

ECTS Information Package: Degree Programme

Bachelor's degree in

CONSERVATION AND RESTORATION

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A - General Description

Programme Title - Conservação e Restauro

Qualification awarded - Bachelor's degree in Conservation and Restoration

Level of qualification - First-Cycle degree, ISCED Level 5, EQF Level 6

Specific admission requirements

General

In order to be eligible to this bachelor's degree, students must hold the high-school diploma or legally equivalent qualification. Application can also be made through the following special entry routes:

- Students coming from the Portuguese education system through re-admission, degree change and transfer schemes;
- Holders of a Foundation Course Diploma (CET);
- Adults aged more than 23 who have passed tailor-made examinations intended to assess their ability to pursue higher education studies;
- Holders of Intermediary or Graduate degree diplomas;
- Students coming from foreign higher education.

Specific

To be accepted for direct entry in the bachelor's degree in Conservation and Restoration, one of the following national admission examinations is required: History, History of Culture and Arts or Descriptive Geometry.

Without prejudice to the general entry requirements and based on IPT's internal regulations, the following applicants may be admitted to the bachelor's degree in Conservation and Restoration, but subject to admission quotas:

- Candidates coming from the following regions: Coimbra, Leiria and Santarém (30%).

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

General

Procedures on the recognition of credits gained in previous learning are established in the regulations for the Recognition and Validation of Qualifications and Skills of ESTT-IPT available at <http://webmanager.ipt.pt/mgallery/default.asp?obj=4535>

Specific

Not Applicable.

Qualification requirements and regulations:

180 ECTS credits distributed throughout 6 curricular semesters (3 years).

Total study hours per year: 1620 (1 ECTS credit = 27 study hours).

The course structure comprises 7 modules per semester, most of them compulsory, and third-year students can choose within Option I (semester 1) and Option II (semester 2) a module in History, Art History or Conservation/Restoration related areas.

In addition, the course structure comprises a third-year module (Conservation and Restoration Project) which is worth 6 ECTS credits.

Profile of the program:

The Conservation and Restoration programme offers a sound cultural, scientific and technological background enabling the students to contact with real situations in laboratory and on site. This second-cycle programme was designed so as to develop in students a wide range of skills that will allow them to access the labour market and pursue postgraduate studies at master and doctoral level in circumstances similar to those offered by renowned European higher education institutions.

Key learning outcomes:

Holders of a bachelor's degree in Conservation and Restoration should be able to: understand the artistic object in its varied dimensions within its material, aesthetic, historical, sociological and cultural context; be familiar with the technical terminology and the scientific and ethical principles associated with conservation and restoration; identify the deterioration factors and consequent decay; undertake multidisciplinary studies in order to establish intervention methodologies; act on heritage assets with the supervision of a graduate conservator-restorer.

Occupational profiles of graduates with examples:

The labour market is extremely varied including the safeguard, preservation and conservation/restoration of cultural assets in a wide range of sectors such as: central and local administration bodies, museums, museums, charitable organisations, foundations, monuments, palaces, churches, convents, archaeological sites, antiquaries, auctioneers, property carriers, property management companies, conservation and restoration property project offices and research laboratories.

Graduates from this programme easily join the labour market in Portugal or abroad in the different conservation and restoration specialities.

Access to further studies:

Upon completion of the bachelor's degree IPT provides the students with the opportunity to proceed to the master's programme in Conservation and Restoration allowing them to obtain the credit units required to perform the profession as according to the guidelines of both national and international competent professional regulatory organisations.

The graduates in conservation and restoration from IPT are eligible for admission to postgraduate, master and doctoral programmes in related areas offered by other higher education institutions.

Course structure diagram with credits

Course Title	Year	Semester	Credits
Art History 1	1	S1	4
Chemistry 1	1	S1	4.5
History 1	1	S1	4
Introduction to Conservation and Restoration	1	S1	4.5
Introduction to Representation Methods	1	S1	4
Materials I	1	S1	4.5
Physics I	1	S1	4.5
Chemistry 2	1	S2	4.5
Conservation and Restoration I	1	S2	4.5
History of Portuguese Art I	1	S2	4
Identification of Cultural Property	1	S2	4
Materials 2	1	S2	4.5
Physics II	1	S2	4.5
Portuguese History I	1	S2	4
Art History 2	2	S1	4
Chemistry 3	2	S1	4.5
Chromatic Reintegration Techniques	2	S1	4
Conservation and Restoration II	2	S1	4.5
Conservation and Restoration III	2	S1	4.5
History 2	2	S1	4
Materials III	2	S1	4.5
Biodeterioration	2	S2	4.5
Conservation and Restoration IV	2	S2	4.5
Conservation and Restoration V	2	S2	4.5
Examination and Analysis Methods	2	S2	4.5
History of Portuguese Art II	2	S2	4
Moulding Techniques	2	S2	4
Portuguese History II	2	S2	4
Art History III	3	S1	4

Course structure diagram with credits (cont.)

Course Title	Year	Semester	Credits
Conservation and Restoration VI	3	S1	4.5
Conservation and Restoration VII	3	S1	4.5
Environmental Control	3	S1	4.5
History III	3	S1	4
Option I	3	S1	4
op: History and Technology of Woodcarving (*)	3	S1	4
op: History and Technology of Woodcarving and Furniture (*)	3	S1	4
op: Iconology (*)	3	S1	4
Photographic Methods	3	S1	4.5
Conservation and Restoration Project	3	S2	6
History and Theory of Conservation and Restoration	3	S2	4
History of Portuguese Art III	3	S2	4
Iconography	3	S2	4
Option II	3	S2	4
op: Sacred Worship and Worldview (*)	3	S2	
op: Heritage Law (*)	3	S2	
op: Furniture History and Technology (*)	3	S2	
Portuguese History III	3	S2	4
Representation Methods	3	S2	4

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

Examination regulations, assessment and grading

General

General assessment rules are in line with the Portuguese law and described in the Academic Regulations of ESTT-IPT available at <http://webmanager.ipt.pt/mgallery/default.asp?obj=4538>.

The licenciado degree is awarded a final grade between 10 and 20 within a 0/20 scale as well as its equivalent in the European grading scale.

Specific

Not Applicable.

