ECTS Information Package: Degree Programme

Master?s Degree in

ARCHAEOLOGICAL TECHNIQUES

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A - General Description

Programme Title - Mestrado em Técnicas de Arqueologia

Qualification awarded - Master?s Degree in Archaeological Techniques

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

Specific admission requirements

<u>General</u>

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.

<u>Specific</u>

Without prejudice to the general admission requirements, the following candidates are eligible for entry onto the master's programme in Archaeological Techniques:

. Holders of a licenciado degree or legally equivalent qualification in archaeology, history, anthropology, biology, geology and related areas;

. Holders of a foreign higher degree in the abovementioned areas awarded on completion of a first-cycle programme organised in the framework of the Bologna Process;

. Holders of a foreign higher degree in the abovementioned areas which is deemed to meet the requirements of a licenciado degree by the ESTT/IPT Technical-Scientific Committee;

· Holders of a bacharel degree in the abovementioned areas whose scientific and professional curriculum is deemed by the ESTT-IPT Scientific-Technical Committee as appropriate to access this course of study;

· Holders of an academic, scientific or professional curriculum in the abovementioned areas which is deemed by the ESTT-IPT Scientific-Technical Committee as appropriate to access this course of study.

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

Allocation of credits to individuals holding a licenciado degree in Archaeology or similar programs prior to the Bologna process with a duration equivalent to 300 ECTS credits (5 years of study) is formally analysed on a case-to-case basis.

Qualification requirements and regulations:

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

In order to complete this second-cycle degree it is necessary to accumulate 120 ECTS credits in two years as according to the course curriculum.

Each ECTS credit corresponds to 27 hours of work.

Profile of the program:
The main objective is to train technicians in the field of archeology and Heritage able to carry on independently the tasks typically required during field work and laboratory. So the training shall comprise quite practical applications of the different methods of data collection in archeology and heritage with the most modern instruments. Graduates will be able to prepare reports and projects.

Key learning outcomes:

Competences to be acquired by students comprise resolution of problems related with the sustainable exploitation and management of archaeological resources including:

- Identify and characterise archaeological sites and contexts in their environmental and cultural context contributing to a detailed survey of national archaeological resources;
- Provide the country with qualified human resources in areas of expertise supported by a network of laboratory infrastructures that may make use of them later;
- 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;
- 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;
- Use key computer and telematics tools in their different application domains.

Occupational profiles of graduates with examples:

Holders of the master's degree in Archaeological Techniques are prepared among others to perform as:

· Middle managers in public bodies, museums, municipalities, etc.);

· Collaborators or responsible for archaeological monitoring/intervention activities;

· Members of multidisciplinary teams working in laboratories engaged in the analysis of archaeological artifacts or ecofacts.

Access to further studies:

The master's degree in Archaeological Techniques gives access to third-cycle programs in the area of Archaeology, Anthropology, History and other related areas as according to applicable admission requirements.

Course structure diagram with credits

Course code	Course Title	Year	Semester	Credits
3008131	Archaeological Field Techniques	1	S1	6
3008133	Archaeological Recording Techniques	1	S1	3
3008134	Foreign Language	1	S1	3
3008135	Mapping techniques	1	S1	6
3008132	Office and Laboratory Techniques	1	S1	6
3008136	Themes and Historical Contexts in Archaeology	1	S1	6
3008148	Social and Heritage Enhancement Techniques	2	S1	6

Course code	Course Title	Year	Semester	Credits
3008141	Archaeometry	1	S2	3
3008154		2	S2	30

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

Course code	Course Title	Year	Semester	Credits
3008145	Complex and global landscape management: integrated management and cultural tourism	1	S2	6
3008144	Concepts and Theories: protecting cultural landscapes and intangibility as a landscape	1	S2	6
3008146	Dynamic management of cultural landscapes: reconstruction of cultural landscapes, quality control and applied project	1	S2	6
3008147	Interdisciplinarity and Interculturality: European Culture, Language, Professional and Collaborative Projects	1	S2	6
3008143	Tools and methods: virtual reality, GIS and ICT	1	S2	6
3008158		2	A	48

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

Examination regulations, assessment and grading

<u>General</u>

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.

