

ECTS Information Package: Degree Programme

Master's degree in

PREHISTORIC ARCHAEOLOGY AND ROCK ART

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A - General Description

Programme Title - Mestrado em Arqueologia Pré-Histórica a Arte Rupestre

Qualification awarded - Master's degree in Prehistoric Archaeology and Rock Art

Level of qualification - Second-cycle degree, EQF Level 7; ISCED Level 5

Specific admission requirements

General

According to the Portuguese Law, the following candidates are eligible for entry to the course of study leading to the *Mestre* degree:

- Holders of a *licenciado* degree or legally equivalent corresponding to the first cycle of higher education;
- Holders of a foreign higher degree awarded on completion of a first-cycle programme organised in the framework of the Bologna Process;
- Holders of a foreign higher degree which is deemed by the Technical-Scientific Committee of ESTT-IPT to meet the requirements of a *licenciado* degree.
- Holders of an academic, scientific or professional curriculum which is deemed by the Technical/Scientific Committee of ESTT-IPT as appropriate to access the programme.

Specific

The following candidates are also admitted to the master's degree in Archaeology and Rock Art subject to admission quotas:

- Holders of a bachelor's degree or legally equivalent in such areas as Archaeology, History, Anthropology, Biology, Geology and other first-cycle degrees in human, earth and life sciences related areas.
- Holders of a foreign higher degree in archaeology, history, anthropology, biology, geology and other human, earth and life sciences related areas awarded on completion of a first-cycle programme organised in the framework of the Bologna Process;
- Holders of a foreign higher degree in archaeology, history, anthropology, biology, geology and other human, earth and life sciences related areas which is deemed to meet the requirements of a licenciado degree by the Program Coordinating Committee comprising IPT and UTAD members.
- Holders of a bacharel degree in Archaeology, History, Anthropology, Biology, Geology and other degrees in human, earth and life sciences related areas and a professional CV which is deemed by the Technical/Scientific Council of ESTT-IPT as appropriate to access the program.
- Holders of an academic, scientific or professional CV in Archaeology, History, Anthropology, Biology, Geology and other degrees in human, earth and life sciences related areas which is deemed by the Technical/Scientific Council of ESTT-IPT as appropriate to access the program.
- Holders of a licenciado or a legally equivalent degree in other scientific domains which are deemed, upon CV analysis, as meeting the requirements of a licenciado degree by the Program Coordinating Committee comprised of IPT and UTAD members.

Specific arrangements for recognition of prior learning (formal, non-formal and informal)

General

Granting of credits from prior learning is regulated by the Portuguese Law taking into account the level of credits and the field of study where they have been earned and is subject to the recognition of ESTT-IPT Technical/Scientific Committee.

- Training undertaken in the context of other higher education programmes of study from national or foreign HE establishments or organised in the framework of the Bologna Process or other prior learning can be credited towards the present programme of study;
- Credits earned from postgraduate studies can also be credited towards this programme of study;
- Professional experience or other training, different from the abovementioned ones, can also be credited towards this programme of study.

Specific

Credit transfer is limited to 60 ECTS credits and, in that event, students will be able to apply for completion of the program in one academic year.

Qualification requirements and regulations:

The master's degrees are regulated by the Portuguese Law and applicable program regulations established by the School of Technology-IPT.

In order to complete the master's degree it is necessary to accumulate 120 ECTS credits from modules, field and laboratory work, papers, congresses and final dissertation.

Each ECTS credit corresponds to 27 hours of work.

Profile of the program:

This course of study includes:

- A master's program organised into course units corresponding to 80 ECTS credits;
- A final dissertation worth 40 ECTS credits;

This master's degree was designed so as to develop competencies in the following technical-scientific areas: Prehistory (6 compulsory ECTS and up to optional 18 ECTS), Quaternary Geology (6 compulsory ECTS and up to 18 optional ECTS), Palaeoanthropology (6 compulsory ECTS and up to 18 optional ECTS), Methods and Techniques (6 compulsory ECTS and up to 18 optional ECTS), Museography and Didactics (6 compulsory ECTS and up to 18 optional ECTS), field and laboratory work (8 ECTS) e optional credits to be obtained in congress projects, publications and others (up to 9 ECTS). The minimum amount of ECTS credits required in taught modules is 63 and the maximum is 72.

Key learning outcomes:

Holders of the master's degree in prehistory archaeology and rock art must be able to:

- Identify and characterise archaeological sites in their environmental and cultural contexts;
- Identify archaeological resources and incorporate them in land planning programmes in order to attract investment and subsequent creation of workplaces and population settlement both at local and regional level;
- Have a good command of basic archaeological techniques in such areas as prehistory, protohistory and rock art;
- Be able to use basic vocabulary and understand the sub-areas of Prehistoric Archaeology, Rock Art, Lithic Technology, Ceramic Technology, Experimental Archaeology, Latin-American Archaeology, Computer Applications for Archaeology, Geoarchaeology, Palaeoanthropology, Archaeometry, Archaeobotany, Zooarchaeology, Museography and Didactics.
- Demonstrate full autonomy in at least one of the following sub-areas: Prehistoric Archaeology, Rock Art, Lithic Technology, Ceramic Technology, Experimental Archaeology, Latin-American Archaeology, Computer Applications for Archaeology, Geoarchaeology, Palaeoanthropology, Archaeometry, Archaeobotany, Zooarchaeology, Museography and Didactics.
- Be aware of the importance of enhancing and exploring archaeological resources as factors for profitability and minimization of negative impacts;
- Evaluate the scientific, didactic, patrimonial and cultural potential of areas of archaeological and landscape interest in order to use them as an instrument for regional promotion and development.

Draw up archaeological/tourist tour guides to disseminate and promote the areas of interest;

- Draw up archaeological heritage risk maps for land planning.

Occupational profiles of graduates with examples:

Holders of the master's degree in Prehistoric Archaeology and Rock Art are prepared to perform

- Public Sector:
 - Municipal Archaeologists;
 - Central government (DGPC and attached services);
 - Museums;
 - Heritage and tourism management services;
- Private Sector:
 - Organisations engaged in archaeological activities;
 - Organisations engaged in cultural and tourism activities;
 - Land management providers.

· Education:

- Higher polytechnic education;
- University education;
- Professional training in archaeology, cultural heritage and rock art.

· International labour market:

- Higher education;
- Museums;
- Government services;
- Professional training;
- Consultancy.