Graduation requirements:

Completion of the programme requires a pass in all its constituent course units including public defence of the final project in order to accumulate 180 ECTS credits.

Mode of study:

Full- and part-time.

Program director or equivalente

Director: Maria Teresa Ribeiro Pereira Desterro

Erasmus coordinator: Carla Maria P. Calado Rodrigues do Rego

ECTS coordinator: Carla Maria P. Calado Rodrigues do Rego

B - Description of individual course units

Course unit title	Art History 1
Course unit code	938047
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Carlos José Rodarte de Almeida Veloso
Learning outcomes of the course unit	1.Provide the students with a comprehensive overview of the various forms of the artistic expression of humanity, from Prehistory until the end of the Western Roman Empire. 2.Equip the students with the necessary information to be able to identify the various art movements and styles.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme components	Not applicable
Course contents	1.Introduction to Art History 2.Prehistoric Arts 3.Arts of the Eastern Antiquity(Egyptian and Mesopotamian) 4.Arts of the Classical Antiquity(Greek, Roman, Paleochristian and Byzantine) 5.Pre-romanic arts (Visigothic and Islamic)
Recommended or required Reading	- SILVA, J. e CALADO, M. (2005). <i>Dicionário de Termos de Arte e Arquitectura</i> . Lisboa: Presença - GOMBRICH, E.(2005). <i>A Historia da Arte</i> . Lisboa: Público - PEREIRA, M.(2006). <i>Estudos de História da Cultura Clássica</i> . (Vol. 1 e 2). Lisboa: Fundação Calouste Gulbenkian - PIJOAN, J.(1972). <i>História da Arte</i> . (Vol. 1 e 2). Lisboa: Alfa
Planned learning activities and teaching methods	Lectures supported by case study analysis.
Assessment Methods and criteria	A written test for the students attending at least 50% of the classes: those who obtain a minimum score of 10 (out of 20) will be exempt from taking the exam. The remaining students will take a final written exam similar to the test mentioned above.
Language of Instruction	Portuguese Mentoring in French
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Chemistry 1
Course unit code	93805
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	João Luís Farinha Antunes
Learning outcomes of the course unit	Students should - be able to prepare solutions, - understand the factors associated with chemical bonding and its implications in the general properties of matter - understand the formation of co-valent bonds and its polarity - Relate intermolecular bonds with ...
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contents	Fundamentals of chemistry. Solutions and dispersions. Solution concentration. Chemical calculus. Chemical bonding. Intermolecular bonds. Covalent bonds. Hydrocarbons.
Recommended or required Reading	<ul style="list-style-type: none"> - Eastop, D. e Timar-Balaszky, A. (1998). <i>Chemical Principles of Textile Conservation</i>. Oxford: Butterworth - Stoker, S.(1999). <i>Introduction to Chemical Principles</i>. New Jersey: Prentice-Hall - Beran, J. e Atkins, P. (1992). <i>General Chemistry</i>. New York: Scientific American Books - ..(1984). <i>Science for Conservators</i>. (Vol. 1). London: Helen Wilks: The Conservation Unit; Museums & Galleries Commission
Planned learning activities and teaching methods	Lectures and laboratory classes.
Assessment Methods and criteria	Final theoretical exam. Reports of practical classes. Minimum pass mark: 10/20 in each component.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	History 1
Course unit code	938048
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Alexandra Águeda de Figueiredo Maria Madalena Giraldes Barba Pessoa Jorge Oudinot Larcher
Learning outcomes of the course unit	Students should be familiar with the core topics of Antiquity and the Middle Ages, be acquainted with some historical sources, be able to identify places, characters, religious references and events with interest for the conservator-restorer's activity.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	Introd: Periods, concepts and chronologies. From the origins to the 8th century: the Iberian Peninsula and Pre-civilizations The Greco-Latin civilization (8th century BC - 313 AD) Christian Tempora. The empire converted to Christianity (313-476) The growth of the political Augustinianism (476-1077) The Respublica Christiana (1077-1303) The victory of Nations over Universalism (1303-1453)
Recommended or required Reading	- LARCHER, F.(2012). <i>O Mundo ocidental sob a crescente inspiração cristã (313-1453)</i> . Tomar: Edição do Autor
Planned learning activities and teaching methods	Lectures supported by debate and analysis.
Assessment Methods and criteria	Two mid-term tests (minimum pass mark of 10/20). Examination for those who fail continuous assessment(minimum pass mark of 10/20). A practical assignment may count 1 grade point towards the overall grade.
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Introduction to Conservation and Restoration
Course unit code	93801
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Helena Cláudia Telo Falcão Neto Leonor da Costa Pereira Loureiro
Learning outcomes of the course unit	Students will be introduced to common conservation and restoration issues and terminology. They will familiarize themselves with the basic CR laboratory practices, methods and materials and debate ethical issues.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	1. Cultural Heritage preservation 2. Laboratory practice - Fundamentals of health and safety; manipulation and transport of cultural property, equipment, materials and products used in conservation and restoration. 3. Change and changeability 4. Identification, diagnosis and record. 5. Intervention methodology.
Recommended or required Reading	- CALVO, A.(2003). <i>Conservacio?n y restauracio?n. Materiales, te?cnicas y procedimientos. De la A a la Z</i> . Barcelona: Ediciones del Serbal - AAVV, _(2002). <i>A Conservac?a?o e o Restauo do Patrimo?nio. Riscos, Prevenc?a?o, Seguranc?a, E?tica, Lei.</i> . Lisboa: ARP - AAVV, -, e , . (2002). <i>Conserva?o&Restauo.Cadernos de Conserva?o&Restauo</i> , 2,
Planned learning activities and teaching methods	Lectures focused on the main CR methods for ceramic materials and practical classes where the students have the opportunity to handle conservation and restoration materials and products.
Assessment Methods and criteria	Final grade: written test (50%) + essay 1 (25%) + essay 2 (25%)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Introduction to Representation Methods
Course unit code	93802
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando Sanchez Salvador
Learning outcomes of the course unit	Students should develop the ability to understand space and represent it, use drawing in its various forms, types and supports so as to achieve a correct graphic expression. Be able to represent objects according to Portuguese (NP) and ISO standards.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Drawing, geometry and art history skills Forms a theoretical/practical unit with the module Representation Methods