<u>Specific</u>

 The students must develop an original project or undertake professional internship and associated report. Both the project and the internship report must be submitted for appreciation to an examination panel appointed for that purpose.

Graduation requirements:

Completion of the programme 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.

Mode of study:

Full- and Part time.

Program director or equivalente

<u>Director</u>: Pierluigi Rosina
<u>Erasmus coordinator</u>: Pierluigi Rosina

B - Description of individual course units

Course unit title	Archaeological Field Techniques
Course unit code	3008131
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	
Learning outcomes of the course unit	Understand and learn the archaeological field methods. The module aims to provide students with the practical learning of the techniques of archaeological intervention, intrusive and non-intrusive, as well as the work/methods and techniques of analysis, interpretation and record.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	Planning and organisation 2.Assembling grid reference points. Mapping, surveying and spatial registration. 3.Open-area excavation / borehole opening 4.Data survey, Harris matrices, plans and profiles, manual and technical photographic recording techniques 5.Data treatment, study and interpretation of remains 6. Archaeographic interpretation
Recommended or required Reading	- Barker, P.(1982). *Techniques of archaeological excavation*. Londres, : Batsford - Renfrew, C. e Bahn, P. (1991). *Arqueology: Theories, Methods and Practice*. Londres: Thames and Hudson - Harris, E.(1993). *Princípios de Estratigrafía Arqueológica*. Barcelona: Crítica, Colección Crítica Arqueologia,
Planned learning activities and teaching methods	Theoretical classes including case study analysis. The practical component is delivered on site.
Assessment Methods and criteria	Assessment is based on a final report (50%) and performance on site (50%). The students elligible to sit the examination have to complete a written test (50%) and a practical test (50%).
Language of Instruction	Portuguese	**Mentoring in** English
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Archaeological Recording Techniques
Course unit code	3008133
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	3
Name of Lecturer(s)	
Learning outcomes of the course unit	The students will be provided with the basics of the techniques used in recording archaeological fieldwork.
Mode of delivery	b-learning
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	Definition of field recording in archaeology; Field recording in the context of research work, prevention and in archaeological impact studies; different types of field recording; the main methods of archaeological excavation and the specificity of each recording.
Recommended or required Reading	- Frederic, L.(1980). *Manual Prático de Arqueologia*. (pp. 1-430). Coimbra: Edições Almedina - Sousa, F.(1999). *Introdução ao Desenho Arqueológico*. (Vol. 1). (pp. 1-104). Almada: C. M. Almada - Nunes, M.(2005). *O Desenho na Arqueologia*. (Vol. 1). (pp. 1-330). Coimbra: FL- UC - Gordon-Child, V.(1990). *Introdução à Arqueologia*. (Vol. 1). (pp. 1-164). Lisboa: P. Europa-América
Planned learning activities and teaching methods	E-learning
Assessment Methods and criteria	Assessment includes class attendance (15%), class performance (20%) and a final assignment (65%). Minimum pass mark:10 out of 20.
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Foreign Language
Course unit code	3008134
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	3
Name of Lecturer(s)	
Learning outcomes of the course unit	On completion of the module, students are expected to - master the tools that will enable them to communicate efficiently with the world around them, namely in the labour environment; - establish a link between the teaching of language and communication and the apprehension of specific knowledge;
Mode of delivery	b-learning
Prerequisites and co-requisites	Intermediate level of language proficiency.
Recommended optional programme componentes	Not applicable
Course contentes	English as the language of science; - Different cultures; - Technical English in archaeology; - Academic English.
Recommended or required Reading	- Raimes, A.(2007). *How English Works*. (Vol. __). Cambridge: Cambridge University Press - McCarthy, M. e O'Dell, F. (2016). *Academic Vocabulary in Use*. Cambridge: Cambridge University Press - British Council, _.(2014). *English for Academics*. (Vol. 1 and 2). Cambridge: Cambridge University Press
Planned learning activities and teaching methods	Theoretical and practical lessons. Distance learning classes include practical work (mainly oral) in order to acquire the necessary knowledge to learn and consolidate the English language.
Assessment Methods and criteria	Assessment is continuous, students can only miss two classes in the semester.
Language of Instruction	English | **Mentoring in** Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Mapping techniques
Course unit code	3008135
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	
Learning outcomes of the course unit	An introduction to mapping survey techniques and respective rules, through fundamental notions and basic concepts of geodesy, mapping, photogrammetry and remote sensing.
Mode of delivery	b-learning
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	1- Mapping definitions and notions 2. Mapping rules and standards 3. Coordinate systems 4. Techniques for the production of cartographic information 5.Techniques for the representation of cartographic information
Recommended or required Reading	- GASPAR, J.(2004). *Dicionário de ciências cartográficas.*. Lisboa: LIDEL - Gaspar, J.(2000). *Cartas e projecções cartográficas*. Lisboa: LIDEL - Instituto Geográfico do Exército, ..(2000). *Noções Gerais de Geodesia. , Lisboa*. Lisboa: Instituto Geográfico do Exército
Planned learning activities and teaching methods	E-learning sessions with presentation of practical cases.
Assessment Methods and criteria	The teaching methodology aims the integrated development of the knowledge referred to in the syllabus and its implementation through the objectives stipulated. The aim is to enhance knowledge, understanding and skills of mapping techniques and its various uses. Skill cquisition should be enabled through field exercises that require the knowledge of appropriate techniques for each situation. Individual assignment 80% + fieldwork (face-to-face) 20%.
Language of Instruction	Portuguese | **Mentoring in** Italian
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Office and Laboratory Techniques
Course unit code	3008132
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	
Learning outcomes of the course unit	Techniques and methods of laboratory analysis of soils. Correct and appropriate use of the most commonly used apparatus and instruments in the various fields related to archaeology.
Mode of delivery	b-learning
Prerequisites and co-requisites	NA
Recommended optional programme componentes	NA
Course contentes	Subject content includes: A.Safety rules in laboratories; B.Laboratory equipment and its specific use; C.Notions of general chemistry; D.Granulometric and gravimetric soil analysis; E.Analysis of the sedimentological composition of soils; F.Basic notions of sampling
Recommended or required Reading	
Planned learning activities and teaching methods	I Thematic presentations of each individual theme; II tutorials explaining methodologies and equipments; III Practical lessons on site; IV Laboratory practices.
Assessment Methods and criteria	Assessment is based on the following components: a laboratory report (30%), an integrated assignment (60%), practical activities (10%).
Language of Instruction	Portuguese
Work placement(s)	NA