Access to further studies:

The master's degree in Prehistoric Archaeology and Rock Art allows access to third-cycle programs in the area of Archaeology, Quaternary, Cultural Heritage and other related areas as according to admission requirements set forth for those programmes. Graduates from this master's degree with a final mark above 16/20 have priority access to the Doctoral program Quaternary, Materials and Cultures offered by the UTAD.

Course structure diagram with credits

Course Title	Year	Semester	Credits
Archaeology of Rock Art	1	A	3
Bioarchaeology and Human Evolution	1	A	6
Cultural Heritage Management	1	A	3
European Prehistory	1	A	3
Geology of Continental Quaternary Formations	1	A	3
Landscape Palaeoecology	1	A	3
Lithic Technology and Typology	1	A	3
Museography	1	A	3
Option - Methods and Techniques	1	A	0
op: Preservation, Moulding and Restoration of Archaeological Materials	1	A	3
op: Documentation and Study of Ceramic Material	1	A	2
op: Ethnoarchaeology	1	A	3
op: Computer Science I	1	A	3
op: Computer Science II	1	A	3
op: Methodology of Scientific Work	1	A	3
op: Methodologies for the Examination and Analysis of Archaeological Materials	1	A	3
op: Excavation, Recording and Analysis Methods	1	A	3
op: Geophysical Survey Applied to Archaeology	1	A	3
op: Methods and Techniques Seminar	1	A	6
op: Geographic Information Systems	1	A	6
Option - Museography and Didactics	1	A	0
op: Integrated Archaeology and Land Management	1	A	3
op: Quality Assessment in Cultural Heritage	1	A	3
op: English	1	A	3
op: Portuguese	1	A	3
op: Intercultural Integration Module	1	A	3
op: Heritage Management Seminar	1	A	6
Option - Palaeoanthropology	1	A	0
op: Palaeoanthropology (*)	1	A	3

(*) This course may not be available in certain academic years. Please confirm availability with the Erasmus coordinator.

Course structure diagram with credits (cont.)

Course Title	Year	Semester	Credits
op: Palaeoantropology of the Iberian Peninsula (*)	1	A	3
op: Palaeoantropology Seminar (*)	1	A	3
Option - Prehistory	1	A	0
op: What is Prehistoric Art: a journey through paint and chisel	1	A	2
op: Brazilian Archaeology	1	A	3
op: Art and Archaeology of Peninsular Protohistory	1	A	3
op: Peninsular Neolithic Art	1	A	3
op: Palaeolithic Art	1	A	3
op: Post-Palaeolithic Art	1	A	3
op: Latin American Rock Art	1	A	3
op: Prehistory of the Iberian Peninsula	1	A	3
op: Prehistory Seminar	1	A	6
Option - Quaternary Geology	1	A	0
op: Elements of Palaeontology	1	A	1.5
op: Formation and Modification of Anthropic Deposits	1	A	3
op: Geodiversity and Archaeological Heritage	1	A	3
op: Geomorphology	1	A	3
op: Surface Processes	1	A	3
op: Mineral and Energy Resources	1	A	3
op: Geoarchaeology Seminar	1	A	6
op: Quaternary Geology Seminar	1	A	3
Prehistoric Art	1	A	3
Dissertation	2	A	40

(*) This course may not be available in certain academic years. Please confirm availability with the Erasmus coordinator.

Examination regulations, assessment and grading

General

Assessment of course units complies with the Academic Regulations in force at ESTT-IPT, except for the Dissertation, Project and Internship, to which apply the provisions set out in the regulations for the master's degrees offered by the ESTT-IPT.

- Dissertation, Project and Internship have only two assessment seasons and the students are free to choose only one.
- The assessment calendar for the Dissertation, Project and Internship is proposed by the Programme Coordinating Committee to the Technical/Scientific Committee at the beginning of each academic year.
- The general grade improvement scheme does not apply to the Dissertation, Project and Internship.

The overall grade of the master's programme is the arithmetic weighted average rounded off to the ones of the number of ECTS credits and the grades of the course units that form part of the programme of study.

The 10-20 mark expressed on a 0-20 scale is converted into its equivalent in the European grading scale with the awards Satisfactory, Good, Very Good or Excellent.

Specific

Students shall prepare an original dissertation project subject to public discussion and consideration by an examination panel specially appointed for that purpose.

Assessment of the modules complies with the Academic Regulations in force at the School of Technology-IPT and the UTAD with the exception of specific regulations stemming from the Erasmus Mundus consortium (as this Master's degree is the Portuguese version of the Erasmus Mundus Master in Quaternary and Prehistory), namely:

- The annual nature of the program;
- Erasmus Mundus students have only two assessment seasons for presentation and discussion of their final dissertation and it can take place abroad in certain years;
- The academic calendar is approved by the scientific coordinating committees of IPT and UTAD taking into account the academic calendars of both institutions and, as far as possible, the ones of Erasmus Mundus partner institutions.
- Grade improvement does not apply to final dissertation.

Final grade is determined with basis on an arithmetic average of the grade obtained in the pre-thesis work and the dissertation using a 0-20 scale which is then converted by the examination panel as follows:

14,5 — Good;

or = 14,5 < 16,5 — Good with distinction;

or = 16,5 — Very Good.

The 10-20 mark expressed on a 0-20 scale is converted into its equivalent in the European grading

scale with the awards Adequate, Good, Very Good or Excellent.

Graduation requirements:

Completion of the program requires a pass in all its constituent modules including the preparation and public defence of project work or internship report so as to accumulate 120 ECTS credits, of which 30 are compulsory, 40 correspond to the dissertation, 8 to field work and 42 to be selected among the optional modules available in the curriculum in compliance with general and specific assessment regulations.

Mode of study:

Full- or part-time.