Recommended optional programme components	Not applicable.
Course contents	Representation fundamentals. Geometric constructions. Drawing paper. Stroke and lines. Accurate perspectives. Rapid perspectives. Sections and cross-sections. Stroke for sections and cross-sections. Perspective sections. Dimensioning. Section dimensioning and perspective elements. Modelling, construction techniques and applications.
Recommended or required Reading	<ul style="list-style-type: none"> - CUNHA, L.(1980). <i>Desenho Técnico</i> . Lisboa: Fundação Calouste Gulbenkian - BERGER, .(1980). <i>Modos de Ver</i>. Lisboa: Edições 70 - PANOFKY, , E.(1993). <i>A Perspectiva como Forma Simbólica</i>. Lisboa: Edições 70 - MASSIRONI, .(1982). <i>Ver pelo Desenho: aspectos Técnicos, Cognitivos, Comunicativos</i>. Lisboa: Edições 70
Planned learning activities and teaching methods	Lectures and tutorials. Field trip related with the subject matters taught.
Assessment Methods and criteria	Continuous assessment and final assessment comprising written test. C= 0,5 D (0,6 Tr1+ 0,4 Tr2) + 0,5 Ex. Tr 2- free-topic exercise >= 9,5 marks, including public discussion.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Materials I
Course unit code	93807
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Eduardo Jorge Marques de Oliveira Ferraz
Learning outcomes of the course unit	1.Understand the evolution, structure and composition of the Earth; 2.Identify minerals and rocks; 3.Be familiar with the process and technology of binder production; 4.Identify binders and mortars; 5.Know the degradation mechanisms of rocks and mortars; 6.Interpret and discuss results
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. Physical states and structure of matter; 2. Formation of mineral matter; 3. Solid-liquid interaction; 4. Composition and evolution of the Earth; 5. Formation of igneous, sedimentary and metamorphic rocks; 6. Alteration and alterability of rocks applied to cultural heritage; 7. Traditional versus modern construction techniques; 8. Binders and mortars.
Recommended or required Reading	<ul style="list-style-type: none"> - Carvalho, A.(1977). <i>Ciências naturais: Geologia</i>. (Vol. 1, 2 e 3). Lisboa: Ministério da Educação - Torgal, F. e Eires, R. e Jalali, S. (2009). <i>A construção em terra</i>. Guimarães: TecMinho - Coelho, A. e Torgal, F. e Jalali, S. (2009). <i>A cal na construção</i>. Guimarães: TecMinho - Torgal, F. e Pereira, M. e Jalali, S. (2008). <i>O gesso na construção civil</i>. Guimarães: TecMinho - Jalali, S. e Pereira, M. e Torgal, F. (2008). <i>O gesso na construção civil</i>. Guimarães: TecMinho - Jalali, S. e Torgal, F. e Coelho, A. (2009). <i>A cal na construção</i>. Guimarães: TecMinho - Jalali, S. e Eires, R. e Torgal, F. (2009). <i>A construção em terra</i>. Guimarães: TecMinho
Planned learning activities and teaching methods	1. Lectures focused on the exploration of basic concepts and elementary principles. 2. Laboratory classes with applying of technical concepts, including observation, calculus and testing.
Assessment Methods and criteria	1. Theoretical component (64%) assessed through closed-book exam. 2. Theoretical-practical component (33%) assessed through closed-book exam.
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Physics I
Course unit code	93806
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Carla Alexandra de Castro Carvalho e Silva Rosa Brígida Almeida Quadros Fernandes
Learning outcomes of the course unit	Provide skills that will allow the students to relate the concepts learned with daily phenomena. Basic physical principles related to kinematics and dynamics. Basics of hydrostatics.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	1 – Unit Systems. Vector calculus. 2 – Mechanics: kinematics and dynamics; energy. 3 – Materials properties. Porosity. Hidrostatic. 4 – Thermal properties of matter.
Recommended or required Reading	- Silva, C.(0). <i>Sebenta de Física 1</i> . Acedido em 3 de junho de 2012 em http://www.e-learning.ipt.pt/course/view.php?id=645
Planned learning activities and teaching methods	Lectures. Theoretical/practical lessons focused on problem-solving with the support of the lecturer.
Assessment Methods and criteria	One mid-term written test or examination worth a total of 20 marks.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Chemistry 2
Course unit code	938012
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	João Luís Farinha Antunes
Learning outcomes of the course unit	The students should be able to describe chemical balances (acid-base, oxid-reduction and redox) and identify these phenomena in artifacts and cultural property.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Chemical balance. Acids and bases. Salts, metal complexes, oxidation and reduction.
Recommended or required Reading	<ul style="list-style-type: none"> - Eastop, D. e Timar-Balaszy, A. (1998). <i>Chemical Principles of Textile Conservation</i>. Oxford: Butterworth - Nunes, A. e Correia, C. (1995). <i>Química 11º ano</i>. Porto: Porto Editora - Stoker, S.(1999). <i>Introduction to Chemical Principles</i>. New Jersey: Prentice-Hall - Beran, J. e Atkins, P. (1992). <i>General Chemistry</i>. New York: Scientific American Books
Planned learning activities and teaching methods	Lectures, tutorials and laboratory classes.
Assessment Methods and criteria	Final theoretical examination. Technical reports. Minimum pass mark in each component: 10/20
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Conservation and Restoration I
Course unit code	93808
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Fernando Manuel Conceição Costa
Learning outcomes of the course unit	Students should demonstrate observation, analysis and diagnosis skills. They should also be able to use graphic, photographic and literature search as support resources and produce documentary records of the items to be preserved or restored in all steps of the process.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Having taken the module Conservation and Restoration
Course contents	1. Rocks as porous materials 2. The movement of water through the rocks 3. Effects of temperature variation 4. The action of salts in stone decay 5. Etching 6. Biodeterioration 7. Pathologies or causes of stone deterioration 8. Intervention in stone materials
Recommended or required Reading	<ul style="list-style-type: none"> - IPPAR, M.(1996). <i>Cartas e Convenções Internacionais</i>. Lisboa: Instituto Português do Património Arquitectónico (IPPAR) - L, A.(2001). <i>As rochas dos monumentos portugueses – tipologias e patologias</i>. (Vol. II). Lisboa: Instituto Português do Património Arquitectónico (IPPAR) - L, A.(2001). <i>As rochas dos monumentos portugueses – tipologias e patologias</i>. (Vol. I). Lisboa: Instituto Português do Património Arquitectónico (IPPAR) - AIRES-BARROS, L.(1991). <i>Alteração e Alterabilidade das rochas</i>. Lisboa: Instituto Nacional de Investigação Científica; Centro de Petrologia e Geoquímica da Universidade Técnica de Lisboa