B - Description of individual course units

Course unit title	Themes and Historical Contexts in Archaeology
Course unit code	3008136
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	
Learning outcomes of the course unit	Provide the basics of hostoric themes in archaeology.
Mode of delivery	b-learning
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	Course Introduction History and Archaeology Main historical themes The historical recording in archaeology
Recommended or required Reading	- Autores, V.(2010). *História Universal*. (Vol. 1-20). Lisboa: Público - Saraiva, C.(2007). Um museu debaixo de água: o caso da Luz .*Etnofgráfica*, *11*, pp. 441-470. - Sofia, S.(2017). Arqueologia da Arquitetura da Sé de Lisboa.*Açafa*, *-2016*, pp. 143-164.
Planned learning activities and teaching methods	E-learning
Assessment Methods and criteria	Assessment is based on an assignment.
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Social and Heritage Enhancement Techniques
Course unit code	3008148
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	
Learning outcomes of the course unit	To provide students with the basic knowledge of social and heritage development techniques
Mode of delivery	b-learning
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	Heritage Conservation, Management and Enhancement Natural, Historical and Cultural Heritage Heritage Resources Inventory Methods and Techniques Cultural Heritage
Recommended or required Reading	- Santos, R.(1927). *Guia de Portugal*. (Vol. I - V). (pp. 1-600). Lisboa: Biblioteca Nacional - Babelon, C.(1994). *La Notion de Patrimoine*. (Vol. I). (pp. 1-400). Paris: Liana Levi - Guillaume, M.(2003). *A política do Património*. (Vol. 1). (pp. 1-300). Porto: Campo das Letras - Vários, V.(2018). Vários.*Earth Heritage*, -49, pp. 1-100.
Planned learning activities and teaching methods	E-learning
Assessment Methods and criteria	Assessment is based on a final assignment.
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Archaeometry
Course unit code	3008141
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	3
Name of Lecturer(s)	
Learning outcomes of the course unit	NA
Mode of delivery	
Prerequisites and co-requisites	NA
Recommended optional programme componentes	NA
Course contentes	NA
Recommended or required Reading	
Planned learning activities and teaching methods	NA
Assessment Methods and criteria	NA
Language of Instruction	Portuguese
Work placement(s)	NA