Program director or equivalente

Director: Luiz Miguel Oosterbeek

Erasmus coordinator: Luiz Miguel Oosterbeek / Pierluigi Rosina

ECTS coordinator: Laurent Caron

B - Description of individual course units

Course unit title	Archaeology of Rock Art
Course unit code	64987
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luiz Miguel Oosterbeek
Learning outcomes of the course unit	An introduction to the Archaeology of Rock Art. On completion of this module, the students should be familiar with such concepts as style, figure, stratigraphy, chronology and time frame.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course content	1. The rock art as an archaeological artifact. 2. The history of learning methods. 3. Dating methods. 4. Style and stage concepts. 5. Figure and scene. Stratigraphy in rock art.
Recommended or required Reading	- SANCHIDRIÁN, J.(2005). <i>Manual de Arte Prehistórico</i> . Barcelona: Ariel Prehistoria
Planned learning activities and teaching methods	Theoretical and practical sessions supported by internet resources.
Assessment Methods and criteria	Continuous assessment. Preparation of a small group work with oral presentation.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Bioarchaeology and Human Evolution
Course unit code	64983
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	6
Name of Lecturer(s)	Eugénia Cunha
Learning outcomes of the course unit	The students should be able to identify the main bones of the human skeleton, to interpret the human bones in archaeological contexts, be familiar and interpret the major events of the human evolutionary history and the human natural history.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Introduction to human osteology. Concepts of taphonomy. Recovery of human remains in archaeological contexts. Discriminate between human and non-human bones. Reconstructions of life from the skeleton. Specific fields: paleopathology Introduction to human evolution. The first hominids. The first exit from Africa and the first Europeans. The Neanderthals. The origins of the modern man.
Recommended or required Reading	- Cunha, E.(2010). <i>Como nos tornámos humanos</i> . Coimbra: Imprensa da Universidade.
Planned learning activities and teaching methods	Oral presentation; observational analysis of osteological material and fossil moulds, powerpoint presentations.
Assessment Methods and criteria	Test.
Language of Instruction	Portuguese Mentoring in French
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Cultural Heritage Management
Course unit code	64989
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luiz Miguel Oosterbeek
Learning outcomes of the course unit	The students should have acquired general knowledge of cultural heritage management: plans, projects and actions. The HERITY system. Case study analysis.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Part 1 - general concepts Part 2 – how to take action? Part 3 – specific cultural heritage issues Part 4 – heritage management Part 5 – project Part 6 – management plan Part 7 – Herity Part 8 – applications
Recommended or required Reading	- ., ..to be defined on the basis of the students choice of theme. .: .
Planned learning activities and teaching methods	Lectures and interdisciplinary work.
Assessment Methods and criteria	Assignment and examination.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	European Prehistory
Course unit code	64981
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luiz Miguel Oosterbeek
Learning outcomes of the course unit	The course focuses on three main research areas: - Quaternary and human colonisation in Europe - Hunters-Gatherers Societies - The first farmers
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. Quaternary and human colonisation in Europe 2. Controversies on evolutionary lineage 3. The human origins in Europe 4. Hunters-Gatherers Societies 5. The first producers 6. Models
Recommended or required Reading	- OOSTERBEEK, L.(1197). <i>Echos from the East : Late Prehistory of the North Ribatejo</i> / Luiz Oosterbeek. Tomar: CEIPHAR
Planned learning activities and teaching methods	Lectures supported by discussion and comparative text analysis.
Assessment Methods and criteria	Interdisciplinary work articulated with the Quaternary Geology module. Examination.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Geology of Continental Quaternary Formations
Course unit code	64984
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Pierluigi Rosina
Learning outcomes of the course unit	Basic Knowledge of the geological processes - and their chronostratigraphy - concerned continental deposits that keep archaeological remains. Description and representation of the stratigraphical units in the field and study methods in laboratory.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Study methods of Quaternary events, geochronology elements, isotopic paleoclimatology and palinological stratigraphy;- The crono-stratigraphy of continental and marine Quaternary; Glaciations: causes and effects in Europe; Geomorphology and deposition of continental formations.
Recommended or required Reading	- Butzer, K.(1982). <i>Archaeology as human ecology</i> . Cambridge: Cambridge University Press
Planned learning activities and teaching methods	Lectures
Assessment Methods and criteria	Practical assignment.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Landscape Palaeoecology
Course unit code	64985
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	José Eduardo Ribeiro do Rosário Mateus
Learning outcomes of the course unit	On completion of the module the students should be familiar with the key aspects of landscape transformation processes.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	A)Concepts of ecology B)Biogeography and Landscape Eco-Physicography C)World biomas and model ecosystems D)Portuguese ecosystems E)Plaeoclimatology methods F)World Plaeoclimatic and paleaenvironmental evolution G)Theoretical palaeoecology and privileged study contexts H)Introduction to the research in Landscape Palaeoecology I) Landscape evolution in Europe and Portugal J) ...
Recommended or required Reading	- ., ..to be defined on the basis of the students choice of theme. ∴ .
Planned learning activities and teaching methods	Lectures and field trips.
Assessment Methods and criteria	One test.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Lithic Technology and Typology
Course unit code	64986
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Sara Cura
Learning outcomes of the course unit	The students should acquire basic skills that will enable them to study and analyse lithic remains.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	1-Introduction 2-Lithic technology: raw materials; carving mechanics; percutors; carving techniques; carving accidents 3-Products, stages and processes:façonage /debitage 4-Study methods:typology, technology 5-Practical application of techniques and concepts
Recommended or required Reading	- MORAIS, J.(2007). <i>Tecnotipologia Lítica</i> . Erechin: Habilis
Planned learning activities and teaching methods	Theoretica-practical sessions.
Assessment Methods and criteria	Practical assignment.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Museography
Course unit code	64988
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luís Manuel Mota dos Santos Figueira
Learning outcomes of the course unit	Acquisition of instrumental skills (cognitive, methodological, technological and terminological), of interpersonal competencies (interaction and cooperation individually or in group) and systemic competencies (understanding, sensibility and generic and specific knowledge) in museography.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. Museology and Museography: historical background and general considerations. 2. The museographic construction as knowledge dissemination: potential and limits. 3. Practical component: implementation and evaluation of a museographic project(museum exhibition created for the purpose).
Recommended or required Reading	<ul style="list-style-type: none"> - VV, A.(1999). <i>Revista de Museologia – Arquitecturas para la mirada, nº 17</i>. Madrid: Asociación Española de Museólogos - Bessegato, M.(2004). <i>O património em sala de aula – Acções Educativas</i>. Santa Maria: Evangraf - Linares, J.(1994). <i>Museo, Arquitectura y Museografía</i>. Cuba: VEGAP - Vinson, I.(2001). <i>Heritage and museology: a new convergence</i>. Londres: Museum International
Planned learning activities and teaching methods	Lectures supported by experimental study, research, literature review, and field trips. Practical project done individually or in group.
Assessment Methods and criteria	Practical project and final exam.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Computer Science I
Course unit code	649852
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Maria Emília Simões de Abreu
Learning outcomes of the course unit	An introduction to computer science applied to archaeology at user level. Resources, contents and information dissemination.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	1. Introduction to computer science. 2. What is open software? Open software in Europe. The Brazilian case. Ongoing projects, products, documents and links. Discussion forums. 3. Freeware and Shareware. How to use the open office, Grimp and other open software programs for individual use. 4. The e-mail. Mailing lists on archaeology, geology and related subjects. 5. The Mozilla composer...
Recommended or required Reading	- .., ..to be defined on the basis of the students choice of theme. ∴ .
Planned learning activities and teaching methods	Theoretical and practical classes supported by powerpoint and internet resources.
Assessment Methods and criteria	Continuous assessment. Practical assignment: build a webpage applying acquired knowledge.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Computer Science II
Course unit code	649853
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luís Gonzaga Mendes Magalhães Paulo Nogueira Martins
Learning outcomes of the course unit	The students should be able to use computer resources to record and disseminate archaeological information, mainly Web 2.0 technologies.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Basics of databases: categories, tuples, tables. Database relational models. Database normalisation. Create database queries.
Recommended or required Reading	- Churcher, C.(2007). <i>Beginning Database Design: From Novice to Professional</i> . Berkeley, Califórnia, EUA: Apress
Planned learning activities and teaching methods	Develop an integrating knowledge project during class. This project will involve the structuring of information in a database and the use of Web 2.0 tools to support the development of one archaeological team project
Assessment Methods and criteria	After class, students should improve the project started during the classes, or develop one from scratch, being established a working protocol with each student.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Documentation and Study of Ceramic Material
Course unit code	649858
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	2
Name of Lecturer(s)	Dávide Delfino
Learning outcomes of the course unit	The students should be able to plan, organise and complete the study of ceramic material from an archaeological, archaeometric, technological and geological perspective. They should also be able to work with non-archaeological collections and detect forgeries.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contents	Geological and chemical characterisation of ceramic material - from production and usage to burial, excavation and publication (the pottery and material culture cycle). Analysis, classification and interpretation of ceramic materials.
Recommended or required Reading	- WAKSAM, S.(2007). <i>Archaeometric and Archaeological approaches to Ceramics</i> . Oxford: Hadrian Books
Planned learning activities and teaching methods	Lectures
Assessment Methods and criteria	Individual and group assignments.
Language of Instruction	Portuguese
Work placement(s)	Ceramic Technology Laboratory, field trips and fieldwork.

