



Study Plan

School: School of Social Sciences
Degree: Master
Course: Archeology and Environment (cód. 454)

Specialization Environmental Impact Assessment

1st Year - 1st Semester

Specialization Environmental Impact Assessment

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS10509M	Digital Techniques for modelling and visualization of archaeological data	Archeology	3	Semester	78
HIS10510M	Megalithic Culture	Archeology	3	Semester	78
HIS10511M	Archaeology – Culture and Context	Archeology	3	Semester	78
HIS10512M	Methods and Techniques of Archaeological Excavation	Archeology	6	Semester	156
HIS10513M	Archaeological Sites Descriptor - Methods and Techniques for Impact Assessment	Archeology	6	Semester	156
HIS10514M	Religious and Artistic Heritage	History	6	Semester	156
HIS10515M	Research Dissertation / Internship Report I	Archeology	3	Semester	78

1st Year - 2nd Semester

Specialization Environmental Impact Assessment

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
PAO10516M	Geographic Information Systems and Heritage I	Environment and Ecology Sciences	6	Semester	156
HIS10517M	Methods and Techniques of Archaeological Field Survey and Analysis I	Archeology	6	Semester	156
HIS10518M	The History of Archaeology in Portugal I	Archeology	3	Semester	78
GEO10519M	Introduction to Geological Materials	Geosciences	6	Semester	156
HIS10520M	Research Dissertation / Internship Report II	Archeology	3	Semester	78

Group of Options

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS10524M	Laboratory and Desk-based Research in Archaeology	Archeology	3	Semester	78
HIS10525M	Archaeology Sub-Saharan Africa	Archeology	3	Semester	78
PAO10526M	Former Ecology Elements	Environment and Ecology Sciences	6	Semester	156
PAO10527M	Landscape Reading and Understanding	Landscape Arts and Techniques	6	Semester	156
PAO10528M	Geographical Information Systems and Heritage II	Environment and Ecology Sciences	6	Semester	156



**2nd Year - 3rd Semester
Specialization Environmental Impact Assessment**

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS10521M	Methods and Techniques of Archaeological Field Survey and Analysis II	Archeology	9	Semester	234
HIS10522M	The History of Archaeology in Portugal II	Archeology	3	Semester	78
HIS10523M	Research Dissertation / Internship Report III	Archeology	9	Semester	234
Group of Options					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
HIS10529M	Pre rural and protohistorical : structures and landscapes	Archeology	3	Semester	78
HIS10530M	The World Rural Roman and Post Roman : Structures and Landscapes	Archeology	3	Semester	78
HIS10531M	Urban Archaeology	Archeology	3	Semester	78
Group of Free Options					

**2nd Year - 4th Semester
Specialization Environmental Impact Assessment**

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Mandatory alternatives					
Component code	Name	Scientific Area Field	ECTS	Duration	Hours
	Dissertation				
	Internship				

Conditions for obtaining the Degree:

*** TRANSLATE ME: Para aprovação na componente curricular é necessário a aprovação (através de avaliação ou creditação) das seguintes unidades curriculares:
 1º Semestre: {\ }newline
 6 UC obrigatórias num total de 27 Ects
 2º Semestre: {\ }newline
 4 UC obrigatórias num total de 21 Ects {\ }newline
 1 ou 2 UC optativa num total de 6 Ects
 3º Semestre {\ }newline
 2 UC obrigatórias num total de 12 Ects
 1 UC optativa num total de 3 Ects
 1 UC optativa livre de 6 ECTS de qualquer Área Científica de um 2º ciclo da Universidade de Évora
 {\ }newline
 Para obtenção do grau, é necessário também a aprovação na Dissertação ou Relatório de Estágio, com um total de 45ECTS que integra:
 1º semestre: UC Investigação Dissertação/Relatório Estágio I - 3 ECTS
 2º semestre UC UC Investigação Dissertação/Relatório Estágio II - 3 ECTS
 3º semestre: UC Investigação Dissertação/Relatório Estágio III - 9 ECTS
 e a aprovação na defesa em provas publicas da Dissertação ou Relatório de Estágio com 30 ECTS ***