B - Description of individual course units

Course unit title	Complex and global landscape management: integrated management and cultural tourism
Course unit code	3008145
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	Luiz Miguel Oosterbeek Silvério Manuel Domingues Figueiredo Luís Manuel Mota dos Santos Figueira
Learning outcomes of the course unit	NA
Mode of delivery	Face-to-face
Prerequisites and co-requisites	NA
Recommended optional programme componentes	NA
Course contentes	NA
Recommended or required Reading	- Oosterbeek, L.(2007). *Arqueologia Património e Gestão do Território? Polémica.*. (Vol. 1). Brasil: Ed. Halilia - Oosterbeek, L.(2001). *Direito ao património para uma gestão integrada do Território*. (Vol. 1). Tomar: IPT - Gergel, S. e Turner, M. (2007). *Landscape ecology. A practical guide to concepts and techniques.*. (Vol. 1). New York: Springer - Bruns, D. e Kuhne, O. (2015). *Landscape culture. Culturing landscapes. The differentiated construction of landscapes*. (Vol. 1). New York: sringer
Planned learning activities and teaching methods	NA
Assessment Methods and criteria	NA
Language of Instruction	Portuguese	**Mentoring in** English
Work placement(s)	NA

B - Description of individual course units

Course unit title	Concepts and Theories: protecting cultural landscapes and intangibility as a landscape
Course unit code	3008144
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	Luiz Miguel Oosterbeek Luís Manuel Mota dos Santos Figueira
Learning outcomes of the course unit	A. Study concepts and theories with professional interest.B. Understanding the relevance of the link between local governance of territory and international doctrine C. Contribute to the study on the value of tangible and intangible components of the landscape. D. Integrated approaches to landsc.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	NA
Recommended optional programme componentes	NA
Course contentes	1. Introduction to the concept of Heritage Protection and its practical extension. 2. The cultural landscape and the economic and adaptation dynamics. 3. Completion of a written assignment with presentation.
Recommended or required Reading	- Mitchell, N. e Rössler, M. e Ttricaud, P. (2009). *World Heritage Cultural Landscapes - A Handbook for Conservation and Management*. Paris: World Heritage Centre UNESCO - http://whc.unesco.org/documents/publi_wh_papers_26_en.pdf - Taylor, K.(2008). *Landscape and Memory: cultural landscapes, intangible values and some thoughts on Asia.*. Penang: http://penanginstitute.org/v3/files/Penang_Cult_Lsc_Public_lecture.pdf - Wu, J.(2010). Landscape of culture and culture of landscape: does landscape ecology need culture?. *Landscape Ecol. http://leml.asu.edu/jingle/Web_Pages/Wu_Pubs/PDF_Files/Wu-2010-Cultural%20landscapes.pdf*, 25, pp. 1147-1150. - Munárriz, L.(2011). The Cultural Landscape Concept.*Aibr-Revista de Antropología Iberoamericana - www.aibr.org/antropologia/06v01/articulos/060104e.pdf*, 6, pp. 57-80.
Planned learning activities and teaching methods	Lectures, debates and site visits.
Assessment Methods and criteria	Continuous assessment with work production and presentation. This work may also be submitted during the exam period.
Language of Instruction	Portuguese
Work placement(s)	NA