B - Description of individual course units

Course unit title	Ethnoarchaeology
Course unit code	649851
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luís Manuel Mota dos Santos Figueira
Learning outcomes of the course unit	The students should acquire instrumental skills (cognitive, methodological, technological and terminological), interpersonal skills (group interaction and cooperation) and systemic skills (comprehension, sensitivity and general and specific knowledge of subject matters) in ethnoarchaeology.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Ethnoarchaeology: general considerations The anthropological context and the ecological environment as key factors in the ethnoarchaeological analysis. The problem of reconstruction and reconstitution as an archaeological issue: the role of ethnography and interpretive considerations. The ethnoarchaeological process: models of analysis and project structure.
Recommended or required Reading	<ul style="list-style-type: none"> - VV, A.(2003). <i>Antropología y Patrimonio: Investigación, Documentación e Intervención</i>. Granada: IAPH - Candau, J.(1998). <i>Mémoire et Identité</i>. Paris: PUF - Dias, J.(1990). <i>Estudos de Antropologia</i>. Lisboa: Imprensa Nacional – Casa da Moeda - David, N.(2001). <i>Ethnoarchaeology in Action</i>. Cambridge: Cambridge World Archaeology
Planned learning activities and teaching methods	Theoretical and practical classes.
Assessment Methods and criteria	Final written exam.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Excavation, Recording and Analysis Methods
Course unit code	649849
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Sara Cura
Learning outcomes of the course unit	The students should familiarise themselves with the practical and methodological aspects of excavation in office and laboratory based on the excavation project of the archaeological site at Ribeira da Atalaia (Lower, Middle and Upper Palaeolithic).
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	I – Research and fieldwork planning II – Lab and field methodology III - Logistics and budget planning IV – Excavation report V - Practical class at the Ribeira da Atalaia site
Recommended or required Reading	- Barker, P.(1993). <i>Techniques of Archaeological Excavation</i> . London: Bt Batsford
Planned learning activities and teaching methods	Theoretical and practical lessons.
Assessment Methods and criteria	Design a research or intervention plan for an archaeological site, region or archaeological collection(preferably related with the theme of the first interdisciplinary essay)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Geographic Information Systems
Course unit code	649855
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	6
Name of Lecturer(s)	José Manuel Martinho Lourenço
Learning outcomes of the course unit	The students should be able to apply GIS systems in archaeology.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Concept of GIS. Origin and evolution of geographic information systems. Applications, costs and benefits. Basics of databases. Analytical functions in GIS. Data models. Types of graphic databases. Types of vector geometries. Attributes. Software. Reference systems and projections. Site/object georeference. Data query. Map viewing. Space analysis and data management.
Recommended or required Reading	- ARONOFF, S.(1989).) <i>Geographic Information Systems: A Management Perspective</i> . Ottawa: WDL Publications
Planned learning activities and teaching methods	Theoretical-practical classes based on the collection of real or simulated georeferenced data and its editing and analysis in GIS.
Assessment Methods and criteria	Class performance and practical assignments.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Geophysical Survey Applied to Archaeology
Course unit code	649856
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	José Manuel Martinho Lourenço
Learning outcomes of the course unit	The students should be able to select and apply geophysical survey methods in practical archaeological contexts.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Electric, gravimetric, magnetic seismic and radiometric methods: procedures, measurement devices, field methodologies, corrections, data processing, modelling and interpretation.
Recommended or required Reading	- Garland, G.(1979). <i>Introduction to Geophysics</i> . Philadelphia, USA.: W. B. Saunders Company
Planned learning activities and teaching methods	Theoretical-practical classes supported by real georeferenced cases and its posterior edition and interpretation.
Assessment Methods and criteria	Class performance and practical assignments.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Methodologies for the Examination and Analysis of Archaeological Materials
Course unit code	649854
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Ricardo Pereira Triães
Learning outcomes of the course unit	On completion of this module the students should be able to recognise the main examination and analysis methodologies and respective application. They should also be able to interpret data with the aid of statistical methods and recognise the properties of the main archaeological materials.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contents	1. Introduction 2. Concepts of descriptive statistics 3. Materials Technology 4. Techniques for the examination and analysis of archaeological materials 5. Collection and preparation of samples 6. Case study
Recommended or required Reading	- Rice, P.(1987). <i>Pottery analysis</i> . Chicago: University of Chicago Press - Kerr, P.(1977). <i>Optical Mineralogy</i> . Nova Iorque: McGraw Hill - Silvestre, L.(2001). <i>Análise de dados - Estatística descritiva</i> . Lisboa: Vulgata
Planned learning activities and teaching methods	Lectures supported by the resolution of exercises and practical cases.
Assessment Methods and criteria	Assessment is based on a practical assignment specified by the lecturer.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Methodology of Scientific Work
Course unit code	649859
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Silvério Manuel Domingues Figueiredo
Learning outcomes of the course unit	On completion of this module the students should be able to carry out research and write a scientific paper.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	1 - Introduction 2 - Organising the literature review 3 - Structuring the paper 4 - Methodology of scientific work.
Recommended or required Reading	- CARVALHO, J.(2002). <i>Metodologia do Trabalho Científico</i> . Lisboa: Escolar Editora
Planned learning activities and teaching methods	Lectures
Assessment Methods and criteria	Written test and practical assignment.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Methods and Techniques Seminar
Course unit code	649857
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	6
Name of Lecturer(s)	Maria Emilia Simões Abreu
Learning outcomes of the course unit	The students should be familiar with debate interdisciplinary issues.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	Themes discussed change every year.
Recommended or required Reading	- Renfrew, C. e Bahn, P. (1991). <i>Archaeology: theories, methods and practice</i> . London: Thames and Hudson
Planned learning activities and teaching methods	Lectures and debates.
Assessment Methods and criteria	Preparation and presentation of assignments.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Preservation, Moulding and Restoration of Archaeological Materials
Course unit code	649850
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Fernando Manuel Conceição Costa
Learning outcomes of the course unit	The students should have expanded their knowledge of technical processes, developed theoretical and practical skills in the areas of modelling, moulding, and reproduction of works of art.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	To be graduated in archaeology or related fields.
Recommended optional programme components	Not applicable.
Course contents	Moulding versus modelling. Difference Copy, replica and forgery. Types of Moulds. Standards for the evaluation of copies or reproductions. Legislation and Codes of Ethics concerning reproductions. Types of reproduction. Moulding Applied to Conservation and Restoration cases. Moulding Materials. Reproduction materials.
