I, Castelló)

Vanessa Navarrete (Laboratório HERCULES, Universidade de Évora, Portugal)

Prerequisites

There are no prerequisites although a basic knowledge of bioarchaeology is recommended.

Objectives and Contextualisation

General

Presentation and practical application of the methodological aspects involved in archaeozoological analysis, with special emphasis on the most innovative techniques. The main analytical approaches and the different categories and units used in the quantitative and qualitative analysis of archaeological faunal remains of prehistoric chronology will be discussed. The course will also focus on those aspects of an interpretative nature that may be useful when making inferences about the dynamics of prehistoric societies. The aim is for students to acquire the competence to study this category of archaeological remains and/or to correctly manage their study. Problems such as the classification of faunal remains and the characterisation of the variability of sets of faunal remains based on different analytical procedures, archaeotaphonomy, biomechanical studies and bone microstructure will be addressed. Emphasis will be placed on the identification of changes in the shape and size of animals, characterisation, production and exploitation of prehistoric herds, butchery and culinary methods and techniques, and identification and characterisation of the first domestic animals.

Specific

- To present and discuss theoretical approaches to archaeozoological analysis.
- To acquire experience in the direct analysis of archaeological faunal remains.

- Acquire experience in working with archaeozoological databases, quantification and statistics, and three-dimensional recording of archaeological faunal remains.
- Formulate and evaluate hypotheses and research questions on assemblages of archaeological faunal remains.
- Assess the interpretative potential of archaeozoological data
- Develop competence in archaeological research methods.

Competences

- Analyse and extract significant scientific information from archaeological materials and from the results of specialist scientific studies.
- Critically analyse a scientific problem area on the basis of specific evidence and documents.
- Design research projects on prehistoric archaeological sites and materials
- Knowledge and understanding that provide a basis or opportunity for originality in developing and / or applying ideas, often in a research context.
- Present the findings of prehistoric archaeology projects to different types of audience: specialists and non-specialists
- Recognise and use suitable theoretical and methodological concepts for the design, planning and execution of projects on prehistoric archaeological sites and materials.
- Recognise present-day challenges in the study of prehistoric archaeology.
- Show rigour, responsibility and quality in research and dissemination work.
- That students have the learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous.
- That the students can apply their knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.
- Work both individually and in multidisciplinary teams

Learning Outcomes

1. Apply the theoretical knowledge acquired and solve zooarchaeological problems in new environments.
2. Critically apply research techniques in zooarchaeology.
3. Critically assess the value of the different tools needed for research in archaeobotany.
4. Demonstrate the ability to integrate into a team with specialists from other disciplines.
5. Implement protocols for conducting field work and faunal sample collection.
6. Implement protocols for conducting field work and zooarchaeological sample collection.
7. Knowledge and understanding that provide a basis or opportunity for originality in developing and / or applying ideas, often in a research context.
8. Organise and plan research work on faunal remains.
9. Present and justify conclusions from zooarchaeological analysis clearly and unambiguously.
10. That students have the learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous.
11. That the students can apply their knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.
12. Use the specific technical vocabulary for interpretation in the field of zooarchaeology.

Content

The course is divided into four interrelated thematic areas. Each axis integrates the most advanced analytical methods and the historical issues that guide the main current debates in archaeology. It will focus on topics such as animal domestication, biodiversity and sustainable management of the environment, differential access to resources and the social and political mechanisms of production control. The course will combine theoretical and practical sessions in the laboratory with archaeological materials.

1) Biodiversity, climate and environment

- Groups of animals and their biological and archaeological resolution.
- Taxonomy and identification principles
- Age and sex determination

- Seasonal indicators
 - Dental microwear analysis
 - Archaeotaphonomy and diagenesis of bones
- 2) Skeletons in movement: from the bone microstructure to the animal use
- Animal skeleton, bone structure and development
 - Dental development and bone fusion
 - Biometric analysis and geometric morphometrics
 - Biomechanics and bone microstructure
 - Bone paleopathology
- 3) Animals and human nutrition
- Age histograms and animal productions
 - Traces and fractures as evidences of animal processing
 - Food cooking techniques
 - Thermoalterations and spectroscopic analysis of bones
- 4) Ecology, society and politics of animal management in Prehistory
- Community and ecological impact of early animal husbandry
 - Animal management and political discourse
 - Gender dimensions in animal management
 - Symbolic and ideological aspects in society-animal interactions.

Methodology

This course is eminently practical, with initial theoretical introductions and specialised seminars. During the course students will work with a variety of faunal assemblages. It is a cross-cutting module, integrating knowledge from related fields such as biology, veterinary science, chemistry and geology.

Seminars:

- 1) Dr Florent Rivals, ICREA research professor at the Institut Català de Paleoecologia Humana i Evolució Social (IPHES-CERCA, Tarragona): Dental micro- and meso wear: methods and applications in Palaeolithic and Neolithic archaeology.
- 2) Dr Lúdia Colominas, Ramon y Cajal Researcher at the Institut Català d'Arqueologia Clàssica (ICAC, Tarragona): Geometric Morphometrics in Archaeozoology: concepts, methods and applications.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Initial theoretical introductions	5	0.2	2, 3, 12, 8, 7
Specialized seminars	6	0.24	2, 3, 4, 12, 8
Training with archaeological faunal remains	25	1	2, 5, 6, 11, 10, 1
Type: Supervised			
Mentoring	14	0.56	2, 3, 4, 8, 11, 10, 9
Problem-based learning	10	0.4	3, 8, 11, 10, 1, 7
Type: Autonomous			

Assessment

- Practical sessions focused on solving specific cases.
- Preparation and presentation of the report on the practical sessions and individual research work.
- Presentation and oral discussion of the results.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Participation in debates and oral defense of studies	10%	5	0.2	2, 3, 4, 11, 9, 7
Practical training	40%	20	0.8	2, 5, 6, 12, 8, 1
Report on practical sessions and individual work	50%	15	0.6	2, 5, 6, 4, 12, 11, 10, 1

Bibliography

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Software

No specific software is required.