Universitat Autònoma de Barcelona

2019/2020

Bioarchaeology and Archaeology

Code: 44065
ECTS Credits: 6

Degree	Type	Year	Semester
4313137 Prehistory, Antiquity and the Middle Ages	OT	0	1

Contact

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Use of Languages

Principal working language: spanish (spa)

Teachers

Maria Saña Seguí

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Prerequisites

None

Objectives and Contextualisation

The objective of this module is to train the student in the analysis of the materials of the prehistoric archaeological sites. The course will focus on the analysis of biotic resources: archeozoology, archaeobotany, archeobiochemistry and archeoanthropology.

Competences

- Choose and apply the most efficient methods and techniques at each stage of the historical or archaeological research being conducted.
- Critically analyse the theoretical and methodological standpoints that have guided research in prehistory, ancient history and medieval history.
- Discuss and compare scientific opinions and issues in open academic debate.
- Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
- Organise, plan and manage research work.
- 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 typical categories and vocabulary used in research and dissemination of prehistory, antiquity, and the Middle Ages.

Learning Outcomes

1. Critically apply research techniques in prehistoric archaeology.
2. Critically evaluate the value of the different tools needed for research in prehistoric archaeology
3. Integrate knowledge and use it to make judgements in complex situations, with incomplete information, while keeping in mind social and ethical responsibilities.
4. Organise, plan and manage research work.
5. Solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to the field of study.
6. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
7. Use the main analytic methods, techniques and instruments in prehistoric archaeology.
8. Use the specific technical vocabulary for interpretation in the field of prehistoric archaeology.

Content

Archaeoanthropology:

1. Introduction to human osteology and functional anatomy in Bioarcheology.
2. Skull: identification practices and determination of sex and age.
3. Anthropometry and epigenetic features: applications in ancestry and affiliation studies.
4. Postcranial identification practices and determination of sex and age.
5. Funerary practices: taphonomy; labile and persistent joints; decomposition in closed and open medium; collective and secondary burials
6. Paleopathology: ontogeny, bone abnormalities and differential diagnosis; postural and labor markers; fractures and indicators of physical violence.

Archaeobotanyl

1 Introduction to the archaeobotanical remains. Presentation of the main categories of remains that can be recovered in archaeological contexts: macroremains (charcoals, woods and seeds), microremains (pollen, phytoliths and starches).
2 The processes of formation of the archaeobotanical samples. The human activities and the work processes that generate remains of plants, contributions of ethnography. Processes that affect the conservation of the remains, contributions of experimentation. Sampling and recovering methods during excavation.
3 Anthracology and dendrology: practical session. Sample preparation Anatomy of the woods and criteria for the determination of the species. Dendrometry and criteria for the determination of the morphometric characteristics of the woods.
4 Paleocarpology: practical session. Criteria for the determination of cereals and legumes. Biometrics

Archaeozoology
1. Introduction. Animal skeleton, structure and bone development. Principles of identification, taxonomy. Determination of age and sex. Dental development and bone fusion. Age histograms
2. Study of animal variability:biometric analysis, geometric morphometry, biomechanics and bone microstructure.
3. Study of animal management and production: anatomical and taxonomic variability of fauna remains. Animal paleopathology. Dental microdose and biogeochemical analysis.
4. Study of the organization and human consumption: archeotaphonomy, spatial analysis and spectroscopic analysis of bons.

Archaebiochemistry

1. Analysis of stable isotopes (δ13C, δ15N, δ18O and 87Sr / 86Sr) and Bioarcheology: general lines
2. Fundaments of the analysis: Urey (1947) and Calvin (1961)
3. First proposals for integration in Archeology (Robert Hall, 1967) and innovation '80 and '90
4. Theory and nomenclature; examples of isotopic fractionation
5. Bioarchaeological proposals: analyzed remains, temporary resolution, preservation of the signal
6. Wildlife as a subject of study: paleocolological reconstitutions and climate; characterization management and exploitation of animal populations.
7. New challenges

CONTENTS: THE PALEODIET AND THE USE OF PLANTS BEFORE AGRICULTURE
1. Introduction: importance of paleodiet studies
2. Methods of study
3. The diet and evolution of the Plio-Pleistocene hominids
4. The use of plants as food and medicine until the development of agriculture
6. Practices: laboratory and microscope

Methodology

Guided activities:
- Introductory classes on the theoretical and methodological approaches of the subject.
- Discussion seminars
- Laboratory practice
Supervised activities:
- tutorials and scheduled learning exercises (individual or in small groups)
Autonomous activities:
- documentation search, text reading, work writing, study

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures, seminars and practices	37.5	1.5	1, 8, 7, 5, 6
Type: Supervised			
Tutorial	37.5	1.5	7, 4, 3, 5
Type: Autonomous			
Preparation of exercises and works	65	2.6	2, 4, 3, 5

Assessment

Realization of the practices in the classroom 30%
Written exercises and work presentations 70%

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Essays	35	3.5	0.14	2, 8, 5
Individual and group work	40	4	0.16	1, 8, 7, 4, 3, 6
Public presentations	25	2.5	0.1	8, 4, 3, 5

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