Recommended or required Reading	<ul style="list-style-type: none"> - BRYDSON, J.(1989). <i>Plastic Materials</i>. London: ButterWorths - CHAVARRIA, J.(2004). <i>A CERÂMICA – Coleção Artes e Ofícios</i>. Lisboa: Editorial Estampa - CLÉRIN, P.(2002). <i>LA SCULPTURE – Toutes les Techniques</i>. Paris: Dessain et Tolra - HAMER, F.(1986). <i>POTTER'S DICTIONARY OF MATERIALS AND TECHNIQUES</i>. London: A & C BLACK
Planned learning activities and teaching methods	Laboratory classes where students are required to develop templates and reports.
Assessment Methods and criteria	Continuous assessment: practical performance, technical report.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	English
Course unit code	649880
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Marta Margarida S. Dionísio de Azevedo
Learning outcomes of the course unit	Make the students aware of the need to acquire and improve a set of skills, both at linguistic and sociocultural levels, in English-speaking cultures and be able to use them in a wide range of communicative contexts.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	A2 Level according to the Common European Framework of Reference for Languages.
Recommended optional programme components	Not applicable.
Course contents	Themes: - A World of many Languages - The World of Technology - The Media and Global Communication - Young People in the Global Era
Recommended or required Reading	- ..to be defined on the basis of the students choice of theme. ∴ .
Planned learning activities and teaching methods	Theoretical and practical lessons where the students are asked to do exercises focused on practising and developing the following skills: reading, listening, speaking and writing with implicit grammar.
Assessment Methods and criteria	- A test on the program contents = 80%; - Continuous assessment, including exercises and class participation (written and oral components) and attendance = 20%
Language of Instruction	English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Heritage Managemnt Seminar
Course unit code	6498102
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	6
Name of Lecturer(s)	Luiz Miguel Oosterbeek Silvério Manuel Domingues Figueiredo
Learning outcomes of the course unit	Acquire skills to coordinate projects in the field of archaeological heritage management.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Each year are defined concrete issues, according to the theses in preparation and in conjunction with the line of research on the topic of GPC.
Recommended or required Reading	- .. <i>..to be defined on the basis of the students choice of theme.</i> ..
Planned learning activities and teaching methods	Presentation and discussion of themes and texts related to the thesis which is under preparation.
Assessment Methods and criteria	Presentation by students of the 2nd year of their projects, and discussion of those projects by new students. The assessment is oral.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Integrated Archaeology and Land Management
Course unit code	3008110
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luiz Miguel Oosterbeek
Learning outcomes of the course unit	The students should understand the new functional relationship between archaeology and contemporary land management in terms of the needs of current society.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	What are we? What is archaeology? Current worls, the new dynamics (global/local; economics/culture) and archaeology. Basic concepts of ILM. Evolution of the theoretical LM models over the last 100 years. The significance of technology. ILM principles. A new model.
Recommended or required Reading	- Oosterbeek, L.(2007). <i>Arqueologia, Património e Gestão do Território – polémicas</i> . Erechim (Brasil): Habilis
Planned learning activities and teaching methods	Lectures and debates.
Assessment Methods and criteria	Applied team project with specification of individual responsibilities.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Intercultural Integration Module
Course unit code	649878
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luiz Miguel Oosterbeek Pierluigi Rosina Luís Manuel Mota dos Santos Figueira
Learning outcomes of the course unit	Acquisition of general knowledge about Portuguese Culture and its place in the global world.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	1. Portuguese culture: origins and development. 2. The territory and geography. 3. The arts and forms of rural and urban life. 4. The economic vision of the country. 5. Travelling through the Portuguese culture: unity in diversity. 6. The cultural relations between Portugal and the World. 7. Visual Tour: commented images. 8. Discussion and assessment.
Recommended or required Reading	- AA, V.(1980). <i>Arquitectura Popular Portuguesa</i> . Lisboa: Associação dos Arquitectos Portugueses - DIAS, P.(1986). <i>História da Arte em Portugal, Lisboa, Editorial Alfa.</i> Lisboa: Editorial Alfa - MUNFORD, L.(1980). <i>Arte e Técnica</i> . Lisboa: Edições 70 - RIBEIRO, O.(1963). <i>Portugal, O Mediterrâneo e o Atlântico</i> . Lisboa: Livraria Sá da Costa Editora
Planned learning activities and teaching methods	Powerrpoint presentation and discussion.
Assessment Methods and criteria	Class attendance (2-hour sessions).
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Portuguese
Course unit code	649879
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Maria da Conceição Correia S. Romana
Learning outcomes of the course unit	The students should acquire language skills that will allow to communicate in Portuguese both orally and in writing and be able to comprehend, interpret and write descriptive texts and maintain a conversation with Portuguese native speakers.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Recognise language structures for greetings, introductions, nationalities and professions. Locate and describe spaces. Notions of morphology, syntax and semantics. Vocabulary enrichment. Reading, comprehension and text composition.
Recommended or required Reading	- ..to be defined on the basis of the students choice of theme. ∴ .
Planned learning activities and teaching methods	Theoretical-practical sessions supported by simulation, grammar in context. Practise with writing and speaking skills.
Assessment Methods and criteria	Continuous assessment including class exercises and a test comprising both written and oral components.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Quality Assessment in Cultural Heritage
Course unit code	649884
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luiz Miguel Oosterbeek
Learning outcomes of the course unit	The students will be introduced to the thematic of quality management as it is today applied to heritage management at international level, specially upon recognition of the HGES methodology by UNESCO. They should be able to apply these methodologies.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Concepts. Quality Management principles. Assessment. Cultural heritage. Quality assessment models. The specificities of cultural heritage. Consumer focus. Leadership. People's involvement. Procedural approach. Systemic approach to management. Systemic management increases effectiveness. Benefits. Outcomes. Decisions based on rigorous analyses. Benefits: informed decisions. ...
Recommended or required Reading	- ., ..to be defined on the basis of the students choice of theme. ∴ .
Planned learning activities and teaching methods	Lectures supported by debates and group work where each student has his/her specific responsibilities.
Assessment Methods and criteria	Work as part of a team: Defining assessment grids - In an xternal project - In one's own project Testing (e.g. Main Church, Almourol Castle, Train Museum, etc). Presentations.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Palaeoantropology (*)
Course unit code	649830
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Silvério Manuel Domingues Figueiredo
Learning outcomes of the course unit	On completion of the course the students should have an overview of the physical and technological evolution of Man.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1- Theories of Evolution 2 - Origin and evolution of vertebrates 3 - Evolution of primates 4 - The first hominids 5 - Origin and evolution of the Homo species 6 - The hominization process 7 - Man's technological and cultural evolution.
Recommended or required Reading	- Coppens, Y.(1983). <i>O Macaco, A África e o Homem</i> . Lisboa: Gradiva
Planned learning activities and teaching methods	Lectures
Assessment Methods and criteria	Written test and practical assignment.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