Planned learning activities and teaching methods	Laboratory classes where students are required to develop studies, diagnoses, methodologies and conservation/restoration interventions.
Assessment Methods and criteria	Continuous assessment: practical project, technical report and written test. Final assessment: written examination.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	History of Portuguese Art I
Course unit code	938050
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Teresa Ribeiro Pereira Desterro
Learning outcomes of the course unit	The students should understand the context in which the various art movements have emerged and be able to identify and describe the works of art and respective artists.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme components	Not applicable
Course contents	I-The Lower Middle Ages 1-The Iberian Peninsula in early 12th century 1.1 The political unity of the kingdom 2-The spacial-temporal context of the new art forms 3-The Romanic Style 3.1 Architecture, sculpture, painting an illuminated manuscripts 4-The first Gothic forms II-The beginning of the 15th century 1. The Battle Field 2. 14th-century sculpture and painting 3. Late Gothic
Recommended or required Reading	- Almeida, C.(1971). Primeiras Impressões sobre a arquitectura românica portuguesa. <i>Revista da Faculdade de Letras</i> , ., pp. 65-116. - Barroca, M.(1997). Cenas de Passamento e de Lamentação na Escultura Funerária Medieval Portuguesa. <i>Revista da Faculdade de Letras</i> , ., pp. 655-684.
Planned learning activities and teaching methods	Theoretical lectures focused on artwork analysis. Theoretical/practical lectures with discussion on the contents covered in the lectures, through the analysis of works of art and text comments. Field trips Tutorial support
Assessment Methods and criteria	Assessment:continuous assessment requires a minimum attendance of 2/3 of total classes. It includes two tests and, to take the second test, a minimum of 7,5/20 is required. A minimum average of 10/20 is required to pass. Final assessment:final exam
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Identification of Cultural Property
Course unit code	938011
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Miguel de Barros Serra Cabral de Moncada
Learning outcomes of the course unit	Students should demonstrate to have learned the theoretical concepts for the identification, appraisal and evaluation of cultural property.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	Introduction. Identification. Auxiliary sciences. Heuristics. Bibliography. Portuguese Furniture: introduction; General-to-specific approach to Portuguese furniture.
Recommended or required Reading	- Moncada, M.(2006). <i>Mobiliário Lusíada</i> . Tomar: Autor - Moncada, M.(2006). <i>Peritagem e Identificação de Obras de Arte</i> . Porto: Civilização
Planned learning activities and teaching methods	Lectures and tutorials
Assessment Methods and criteria	Continuous assessment: two written tests Final assessment: one written test with optional oral examination
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Materials 2
Course unit code	938014
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Eduardo Jorge Marques de Oliveira Ferraz
Learning outcomes of the course unit	1. Be familiar with the process of producing and be able to identify classic ceramics, glasses, glazes, metals and alloys; 2. Identify the major decay mechanisms and resulting products; 3. Know the characterization techniques; 4. Analyse, interpret and discuss results.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Prerequisites: Materials 1. Corequisites: not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. Classic ceramics materials; 1.1. Raw materials; 1.2. Manufacturing; 1.3. Types and classification; 1.4. Characteristics of the major products; 1.6. Key defects; 2. Glassy materials; 2.1. Glass, glazing and frits; 2.2 The glazing process; 2.3. Alterability and decay; 3. Metallic materials and alloys; 3.1. Metallurgy; 3.2. Fatigue and corrosion; 4. Material characterization.
Recommended or required Reading	<ul style="list-style-type: none"> - Gomes, C.(1990). <i>Minerais Industriais: Matérias-Primas Cerâmicas</i>. Lisboa: Instituto Nacional de Investigação Científica - Fonseca, A.(2000). <i>Tecnologia do Processamento Cerâmico</i>. Lisboa: Universidade Aberta - Fernandes, M.(1999). <i>Introdução à Ciência e Tecnologia do Vidro</i>. Lisboa: Universidade Aberta - Cottrell, A.(1993). <i>Introdução à Metalurgia</i>. Lisboa: Fundação Calouste Gulbenkian - Fuster, M. e Albaro, J. e Navarro, J. (1985). <i>Tecnologia Cerâmica</i>. (Vol. I a IV). : IQT (TC); Universidade de Valência - Gomes, C.(1988). <i>Argilas: O que são e para que servem</i>. Lisboa: Fundação Calouste Gulbenkian - Fonseca, A.(2000). <i>Tecnologia do Processamento Cerâmico</i>. : Universidade Aberta
Planned learning activities and teaching methods	1. Lectures focused on the exploration of basic concepts and elementary principles. 2. Laboratory classes to apply technical concepts, including observation, calculus and testing.
Assessment Methods and criteria	1. Theoretical component (64%) assessed through closed-book exam. 2. Theoretical-practical component (33%) assessed through closed-book exam.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Physics II
Course unit code	938013
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Carla Alexandra de Castro Carvalho e Silva
Learning outcomes of the course unit	Students should have acquired such concepts as the physical principles associated with the Theory of Light, the electromagnetic spectrum and chromatic properties of an object as well as the fundamental concepts of Optics that enable them to understand the behaviour of mirrors and lenses.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contents	1- Wave phenomena: waves and particles. 2- Light properties and propagation. Colour analysis. 3- Fundamentals and basic laws of Geometric Optics. 4- Light refraction. Spherical lenses. 5- Light reflection.
Recommended or required Reading	- Silva, C.(0). <i>Sebenta de Física 2</i> . Acedido em 3 de junho de 2012 em http://www.e-learning.ipt.pt/course/view.php?id=868
Planned learning activities and teaching methods	Lectures. Theoretical/practical classes including laboratorial practice. Experimental work in the physics laboratory.
Assessment Methods and criteria	Laboratory assignments worth 2 grade points out of a 0-20 scale. Mid-term written test during the normal examination season (worth a total of 18 grade points).
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Portuguese History I
