
Ano Letivo 2021-22

Unidade Curricular ARQUEOLOGIA BIOMOLECULAR

Cursos ARQUEOLOGIA (3.º Ciclo) (*)

(*) Curso onde a unidade curricular é opcional

Unidade Orgânica Faculdade de Ciências Humanas e Sociais

Código da Unidade Curricular 16731053

Área Científica ARQUEOLOGIA

Sigla

Código CNAEF (3 dígitos) ABM

**Contributo para os Objetivos de
Desenvolvimento Sustentável - 4, 5,10
ODS (Indicar até 3 objetivos)**

Línguas de Aprendizagem English if there is one non-Portuguese speaker; Portuguese otherwise.

Modalidade de ensino

Presencial.

Docente Responsável

Hugo Rafael Cardoso Oliveira

DOCENTE	TIPO DE AULA	TURMAS	TOTAL HORAS DE CONTACTO (*)
Hugo Rafael Cardoso Oliveira	OT; S	S1; OT1	20S; 2.5OT
Rosalind Emma Gillis	OT; S	;S1; OT1	20S; 2.5OT

* Para turmas lecionadas conjuntamente, apenas é contabilizada a carga horária de uma delas.

ANO	PERÍODO DE FUNCIONAMENTO*	HORAS DE CONTACTO	HORAS TOTAIS DE TRABALHO	ECTS
1º	S1	39S; 5OT	280	10

* A-Anual;S-Semestral;Q-Quadrimestral;T-Trimestral

Precedências

Sem precedências

Conhecimentos Prévios recomendados

NA

Objetivos de aprendizagem (conhecimentos, aptidões e competências)

Dotar os alunos de conhecimentos sobre diferentes métodos de bioarqueologia molecular que lhes permitam usar estes métodos em projectos de investigação arqueológica e fazer uma apreciação crítica do uso destas metodologias em trabalhos publicados.

Conteúdos programáticos

Archaeogenetics (HO)

1. Archaeology and Genetics
2. How does DNA work
3. Genetic markers
4. Methods used in Archaeogenetics
5. Ethics in Archaeogenetics
6. Applications to archaeological research

Archaeogenetics practical (HO)

- Watching a PCR set-up.
- Watching a gel electrophoresis.

Bioinformatics practical (HO)

- Retrieval of DNA sequences from databases
- Alignment of DNA sequences

Proteins (HO/RG)

1. What is a protein? (HO)
2. Proteomics methodology (HO)
3. Archaeology and paleo proteomics (RG)
4. Applications (RG)

Lipids/residues (RG)

1. What are organic residues?
2. Methodologies: the biomarkers revolution
3. Preservation
4. Applications to archaeological research

Stable isotopes (RG)

1. What are stable isotopes?
2. Methodologies
3. Preservation
4. Applications to archaeological research

Stable isotope practical (RG)

1. Incremental tooth sample collection
2. Preparation of bioapatite samples
3. Extraction of bone collagen

Metodologias de ensino (avaliação incluída)

A avaliação será feita com base em 2 elementos:

- Apresentação oral individual (50%)
- Trabalho escrito (50%).

Bibliografia principal

Brown TA, Brown K (2011) Biomolecular Archaeology: an introduction. Wiley-Blackwell.

Reich D (2018) Who We Are and How We Got Here: ancient DNA and the new science of the human past. Oxford University Press.

Papers presented in lectures.

Academic Year 2021-22

Course unit BIOMOLECULAR ARCHAEOLOGY

Courses ARCHAEOLOGY (*)
Common Branch

(*) Optional course unit for this course

Faculty / School FACULTY OF HUMAN AND SOCIAL SCIENCES

Main Scientific Area ARQUEOLOGIA

Acronym

CNAEF code (3 digits) ABM

Contribution to Sustainable Development Goals - SGD (Designate up to 3 objectives) 4,5,10

Language of instruction English if there is one non-Portuguese speaker; Portuguese otherwise.

Teaching/Learning modality Presence.

Coordinating teacher Hugo Rafael Cardoso Oliveira

Teaching staff	Type	Classes	Hours (*)
Hugo Rafael Cardoso Oliveira	OT; S	S1; OT1	20S; 2.5OT
Rosalind Emma Gillis	OT; S	;S1; OT1	20S; 2.5OT

* For classes taught jointly, it is only accounted the workload of one.

Contact hours

T	TP	PL	TC	S	E	OT	O	Total
0	0	0	0	39	0	5	0	280

T - Theoretical; TP - Theoretical and practical ; PL - Practical and laboratorial; TC - Field Work; S - Seminar; E - Training; OT - Tutorial; O - Other

Pre-requisites

no pre-requisites

Prior knowledge and skills

NA

The students intended learning outcomes (knowledge, skills and competences)

To provide the students with basic knowledge on biomolecular methods. These will allow them to select the most suitable methods for specific archaeological projects and to critically evaluate their use in published works.

Syllabus

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Teaching methodologies (including evaluation)

Assessment will be based on two elements:

- Oral presentation (50%)
- Written essay (50%)

Main Bibliography

Brown TA, Brown K (2011) Biomolecular Archaeology: an introduction. Wiley-Blackwell.

Reich D (2018) Who We Are and How We Got Here: ancient DNA and the new science of the human past. Oxford University Press.

Papers presented in lectures.