(*) This course may not be available in certain academic years. Please confirm availability with the Erasmus coordinator.

B - Description of individual course units

Course unit title	Palaeoantropology of the Iberian Peninsula (*)
Course unit code	649832
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luis Raposo / Silvério Figueiredo
Learning outcomes of the course unit	The students should familiarise themselves with the palaeoantropological contexts of the Iberian Peninsula.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	CONTEXT AND EVOLUTION: Biogeography of the Peninsula; The first inhabitants; The Heidelbergensis; The Neanderthals; The modern Men. CASE STUDY: Barranco.
Recommended or required Reading	- ..to be defined on the basis of the students choice of theme. ∴ .
Planned learning activities and teaching methods	Lectures, debates and interdisciplinary encounters.
Assessment Methods and criteria	Preparation and presentation of practical assignments
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

(*) This course may not be available in certain academic years. Please confirm availability with the Erasmus coordinator.

B - Description of individual course units

Course unit title	Palaeoanthropology Seminar (*)
Course unit code	649831
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Maria Emilia Simão Abreu
Learning outcomes of the course unit	The students should acquire the basics of Primatology and human origins taking into account existing fossils and available research.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. Introduction to palaeoanthropology 2. The origins of Primates from an anthropobiological perspective. 3. Introduction to primatology 4. Introduction to Human palaeoanthropology.
Recommended or required Reading	- ., ..to be defined on the basis of the students choice of theme. .: .
Planned learning activities and teaching methods	Lectures supported by powerpoint and internet resources.
Assessment Methods and criteria	Continuous assessment. Preparation and presentation of a small group assignment.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

(*) This course may not be available in certain academic years. Please confirm availability with the Erasmus coordinator.