Course unit code	938049
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	First Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Madalena Giraldes Barba Pessoa Jorge Oudinot Larcher
Learning outcomes of the course unit	A general overview of the Mediaeval Portuguese History and a systematic review that will allow an in-depth approach. An approach to cultural heritage based on relevant documentary sources.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	I. The assertion of national identity: the formation of the Portuguese Kingdom within the context of Respublica Christiana (1095/96-13th century) II. The recognition of Portugal as a Nation (1279-1385)1. The Bourgogne-Bologne Dynasty Post Alphonse III (1279-1383)Period 2. Portugal reinforces its identity vis-à-vis Castilla (1383-1385). III.The Avis Dynasty(1385-1495)
Recommended or required Reading	- Serrão, J.(1990). <i>Dicionário de História de Portugal</i> . (Vol. 1-6). Porto: . - Serrão, J.(1974). <i>A Historiografia Portuguesa. Doutrina e Crítica</i> . (Vol. 1-3). Lisboa: .
Planned learning activities and teaching methods	Lectures focused on content presentation and debate.
Assessment Methods and criteria	Two mid-term tests with minimum pass mark of 10. Final exam for those failing continuous assessment (minimum pass mark:10). An optional assignment counting 1 mark towards the overall mark.
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Art History 2
Course unit code	938052
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Teresa Ribeiro Pereira Desterro
Learning outcomes of the course unit	Understand the evolution of art paradigm throughout the middle ages and the modern era in relation with the socio-cultural changes. Characterize the artistic movements. Students must demonstrate to perceive artworks as aesthetic, historical and artistic objects.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme components	Not applicable
Course contents	I – The artistic evolution in the Middle Ages 1–Romanesque art 2–Gothic art II – The artistic development in the Modern Era 1-The origins of Renaissance 2-The Italian Renaissance 3-The Flemish "Ars Nova" 4-The repercussions of European Renaissance 5- The Mannerism 5.1-The anti-classicism 5.2-Compositional innovations in painting, architecture and sculpture.
Recommended or required Reading	- Chatelêt, A. e Groslier, B. (1985). <i>História da Arte</i> . (Vol. 2). Lisboa: Circulo de Leitores - Chevalier, J. e Gheer Brant, A. (1982). <i>Dictionnaire des Symboles. Mythes, Rêves, Coutumes, Gestes, Formes, Figures, Couleurs, Nombres</i> . Paris: Robert Laffont & Jupiter
Planned learning activities and teaching methods	Theoretical classes supported by examination and analysis of artworks. Theoretical-practical lessons focused on discussing and reflecting on the course topics. Tutorial support
Assessment Methods and criteria	Continuous assessment: two tests (minimum mark of 7.5/20 in one of the tests). Minimum pass mark is 10/20. Final examination for the students failing in the continuous assessment.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Chemistry 3
Course unit code	938020
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	João Luís Farinha Antunes
Learning outcomes of the course unit	Students should be able to -classify organic compounds used in conservation and restoration, -relate properties and structure, - evaluate risks involved with solvents and evaluate their interaction with materials, - identify the properties of the different CR materials.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Organic solvents: properties by chemical family Harmfulness: toxicity and flammability. Synthetic polymers and biomolecules: classing, the commonest CR materials by class. Decay mechanisms.
Recommended or required Reading	- Horie, C.(1987). <i>Materials for Conservation</i> . London: Butterworth - ..(1984). <i>Science for Conservators</i> . (Vol. 3). London: Helen Wilks: The Conservation Unit; Museums & Galleries Commission - Masschelein-Kleiner, L.(1981). <i>Les Solvants</i> . Bruxelles: IRPA - Masschelein-Kleiner, L.(1995). <i>Ancient Binding Media</i> . Roma: ICCROM
Planned learning activities and teaching methods	Lectures and tutorials supported by case studies.
Assessment Methods and criteria	Theoretical final exam. Oral defense of practical assignments. Minimum pass mark: 10/20 in each component.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Chromatic Reintegration Techniques
Course unit code	938017
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Helena Cláudia Telo Falcão Neto
Learning outcomes of the course unit	Students will be provided with theoretical and practical skills of visual perception and ways to develop both manual ability and sensitivity to manipulate colour; they will practise with different colour retouching techniques in practical exercises performed in class.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. Visual perception and plastic form 2. Visual perception and restoration - visual perception and state of preservation - the action of colour discontinuity and gradient; visual weight and visual balance; natural changes and level of intervention. 3. Chromatic reintegration: aims, materials and techniques.
Recommended or required Reading	- CIANFANELLI, T. e SCARZANELLA, C. (1992). <i>La percezione visiva nel restauro dei dipinti. L'intervento pittorico. PROBLEMI DI RESTAURO, RIFLESSIONE E RICERCA</i> . Firenze: Edifir Edizione - ARNHEIM, R.(1994). <i>Arte & Percepção Visual, Uma Psicologia da Visão Criadora</i> . S. Paulo: Livraria Pioneira Editora
Planned learning activities and teaching methods	Lectures and tutorials.
Assessment Methods and criteria	Final mark: class performance (30%) + Portfolio (40%) + written test (30%)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Conservation and Restoration II
Course unit code	938015
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Ricardo Pereira Triães
Learning outcomes of the course unit	On completion of the module the students should be familiar with the properties of the major ceramic supports; recognise the commonest causes of decay of ceramic materials and propose treatment solutions; critically evaluate different interventions in ceramic materials; write technical reports.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	A pass in the following modules: Introduction to Conservation and Restoration Materials I Materials II
Recommended optional programme components	Not applicable.
Course contents	1. Introduction 2. The use of clay and pottery production 3. The evolution of Portuguese pottery 4. Pottery technology 5. Decay of ceramic materials 6. Diagnosis, examination and record 7. Equipment and materials for the conservation and restoration of ceramic materials 8. Treatment methods 9. Stored collections and environmental conditions