B - Description of individual course units

Course unit title	Dynamic management of cultural landscapes: reconstruction of cultural landscapes, quality control and applied project
Course unit code	3008146
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	Luis Filipe Neves Carreira dos Santos Pierluigi Rosina Luiz Miguel Oosterbeek
Learning outcomes of the course unit	Build territorial arguments based on conservation, cultural and natural approaches, thus understanding their relationship with territories. Apply integrated landscape management principles as a reference approach.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	NA
Recommended optional programme componentes	NA
Course contentes	Environmental reconstructions of the past. Animal and plant evolution during the Quaternary. Spatial distribution of environments (Biogeography) and temporal variations (Biostratigraphy). Archaeological organic samples analytical methods. Prepare, plan and monitor a project. Main aspects of landscape construction.
Recommended or required Reading	- Burel, F. e Baudry, J. (2004). *Landscape Ecology, Concepts, Methods and Applications*. (Vol. 1). (pp. 362). Enfield USA: Science publishers - Wallach, B.(2005). *Understanding the cultural landscape*. (Vol. 1). (pp. 406). New York - London: Theguilford press - Plieninger, T. e Bieling, C. (2012). *Resilience and the cultural landscape, understanding and managing change in human-shaped environments*. (Vol. 1). (pp. 343). Cambridge UK: Cambridge University Press
Planned learning activities and teaching methods	1 - Oral presentation of bibliographic research topics; 2 - Written essay; 3 - Field work.
Assessment Methods and criteria	Students will have to complete 3 written essays. A mark of ten out of 20 exempts students from the exam.
Language of Instruction	English | **Mentoring in** French
Work placement(s)	NA

B - Description of individual course units

Course unit title	Interdisciplinarity and Interculturality: European Culture, Language, Professional and Collaborative Projects
Course unit code	3008147
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	Pierluigi Rosina Silvério Manuel Domingues Figueiredo Hermínia Maria Pimenta Ferreira Sol
Learning outcomes of the course unit	To provide students with: language tools which allow them to communicate in Portuguese language; specificities of European identity and thought. In articulation with Erasmus Mundus partners, the collaborative project will have field trips for students to understand differences between partners.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	1 - Introduction to the Portuguese language; 2 - Introduction to European culture; 3 - Interdisciplinarity and Interculturality.
Recommended or required Reading	- Alarcão, J.(1996). *Para uma Conciliação das Arqueologias*. (Vol. I). Lisboa: Afrontamento - S.A., S.(2010). *Gramática Moderna da Língua Portuguesa*. (Vol. I). Lisboa: Escolar Editora - S.A., S.(2009). *Prontuário da Língua Portuguesa*. (Vol. I). Lisboa: Escolar Editora
Planned learning activities and teaching methods	Theoretical-practical classes. Written and oral practice in all lessons; Field trips.
Assessment Methods and criteria	The evaluation consists of continuous work/final reports, referring to each of the uc components. Minimum score for exam and pass waiver is 10 values, defined by the average evaluation of each of the UC components. The exam will also consist of a work, which includes the 3 components of the UC, and whose minimum value for approval is 10 values.
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Tools and methods: virtual reality, GIS and ICT
Course unit code	3008143
Type of course unit	Compulsory
Level of Course unit	Second Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	Jorge Morarji dos Remédios Dias Mascarenhas Rita Ribeiro de Carvalho Ferreira Anastácio
Learning outcomes of the course unit	Students should acquire knowledge in the representation, perception and functioning of urban areas and surrounding areas, as well as new transformations as a result of globalization, through the use of new technologies.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not Applicable
Recommended optional programme componentes	Not Applicable
Course contentes	1. Characterization and operation of urban areas and surrounding territories 2. Impacts of globalization on urban areas and surrounding areas and their reconversion 3. Instruments and 3D representation tools 4. Instruments and Geographic Information representation tools 5. Mapping applied to cultural heritage management
Recommended or required Reading	- Wheatley, D. e Gillings, M. (2002). *Spatial Technology and Archaeology: The Archaeological Applications of GIS.*. (Vol. I). London: Taylor Francis - Lake, M. e Conolly, J. (2006). *Geographical Information Systems in Archaeology*. (Vol. I). Cambridge : Cambridge Manuals in Archaeology - AD, A.(2015). *AutoCad 2015 Manual*. NY: ADesk - Miller, G.(2006). *ENVIROMENTAL SCIENCE, WORKING WITH THE EARTH*. (Vol. I). Vitoria: Thomsom
Planned learning activities and teaching methods	Classes supported by illustrations and drawings. Practical classes in a computer lab using GIS software applied to heritage management.
Assessment Methods and criteria	Final assessment: Part I (subject contents 1,2,3): worksheets + practical assignment (50%) Part II (subject contents 4,5): assignment on GIS + report (50%)
Language of Instruction	English | **Mentoring in** English
Work placement(s)	Not apply