B - Description of individual course units

Course unit title	Art and Archaeology of Peninsular Protohistory
Course unit code	649816
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Fernando Augusto Coimbra
Learning outcomes of the course unit	The key lines of Portuguese protohistory. Identify chronological and interpretative issues of the protohistoric rock art. Understand the particularities of the post-palaeolithic filiform art.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	Introduction to the protohistory of modern Portuguese territory. Protohistoric art and archaeology. Protohistoric rock art (motive typology, chronological and interpretative problems, symbolism, interpretation methods). Post-palaeolithic filiform rock art (properties, geographic distribution, main sites, parallel with foreign sites).
Recommended or required Reading	- SILVA, A.(2007). <i>A Cultura Castreja do Noroeste de Portugal</i> . Paços de Ferreira: Museu Arqueológico da Citânia de Sanfins
Planned learning activities and teaching methods	Lectures supported by Powerpoint presentations. Class debates.
Assessment Methods and criteria	Report.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Brazilian Archaeology
Course unit code	649817
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luiz oosterbeek
Learning outcomes of the course unit	The students are expected to understand the dynamics of Brazilian scientific practices.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	Dynamics of Brazilian scientific practices.
Recommended or required Reading	- BASTOS, R.(2007). <i>Representações sociais, preservação e patrimônio arqueológico</i> . Erechim/RS/Brasil: .
Planned learning activities and teaching methods	Class debates and seminars.
Assessment Methods and criteria	Assessment: 50% class performance (attendance and participation) and 50% scientific paper with presentation to the peers and lecturer.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Latin American Rock Art
Course unit code	649813
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Maria Emília Simão Abreu
Learning outcomes of the course unit	On completion of this module the students should be able to recognise and understand the Latin-American rock art contexts and its articulation with populating systems.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. The Hunters and Gatherers Art. 2. The first art pottery. 3. Rock art and Ethnography.
Recommended or required Reading	- PROUS, A.(1992). <i>Arqueologia brasileira. Brasília</i> . Brasília: Universidade de Brasília
Planned learning activities and teaching methods	Lectures and debates.
Assessment Methods and criteria	Preparation and presentation of practical assignments.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Palaeolithic Art
Course unit code	649812
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Maria Emília Simão Abreu
Learning outcomes of the course unit	On completion of the module the students should be able to recognise the features of Palaeolithic Art and be familiar with stylistic, thematic and chronological issues.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. Is there art before Upper Palaeolithic? 2. History and characters of the discoveries 3. Palaeolithic art 4. Cave art 5. Open-air art 6. Mobile art 7. Other forms of art in the Palaeolithic 8. Geographic distribution 9. The dating problem 10. Palaeolithic art and the reconstruction of past life 11. Motivation, meaning, interpretation of Palaeolithic art in Europe and around the world. 12. Sites
Recommended or required Reading	- BEDNARIK, .. e Robert, G. (2007). <i>Rock art science: the scientific study of palaeoart</i> . New Delhi: Aryan Books International
Planned learning activities and teaching methods	Lectures and tutorials supported by Powerpoint and internet resources.
Assessment Methods and criteria	Continuous assessment. Essay: Two EuropeArt worksheets (Post-Palaeolithic Sites)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Peninsular Neolithic Art
Course unit code	649811
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Hipolito Collado Giraldo
Learning outcomes of the course unit	The students should become familiar with the rock art techniques, its location criteria and different approaches to interpreting its meaning. They will be introduced to the documentation techniques related with rock art.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	1. The origins of the neolithic rock art (RA) in the Iberian Peninsula. 2. Schematic rock art as a paradigm of societies characterised by production. 3. Distribution of schematic rock art. 4. Techniques, style and typologies in peninsular schematic RA. 5. Chronology of schematic RA in the Peninsula. 6. Interpretative theories. 7. The end of schematic RA. Introduction to rock art ...
Recommended or required Reading	- BALDELLOU, V. e UTRILLA, P. (1997). Las pinturas rupestres del barranco del Solencio (Bastarás-Casbas de Huesca). <i>Bolskan</i> , 14, pp. 43-60.
Planned learning activities and teaching methods	Intensive lectures.
Assessment Methods and criteria	Class performance (20%), Examination (35%), Assignment (45%).
Language of Instruction	Spanish Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Post-Palaeolithic Art
Course unit code	649814
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Maria Emília Simão Abreu
Learning outcomes of the course unit	On completion of this module the students should be familiar with the Post-palaeolithic rock art at world level: its distribution, chronology, periods and stages, cultural contexts historical reconstruction and its interpretation.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	The history of discoveries and the first studies, theories and researchers. Geographic distribution. Rock art in the five continents. The thematic diversity and different interpretations. Preservation, conservation and enhancement issues.
Recommended or required Reading	- BAHN, P.(2007). <i>Cave Art: A Guide to the Decorated Ice Age Caves of Europe</i> . London: Frances Lincoln Publishers
Planned learning activities and teaching methods	Lectures and tutorials supported by powerpoint and internet resources.
Assessment Methods and criteria	Continuous assessment. Essay: two EuropeArt worksheets (Post-Palaeolithic sites)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Prehistory of the Iberian Peninsula
Course unit code	649815
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Sara Cura
Learning outcomes of the course unit	The students should be able to analyse and acquire a critical mindset concerning key issues related with the Prehistoric settlement in the Iberian Peninsula based on case study analysis.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	The first human settlements in the Iberian Peninsula; The Lower Palaeolithic; The Middle Palaeolithic; The Upper Palaeolithic (the Modern Man); the Epipalaeolithic and the Mesolithic.
Recommended or required Reading	- Barandiarán, I. e Martí, M. e Maya, J. (1998). <i>Prehistoria de la Península Ibérica</i> . Barcelona: Ariel.
Planned learning activities and teaching methods	Lectures and tutorials.
Assessment Methods and criteria	Oral presentation.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Prehistory Seminar
Course unit code	649818
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	6
Name of Lecturer(s)	Luiz Miguel Oosterbeek
Learning outcomes of the course unit	Interdisciplinary articulation of the projects carried out by first-year Master's students and the projects undertaken by the second-year doctoral students. Debates on research issues.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course content	1. Introduction to the course and research units 2. Scientific areas and dissertations 3. Resources 4. Interdisciplinary work 5. Definition of the first research work on the characterisation of the local sites.
Recommended or required Reading	- .., ..to be defined on the basis of the students choice of theme. ∴ .
Planned learning activities and teaching methods	Lectures supported by debates and critical reading.
Assessment Methods and criteria	Individual assignment and class participation (Assignments will include: location, geographic and geomorphological context, description, contextual comparison, bibliography). Examination.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	What is Prehistoric Art: a journey through paint and chisel
Course unit code	649896
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	2
Name of Lecturer(s)	George Nash
Learning outcomes of the course unit	This course will look at the fundamental components that describe the execution and meaning of art. This medium of visual expression is a global phenomenon that dates back to at least 60,000 years when the first modern humans begin to colonise the globe.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Based on these general points, this course will look at the history of research, using a number of the major discoveries, the scholars involved and their various interpretations. In addition, the course will also look at the philosophical ideas that have been incorporated into prehistoric art in general, such as shamanism, entoptic phenomenon and totemism.
Recommended or required Reading	- Clottes, J.(2008). <i>Cave Art</i> . Londres: Phaidon Press
Planned learning activities and teaching methods	Teoric Class
Assessment Methods and criteria	Students will be assessed following the teaching component of the course.Students will be asked to present (in groups) their narrative; the rationale is to be as creative and expressive as possible.
Language of Instruction	English Mentoring in Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Elements of Palaeontology
Course unit code	649836
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	1.5
Name of Lecturer(s)	Artur Sá