Conditions for obtaining the Degree:

*** TRANSLATE ME: Para aprovação na componente curricular é necessário a aprovação (através de avaliação ou creditação) das seguintes unidades curriculares:
 {\ }newline
 1º Semestre: 7 UC obrigatórias num total de 30 ECTS
 {\ }newline
 2º Semestre: 5 UC obrigatórias num total de 21 ECTS e UC's optativas a escolher de entre as indicadas {\ }newline
 no quadro n.º 8 num total de 6 ECTS
 {\ }newline
 3º Semestre: 3 UC's obrigatórias num total de 21 ECTS e 1 UC optativa a escolher de entre as indicadas no {\ }newline
 quadro n.º 9 num total de 3 ECTS e UC optativa Livre num total de 6 ECTS
 {\ }newline
 Para obtenção do grau, é necessário também a aprovação na Dissertação ou Relatório de Estágio, com um total de 30 ECTS. ***

Program Contents



[Back](#)

Digital Techniques for modelling and visualization of archaeological data (HIS10509M)

Introduction to Computers applied to archeology.

Components and features of different types of programs;

Adobe - Photoshop CS;

Adobe - Illustrator CS;

Corel

[Back](#)

Megalithic Culture (HIS10510M)

1. The Megalithism

Megalithism and monumentality.

Megalithism and symbolic behavior.

1. The emergence and evolution of megaliths: the different explanatory models.

2. The megalithic funerary not.

The different types of monuments.

The interpretative models.

3. The megalithic burial.

The Portuguese case: its diversity.

The megalithic burial in southern Portugal.

[Back](#)

Archaeology – Culture and Context (HIS10511M)

The telltale traces of human activity over time:

1. Prehistory old;

2. Prehistory recent;

3. Protohistory;

4. Roman period;

5. Medieval and modern period;

6. Contemporary period.

[Back](#)

Methods and Techniques of Archaeological Excavation (HIS10512M)

The different types of excavation: excavation of the survey area;

Excavations / polls minimization;

The Drawing Field;

Reports: text, maps, photographs, drawings, field

The scientific articles

[Back](#)

Archaeological Sites Descriptor - Methods and Techniques for Impact Assessment (HIS10513M)

1 The legislative framework of the Environmental Impact Assessment: national and Community legislation. Specific legislation in the field of heritage. Critical analysis of existing legislation.

2 The legal instruments of Planning

3 Environmental Impact Study: General Steps

5. Specific methodology for estimating the impact on heritage:

6. The Descriptor Archaeological heritage

7. The archaeological prospection in EIAs

8. The Post-Assessmen Environmental Impact t: compliance assessment, monitoring and audits.



[Back](#)

Religious and Artistic Heritage (HIS10514M)

Module I - Religious Heritage.

1 - Concept of Religious Heritage

2 - The meaning of sacred space

3 - Built Religious Heritage

3.1. The places of cult and the monastic buildings: implementation on the ground and importance in the definition of urban networks

3.2. Religious heritage in rural areas

4 - Sacred Landscapes

5 - Mobile and Intangible religious heritage

Module II - Artistic Heritage.

1 - The building as a programmatic purpose: Emergency and definition of the theoretical themes of the building, its scholarly approach in Portuguese art and the question of discovery and recovery of monumentality.

2 - The development of constructive intervention and consolidation of programs in architecture in Portugal:

2.1. Perspective of development of works in the medieval and modern cycles. The forms, treaties and architects.

2.2. Built heritage and integrated heritage.

3 - The case study of the behaviors and forms of classical architecture of sécs. XVI-XVIII in Alentejo.

[Back](#)

Research Dissertation / Internship Report I (HIS10515M)

Bibliographic search: evaluate the credibility of bibliographical sources, use information technology to carry out literature searches, databases creation of bibliographic searches.