Recommended or required Reading	<ul style="list-style-type: none"> - Williams, N.(1983). <i>Porcelain-Repair and restoration</i>. London: British Museum Publications - Pearson, C.(1987). <i>Conservation of marine Archaeological Objects</i>. London: Butterworths - Jain, K. e Oakley, V. (2002). <i>Essentials in the care and conservation of historical ceramics objects</i>. London: Archetype Publications - Oakley, V. e Buys, S. (1993). <i>The conservation and Restoration of ceramics</i>. London: Butterworth
Planned learning activities and teaching methods	Lectures supported by audiovisual resources. Practical classes supported by case study analysis.
Assessment Methods and criteria	Theoretical component: a written exam (50%) Practical component: coursework and report (50%) Minimum pass mark is 10/20.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Conservation and Restoration III
Course unit code	938016
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Helena Cláudia Telo Falcão Neto Fernando dos Santos Antunes
Learning outcomes of the course unit	Understand the artistic evolution of retables; Be able to identify the artists, materials and production techniques; Understand and identify the main causes of alteration and decay of wood objects; Be able to make technical examination and diagnostics; Carry out conservation and restoration treatments
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Introduction to the art of woodcarving and retable making - illustrative examples, key artists; Materials and production techniques; The main causes of alteration and decay; Particular ethical aspects; Conservation and restoration treatment – structure and support, surface layers.
Recommended or required Reading	- Alves, N.(1989). <i>A Arte da Talha no Porto na Época Barroca</i> . (Vol. I e II). Porto: Arquivo Histórico - A.V., .(1991). <i>Gilded Wood-Conservation and history</i> . Connecticut: Sound View Press - Smith, R.(1962). <i>A Talha em Portugal</i> . Lisboa: Livros Horizonte - Liotta, G.(1991). <i>Gli Inseti e i dani del legno - Problemi di restauro</i> . Firenze: Nardini Editore - N/d, N.(1991). <i>Gilded Wood-Conservation and history. Gilding Conservaton symposium, 0</i> ,
Planned learning activities and teaching methods	Lectures supported by audiovisual resources. Laboratory Practice Tutorial Guidance
Assessment Methods and criteria	CONTINUOUS ASSESSMENT: - Technical worksheet & Technical report form (35%); - Written test (40%); - Practical performance (20%); - Attendance (5%). FINAL ASSESSEMENT: - Written Exam
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	History 2
Course unit code	938051
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Madalena Giraldes Barba Pessoa Jorge Oudinot Larcher
Learning outcomes of the course unit	The students should be familiarised with the key issues of modern history in connection with the major mediaeval issues with emphasis to culture articulated with political and social facts. They should demonstrate critical and reflection skills.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	A pass in History 1 is useful but not mandatory.
Recommended optional programme components	Not applicable
Course contentes	Part I. Mediaeval references of European Civilisation Part II. The 15th century: The beginnings of Modern Age Part III. The 16th century:the New Horizons (political, cultural and religious) Part IV. The 18th century: the assertion of a new European balance Part V. The first half of the 18th century: from the beginning of the Enlightenment to the end of the Old Regime.
Recommended or required Reading	<ul style="list-style-type: none"> - CORVISIER, A.(1977). <i>O Mundo Moderno</i>. s.l.: Círculo de Leitores - CHAUNU, P.(1993). <i>A Civilização da Europa Clássica</i>. (Vol. 2 vs.). s.l.: Estampa - CHAUNU, P.(2002). <i>Tempo das Reformas, 1250-1550</i>. (Vol. 2 vs.). s.l.: Edições 70 - DELUMEAU, J.(1991). <i>A Civilização do Renascimento</i>. (Vol. 2 vs.). Lisboa: Presença
Planned learning activities and teaching methods	Lectures supported by audiovisual resources. Theoretical-practical classes including an optional presentation (written and oral) focused on the analysis of a documentary source from one of the abovementioned periods.
Assessment Methods and criteria	Mid-term test (a minimum mark of 10/20 exempts students from examination). They may write an optional essay to improve their test mark. Oral examination as required.
Language of Instruction	Portuguese Mentoring in French
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Materials III
Course unit code	938021
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	António João de Carvalho da Cruz
Learning outcomes of the course unit	Students should have familiarised themselves with the history, the production, the properties, the behaviour and the changing factors of pigments and dyes with historical interest and of organic materials with structural function used in artworks.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Basics of chemistry.
Recommended optional programme componentes	Not applicable.
Course contents	1. Painting pigments 1.1. Pigments and their history 1.2. Colour and other physical properties 1.3. The chemistry of pigments 2. Inks for writing and drawing 3. Dyes 4. Wood 5. Paper 6. Vegetal fibres 7. Parchment and leather 8. Animal fibres 9. Artificial fibres 10. Textile dyeing
Recommended or required Reading	<ul style="list-style-type: none"> - Cruz, A.(2004). <i>As Cores dos Artistas - História e ciência dos pigmentos utilizados em pintura</i>. Lisboa: Apenas Livros - Brill, T.(1980). <i>Light. Its Interaction with Art and Antiquities</i>. New York: Plenum Press - Tímár-Balázsy, A.(2002). <i>Chemical Principles of Textile Conservation</i>. Oxford: Butterworth-Heinemann - Könnemann, N.(1999). <i>Manual de Restauración de Cuadros</i>. Köln: Könnemann - Kühn, H.(1986). <i>Conservation and Restoration of Works of Art and Antiquities. Volume I</i>. London: Butterworths
Planned learning activities and teaching methods	Lectures and theoretical-practical sessions supported by case study analysis.
Assessment Methods and criteria	Written tests/exams.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Biodeterioration
Course unit code	938027
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Leonor da Costa Pereira Loureiro Luís Filipe Neves Carreira dos Santos
Learning outcomes of the course unit	Students must demonstrate to understand the different aspects of biological action in the preservation of cultural property. They should be able to detect, identify and control a variety of biodeterioration agents.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Chemistry I, Chemistry III, Materials I, Materials II, Materials III
Course contentes	1.The preservation of cultural property - different concepts and approaches 2. General concepts of biology. Classification System 4. Biodegradation of cultural heritage. Biodegradation agents. Constraining factors. Organic and inorganic materials; synthetic materials. 6. Techniques for the detection of biological action. Control and prevention.