Learning outcomes of the course unit	The students should acquire a good understanding of theoretical and practical aspects of palaeontology.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	I. Fundamentals of Paleontology II. Evolution and fossil record III. Origins and varieties of Metazoarians IV. Invertebrates V. Vertebrates VI. Microfossils VII. Fossil clues IX. Plants X. Field palaeontology
Recommended or required Reading	- BLACK, R.(1988). <i>The Elements of Palaeontology</i> . United Kingdom: Cambridge University Press
Planned learning activities and teaching methods	Lectures supported by practical activities to be developed in the Geology Museum and in the Palaeontology Laboratory.
Assessment Methods and criteria	Written assignment (max. 15 pages) on one of taught subjects chosen by the student.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Formation and Modification of Anthropic Deposits
Course unit code	649837
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Pierluigi Rosina
Learning outcomes of the course unit	Identification, description and study of the abiotic elements with an impact in archaeological deposits. Methodologies of customary analyses applied to prehistoric sites.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Introduction to geoarchaeology. Sedimentological analysis methods applied to the study of archaeological sites. The environmental and stratigraphical contexts. Fluvial, lacustrine, cave, and other deposits. Archaeometrical analysis. Sin- and post-sedimentary alterations.
Recommended or required Reading	- Butzer, K.(1982). <i>Archaeology as human ecology</i> . Cambridge: Cambridge University Press
Planned learning activities and teaching methods	Lectures, individual fieldwork.
Assessment Methods and criteria	Practical Assignment.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Geoarchaeology Seminar
Course unit code	3008111
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	6
Name of Lecturer(s)	Pierluigi Rosina
Learning outcomes of the course unit	Deepening of the geoarchaeologic themes and issues.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Sediment transport, facies of Miall, source of the materials, climatic indicators will be some of the treated arguments .
Recommended or required Reading	- Butzer, K.(1982). <i>Archaeology as human ecology</i> . Cambridge : Cambridge University Press
Planned learning activities and teaching methods	Application in practical work, individual or group of the already acquired concepts.
Assessment Methods and criteria	Specific work or exam
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Geodiversity and Archaeological Heritage
Course unit code	649838
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Pierluigi Rosina, João Baptista
Learning outcomes of the course unit	Identify geodiversity and archaeological heritage of an area. Analyze the values and the threats of geodiversity and archaeological heritage. Analyze the conservation measures of national and international geodiversity and heritage.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contents	General overview: the geodiversity and archaeological heritage - definitions. Value and threats of geodiversity and archaeological heritage. Geodiversity conservation and management. Integrating geodiversity with archaeological heritage.
Recommended or required Reading	- GRAY, M(). <i>Geodiversity and Geoconservation: What, Why, and How?</i> .Acedido em 14 de maio de 2013 em http://www.georgewright.org/223gray.pdf
Planned learning activities and teaching methods	Field trip and lectures.
Assessment Methods and criteria	Examination of fieldbook: 90% Class participation: 10%
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Geomorphology
Course unit code	649839
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Pierluigi Rosina
Learning outcomes of the course unit	Analysis of landscape and landforms. Identify the geodynamics processes, current and past, that have shaped the landscape. Be able to make direct observation of processes and landforms. Understanding the evolution of landscape. Identify geomorphic hazards.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Geomorphology: object and methods. Fundamental principles of relief analysis. Constitution and dynamic earth - from processes to form. Weathering, erosion and forms. Dynamic geomorphology: in situ alteration; forms and types of erosion. Structural geomorphology: forms of relief and geology. Climate and forms. Portuguese geomorphology.
Recommended or required Reading	- Summerfield, M.(1991). <i>Global Geomorphology</i> . England: Pearson Educations Limited
Planned learning activities and teaching methods	Lectures and map reading and interpretation.
Assessment Methods and criteria	Practical assignment.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Mineral and Energy Resources
Course unit code	649841
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	José Leitão
Learning outcomes of the course unit	On completion of this course the students should be able to understand the ecological balance mechanisms between human activity and the limitation of resources in terms of energy production and consumption.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Human auto-ecology. Mineral resources. Energy production and consumption.
Recommended or required Reading	- Evans, A.(1995). <i>Ore Geology and Industrial Minerals</i> . : Blackwell
Planned learning activities and teaching methods	Lectures and debates.
Assessment Methods and criteria	Assignment preparation and presentation.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Quaternary Geology Seminar
Course unit code	649842
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Pierluigi Rosina
Learning outcomes of the course unit	Schematic introduction to Quaternary. Chronological and historical framework. Illustrative examples.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. Introduction to the concept of geological time. Definition of Quaternary Period in the geological scale. 2. Chronostratigraphy and Paleoenvironment. Beyond stratigraphical issues. 3. The geological phenomena in the quaternary and its relationship with human occupation. Glaciations and its probable causes. Vulcanism. 4. Landscape changes and human evolution.
Recommended or required Reading	- CARVALHO, G. e FERREIRA, A. e SENNA-MARTINEZ, J. (1993). <i>O Quaternário em Portugal – Balanço e Perspectivas</i> . Lisboa: Edições Colibri
Planned learning activities and teaching methods	Theoretical and practical sessions supported by powerpoint and internet resources.
Assessment Methods and criteria	Continuous assessment. Preparation and presentation of a small group assignment.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Surface Processes
Course unit code	649840
Type of course unit	Optional
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Rui José dos Santos Teixeira
Learning outcomes of the course unit	On completion of the module the students should be able to analyse external geodynamic processes; identify and analyse environmental hazards linked to surface geodynamic processes and human activities and understand the causes of climate changes.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contents	1- The Earth and its constituent materials 2- Internal geodynamic processes with external manifestations 3- The impact of surface geodynamic processes and human activity on the terrestrial environment. 4- The climate of a changing planet.
Recommended or required Reading	- Skinner, B. e Porter, S. e Parker, J. (2004). <i>Dynamic earth. An introduction to Physical Geology</i> . United States of America: John Wiley & Sons, Inc
Planned learning activities and teaching methods	- Presentation and discussion of power points on each course subject matter. - Projection and discussion of short films - Group assignment focused on the preparation of questionnaires.
Assessment Methods and criteria	Final exam (50%) Preparation of individual assignment (25%) + presentation (25%)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Prehistoric Art
Course unit code	64982
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	3
Name of Lecturer(s)	Luiz Miguel Oosterbeek
Learning outcomes of the course unit	On completion of the course the students should have acquired general knowledge of world prehistoric art, rock art and mobile art, all cultural eras and horizons as well as world sites.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Introduction to prehistoric art. Characterisation of prehistoric art: rock art, moveable art, megalithic art. Statues, stelae, sculptures and other forms of prehistoric art. The discoveries and the first studies, theories and researchers. Geographic distribution. The rock art in the five continents. The concept of zone, area, set and complex. Dating methods.
Recommended or required Reading	- BAHN, P.(1998). <i>The Cambridge Illustrated History of Prehistoric Art</i> . Cambridge: Cambridge University Press.
Planned learning activities and teaching methods	Theoretical and practical sessions supported by internet resources.
Assessment Methods and criteria	Essay: written component (50%), oral component (50%)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Dissertation
Course unit code	649883
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	Annual
Number of ECTS credits allocated	40
Name of Lecturer(s)	Luis Filipe Neves Carreira dos Santos Pierluigi Rosina Luiz Miguel Oosterbeek
Learning outcomes of the course unit	The students should be able to use the knowledge and skills acquired during the degree to undertake an original research project work and to communicate the results of investigation.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Have a pass in all programme modules.
Recommended optional programme componentes	Not applicable.
Course contentes	Contents to be defined on the basis of the students choice of theme.
Recommended or required Reading	- ., ..to be defined on the basis of the students choice of theme. .: .
Planned learning activities and teaching methods	Tutorials.
Assessment Methods and criteria	Written dissertation and its public discussion.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