Laboratory work schedule -experimental design with the objective of obtaining statistically relevant data. The ethical aspects of conducting scientific research.

Preparation reports based on scientific findings. Ethical issues related to the preparation of the dissertation / internship report and scientific articles in peer review journals.

[Back](#)

Geographic Information Systems and Heritage I (PAO10516M)

1) What is a GIS? - Introduction, Components and functionalities

2) Data models: vectorial; raster ; tridimensional

3) Topology concept

4) How to create a GIS projet

5) Integration and conversion of spatial data

6) Visualization and inquiry of spatial data

7) Database - how to work with attribute tables?

8) Edition of vector and tables

9) Data georeferencing

10) Creating layouts

11) Data geoprocessing

[Back](#)

Methods and Techniques of Archaeological Field Survey and Analysis I (HIS10517M)

1. The different types of cartography;

2. The different techniques and methods of archaeological prospection;

3. The gaps, problems and / or effectiveness of archaeological surveys.

4. Territories and landscapes



[Back](#)

The History of Archaeology in Portugal I (HIS10518M)

The development of archeology as a discipline in Portugal: the sixteenth century to century. XXI.

- The pioneers
- The antique
- The first researchers
- Archaeology Business
- Sites and Artifacts

[Back](#)

Introduction to Geological Materials (GEO10519M)

A. introductory issues

1. Geology, materials and archaeology
2. Earth systems
3. Properties of Minerals

Mineral identification by macroscopic methods

Petrographic Analyses

Physical Methods of Identification

Element Analyses

iv. Color of Minerals

B- Classification and identification of Rocks

1. Introduction
 2. Rock Classification and Properties
 3. Igneous Rocks
 - i. Magma and volcanism
 - ii. Color, Mineralogy and texture
 - iii. Extrusive Igneous Rocks
 - iv. Intrusive Igneous Rocks
 4. Sedimentary Rocks
 - i. Weathering, erosion, transport and deposition (or precipitation)
 - ii. Carbonate Sedimentary Rocks
 - iii. Terrigenous Sedimentary Rocks
 - iv. Surface Deposits and soils
 5. Metamorphic Rocks
 - i. Metamorphism
 - ii. Mineralogy and texture
 6. Ores
 - i. Metals and Related Minerals and Ores
 - ii. The more important mineral deposits in Portugal
- C. Products and raw materials
1. Lithic Materials
 2. Artificial rocks
- Binder and aggregates
3. Color and pigments
 4. Glass



[Back](#)

Research Dissertation / Internship Report II (HIS10520M)

The Unit will be structured according to the following stages:

- Field and Laboratory Research activities related with the detailed research project proposed by each ARCHMAT student an approved by the ARCHMAT Consortium Committee during the Introduction to Thesis III unit in the 3rd semester. The thesis work will be conducted in collaboration between one of the three full members and one associated member and could involve a placement period at one of the associated partners institutions. Each student will be assigned a tutor for themaster thesis project from one of three core Universities (UE, AUTH or UNIROMA1) which can have the assistance of one co-Tutor from one of the non-degree awarding associated members according to the need of the collaborative project chosen.
- Thesis writing
- Thesis defense

[Back](#)

Laboratory and Desk-based Research in Archaeology (HIS10524M)

1. The different types of archaeological materials, from prehistory to the present.
2. Problems of treatment, conservation and restoration of archaeological materials;
3. Description and inventory. Construction of tables and typologies.
4. The graphic treatment of texts, drawings and archaeological materials.

[Back](#)

Archaeology Sub-Saharan Africa (HIS10525M)

1. The territory and the environment
2. Research methodologies
3. The African prehistory
4. The major civilizations
5. urbanism

[Back](#)

Former Ecology Elements (PAO10526M)

PART I – Man as environmental changing agent

1. The Environment and the Man: the environment determinism.
2. Economics History and Ecology History: a complex inter-relation.
3. Nature resources exploitation, changing of nature and environmental impact.
4. Air, water and soil contamination: the first marks to an environmental impact history.
5. Technological evolution and risk management.
6. Cultural landscape “production” as a result of eco- and anthroposystems dynamics.
7. The city – rural areas traditional conflict.