Recommended or required Reading	- SALVADORI, O. e NUGARI, M. e CANEVA, G. (1991). <i>Biology in the Conservation of Works of Art</i> . Roma: ICCROM Ed. - GAYLARDE, C. e SEAL, K. e ALLSOPP, D. (2004). <i>Introduction to Biodeterioration</i> . Cambridge: Cambridge University Press
Planned learning activities and teaching methods	Lectures and tutorials.
Assessment Methods and criteria	Final mark: written test (50%) + written assignment (20%)and oral presentation (15%) + technical report (15%)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Conservation and Restoration IV
Course unit code	938022
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Carla Maria P. Calado Rodrigues do Rego
Learning outcomes of the course unit	Students must demonstrate to have developed practical skills with a large number of artifacts from a variety of sites and with different decay problems, allowing different treatment approaches and procedures.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contents	1. Technologies for the production of a polychrome wooden sculpture; 2. Damage and decay processes in polychrome wooden sculptures; 3. Conservation/restoration methodologies.
Recommended or required Reading	<ul style="list-style-type: none"> - AAVV, _.(2001). <i>Metodologias de Diagnóstico e de Intervenção no Património – Actas do 3º Encontro Científico do IPCR</i>. Lisboa: IPCR/Ministério da Cultura - TAMPONE, G.(1990). <i>Il Restauro del legno</i>. Firenze: Nardini Editore - PERUSINI, G.(1989). <i>Il Restauro dei Dipinti e delle Sculture Lignee</i>. Firenze: Del Bianco Editore - CLERIN, P.(2001). <i>La Sculpture: toutes les techniques</i>. Paris: Dessain et Tolra
Planned learning activities and teaching methods	Lectures and tutorials
Assessment Methods and criteria	Final mark: practical performance (10%)+ technical report (35%) + written test (60%)
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Conservation and Restoration V
Course unit code	938023
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Fernando dos Santos Antunes
Learning outcomes of the course unit	Demonstrate to be familiar with the history and technology of furniture production, to be able to evaluate the material, technological, artistic and aesthetic nature of an object, to evaluate the state of preservation, make diagnoses and propose treatment methods.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Technology: materials and production techniques. Ethical issues: type of intervention; criteria and aspects to consider; method selection. Preparatory stage: record/documentation; original environmental conditions and state of preservation; diagnostic and treatment proposal.
Recommended or required Reading	<ul style="list-style-type: none"> - ORDOÑEZ, L. e ROTAECHE, M. e ORDOÑEZ, C. (1996). <i>Il Mobile: Conservazione e Restauro</i>. Fiesole: Nardini Editore - MCGIFFIN, R.(1983). <i>Furniture Care and Conservation</i>. Nashville, TN: AASLH - COLARES, J. <i>Manual do Marceneiro. Biblioteca de Instrução Profissional</i>. Brasil / Lisboa: Livraria Bertrand e Imprensa Portugal - WERNER, A. e BROMMELLE, N. (1965). <i>Deterioration and Treatment of Wood. Joint Meeting of the ICOM Committee for Scientific Museum Laboratories and the ICOM Sub-Committee for the Care of Paintings</i>. Washington and New York: ICOM
Planned learning activities and teaching methods	Lectures; Laboratory lessons including practice on furniture under the lecturer's supervision; Tutorials including pedagogical, technical and scientific support to students.
Assessment Methods and criteria	CONTINUOUS ASSESSMENT - Theoretical(50%)+Laboratory(50%): - Conservation Record Card(20%); - Technical Report Form(10%); - Scientific paper(20%); - Performance(35%); - Attendance(15%); FINAL ASSESSEMENT-Written examination
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Examination and Analysis Methods
Course unit code	938056
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	António João de Carvalho da Cruz
Learning outcomes of the course unit	Students must demonstrate to know the key methods of examination and analysis used in the study of cultural heritage and have developed skills which will enable them to interpret and use the resulting data.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Basics of chemistry and physics.
Recommended optional programme components	Not applicable.
Course contentes	1. The electromagnetic radiation and its interaction with matter. 2. Examination methods making use of visible radiation 3. Colour description and characterisation 4. X-Ray method 5. UV and Infra-Red photography 6. Optical and electronic microscopy 7. Classical chemical analysis methods 8. Adsorption spectrometry 9. X-RAY Fluorescence spectrometry 10. Raman spectroscopy 11. X-Ray diffraction 12..
Recommended or required Reading	<ul style="list-style-type: none"> - Verougstrate-Marcq, H. e Van Schoute, R. (1986). <i>Scientific Examination of Easel Paintings</i>. Strasbourg: Council of Europe - Spoto, G. e Ciliberto, E. (2000). <i>Modern Analytical Methods in Art and Archaeology</i>. New York: John Wiley & Sons - Artioli, G.(2010). <i>Scientific Methods and Cultural Heritage. An Introduction to the Application of Materials Science to Archaeometry and Conservation Science</i>. Oxford: Oxford University Press - Stuart, B.(2007). <i>Analytical Techniques in Materials Conservation</i>. Chichester: John Wiley & Sons
Planned learning activities and teaching methods	Lectures focused on theoretical principles and methods, its possibilities and constraints. Practical lessons comprising experiments and result interpretation.
Assessment Methods and criteria	Reports (30 %) and written tests or examination (70 %).
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	History of Portuguese Art II
Course unit code	938055
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Teresa Ribeiro Pereira Desterro
Learning outcomes of the course unit	Students should be able to contextualise art movements across the Middle Ages and Modern Times and understand the aesthetical and stylistic evolution of Portuguese art during that period as well as identify the most illustrative artworks and artists.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	The transition from the Gothic to the Manueline. The Renaissance in Portugal. The new architectural spatiality. Sculpture. Painting. The Mannerism. The historical-cultural context of the new aesthetics. The anti-classical movement. The Contra-maniera. Architecture, sculpture and painting. The Baroque. Sculpture and painting. Decorative Arts. The Rococo style.