PART II – Environmental Archaeology basic elements

1. Perspectives of use of environmental archaeological information
2. Basic techno-scientific domains and paleoenvironmental contribution:
 - a. Geoarchaeology;
 - b. Palynology;
 - c. Carpology;
 - d. Anthracology;
 - e. Archaeozoology and Paleontology
 - f. Other domains.

Some predictions on the future development of these analytic tools.



[Back](#)

Landscape Reading and Understanding (PAO10527M)

Modules: Natural Systems and Landscape, Landscape and Culture, Perception and Representation. Introduction to Landscape Research. The natural system and the complex relationships between various structural systems. Morphology of the landscape. Variations in spatial and temporal scale. Paradigm nature / culture. Anthropocentric dimension. Cultures and landscape construction. Systems, functions and uses. Relation between the concept of landscape and representation. Site, place and landscape. Reading and interpretation. The specificity of the landscape as an object of research. Interdisciplinary and contextualization. Attitude, innovation and creativity. Organization of research.

[Back](#)

Geographical Information Systems and Heritage II (PAO10528M)

Applications to heritage:

1. Acquisition and integration of heritage data in GIS;
2. Georeferencing vectors and rasters;
3. Elaboration of thematic maps;
4. Spatial analysis

[Back](#)

Methods and Techniques of Archaeological Field Survey and Analysis II (HIS10521M)

Practical work in the field, in order to identify structures and archaeological materials to improve methods and techniques learned in Unit I.

Using satellite guidance devices (GPS) guidance practice.

[Back](#)

Research Dissertation / Internship Report III (HIS10523M)

After successful completion of the syllabus of this unit the students will have acquired the comprehensive knowledge and skills required to draft in detail all stages of their thesis proposal with relevant timeline, deliverable and milestone and therefore be in the position to start and successfully carry out all phases of their thesis project in the following and last semester of their ARCHMAT Erasmus Mundus Master Course. The same skills and competences on research project drafting will prove extremely useful also in their future quest for employment opportunities whether in the academic (PhD) and/or professional sectors

[Back](#)

Pre rural and protohistorical : structures and landscapes (HIS10529M)

1. implantation

- a) The meanders of water lines
- b) The natural shelters
- c) The hills
- d) The plains

2. Defensibility of some local or not supported by defensive systems marked the landscape especially after the Neolithic.

3. structures housing

Understanding the various types of habitat taking into account their chronology and landscape where fall is the essence of this discipline program.



[Back](#)

The World Rural Roman and Post Roman : Structures and Landscapes (HIS10530M)

1. General framework: the material world as an expression of a civilization. The sources, the state of research and its contents.
2. The ways of living and living in the South West peninsular: reflections from Rome
 - 2.1. The architecture and planning: thinking, build and live in the countryside.
 - 2.2. Life in the countryside: the rural landscape according to the precepts of agronomists.
 - 2.3. The modes of circular pathways Roman according to the existing routes.
3. Religion and death in the Roman world
4. Mythology, culture and art through the classical sources and the archaeological
The experience. Rites of passage and the funerary world
5. The discourse of decadence.
The end of the Roman Empire and the emergence of Christianity: the contrast between the disaster (d) in the written sources and archaeological evidence of the transition.
The rejection of the "barbarian"
The triumph of Christianity
6. The and medieval Islamic world: for a history of agriculture and architecture

[Back](#)

Urban Archaeology (HIS10531M)

1. Urban Archaeology: the basics
2. The urban evolution: the Roman city to the contemporary city
 - 2.1. The city from the literature
 - 2.2. The archaeological record
3. The urban planning
4. The archaeological intervention
5. Security at work