Recommended or required Reading	<ul style="list-style-type: none"> - VV, A.(2010). <i>A Nova História da Arte de Janson. A tradição ocidental, revisão científica de Fernando António Baptista Pereira, 9ª Edição, Fundação Calouste Gulbenkian, Lisboa, 2010.</i>. Lisboa: Fundação Calouste Gulbenkian - Pereira (coord), P.(1995). <i>História da Arte Portuguesa.</i> (Vol. II e III). Lisboa: Círculo de Leitores / Temas e Debates - Réau, L.(1957). <i>Iconographie de l'Art Chrétien.</i> . (Vol. 1,2,3). Paris: Presses Universitaires de France - V.V, A.(1986). <i>História da Arte em Portugal.</i> . (Vol. 5,6,7,8,9,10). Lisboa: Alfa
Planned learning activities and teaching methods	Lectures and tutorials supported by case study analysis. Field trips.
Assessment Methods and criteria	Continuous assessment: two mid-term tests (minimum pass mark:10/20 with a minimum mark of 7,5 in each test. Final exam for students failing in continuous assessment (minimum pass mark:10/20).
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Moulding Techniques
Course unit code	938053
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando Manuel Conceição Costa
Learning outcomes of the course unit	Contribute to broaden students' knowledge in the field of technical processes, develop their theoretical and practical skills in modelling, moulding and reproduction of artifacts.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	The module "Conservation and Restoration"
Course contents	Difference between moulding and modelling. Discriminating between copy, replica and forgery. Types of Moulds. Criteria and rules for evaluating copies or reproductions. Legislation and Codes of Ethics on reproductions. Reproduction types. Moulding Applied to Conservation and Restoration. Moulding Materials. Reproduction materials.
Recommended or required Reading	<ul style="list-style-type: none"> - HAMER, F.(1986). <i>POTTER'S DICTIONARY OF MATERIALS AND TECHNIQUES</i>. London: A & C BLACK - CLÉRIN, P.(2002). <i>LA SCULPTURE – Toutes les Techniques</i>. Paris: Dessain et Tolra - CHAVARRIA, J.(2004). <i>A CERÂMICA – Coleção Artes e Ofícios</i>. Lisboa: Editorial Estampa - BRYDSON, J.(1989). <i>Plastic Materials</i>. London: ButterWorths
Planned learning activities and teaching methods	Lectures and laboratory lessons comprising the development of moulds and reports.
Assessment Methods and criteria	Continuous assessment: practical performance, technical report and mid-term test. Final assessment: written examination.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Portuguese History II
Course unit code	938054
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Second Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Madalena Giraldes Barba Pessoa Jorge Oudinot Larcher
Learning outcomes of the course unit	The students should have acquired basic knowledge of the major events in history from the 15th to late 18th century with particular emphasis on maritime expansion - a key factor for the humanistic and cosmopolitan character of Renaissance.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	A pass in Portuguese History I and History II is advisable
Recommended optional programme components	Not applicable
Course contents	PART I. The 15th century: the birth of Modernity PART II: The 16th century: The birth of a modern state and the construction of the Empire. PART III: The Philippine era (1581-1640) PART IV: The Restoration period (1640-1668) PART V: From the consolidation of the Bragança Dynasty to the end of the Old regime (1668-1750) PART VI. King Joseph (1750-1777) PART VII. The kingdom of Queen Mary I
Recommended or required Reading	<ul style="list-style-type: none"> - ALBUQUERQUE, L.(1994). <i>Dicionário de História dos Descobrimentos Portugueses</i>. (Vol. 2 vs.). Lisboa: Caminho - MATTOSO, J.(1992). <i>História de Portugal</i>. (Vol. v.3 e 4). Lisboa: Círculo de Leitores - VERÍSSIMO SERRÃO, J.(1991). <i>História de Portugal</i>. (Vol. v.4 e 5). Lisboa: Verbo - AZEVEDO, J.(1921). <i>História dos Cristãos Novos Portugueses</i>. Lisboa: Livraria Clássica
Planned learning activities and teaching methods	Lectures supported by audiovisual resources. Theoretical/practical classes focused on the analysis of historic documents from the abovementioned times.
Assessment Methods and criteria	Mid-term test with 10/20 required to pass. Optional essay to improve previous mark (arithmetic average with the test). Oral examination as required.
Language of Instruction	Portuguese Mentoring in French
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Art History III
Course unit code	938058
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Teresa Ribeiro Pereira Desterro
Learning outcomes of the course unit	Students should be able to identify and contextualise Western art movements since the end of the Modern Age until Contemporary Times, relate historic events with art movements and regard antique documents as aesthetic, historic and artistic objects.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	I-The artistic evolution from Baroque to Classicism II-Art and the artist in the 19th century. 1-Romanticism 2- Naturalism and Realism. 3-Impressionism and Post-Impressionism IV- The 20th-century art 1-Historical vanguards 1.1-Fauvism. 1.2-Cubism 1.3-Expressionism and Abstractionism 1.4-Futurism 1.5-The "Dada movement 1.6-Surrealism 2-Modern sculpture 3-The 20th-century Architectu
Recommended or required Reading	<ul style="list-style-type: none"> - Read, H.(1996). <i>Modern Sculpture</i>. Londres: Thames & Hudson - V V, A.(1972). <i>História da Arte</i>. (Vol. 8, 9, 10). Lisboa: Alfa - Walter, H.<i>Documentos para a compreensão da Pintura Moderna</i>. Lisboa: Livros do Brasil - Janson, H.(2010). <i>História da Arte</i>. Lisboa: Fundação Calouste Gulbenkian
Planned learning activities and teaching methods	Lectures and practical classes focused on the analysis of artworks, its description, identification and contextualisation. Reading and interpretation of conceptual texts. Tutorial support.
Assessment Methods and criteria	Minimum attendance of 2/3 of classes is required; 1 mid-term test and a coursework assignment comprising oral presentation. Minimum mark of 7,5/20 in each component with passing mark of 10/20. Final examination: pass mark is 10/20
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Conservation and Restoration VI
Course unit code	938029
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Carla Maria P. Calado Rodrigues do Rego
Learning outcomes of the course unit	Students should be able to recognise technical features, constituent materials and the state of preservation of canvas paintings through works presented in class, as well as to select intervention methods.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	A pass in the modules Chemistry, Materials III and Introduction to CR is recommended.
Course contents	1. Easel painting - wooden and textile supports; pictorial surface 2. Causes and effects of the alteration of supports and surface layers 3. Intervention methods - conservation and restoration treatments
Recommended or required Reading	- SCICOLONE, G.(2002). <i>Restauración de la Pintura Contemporanea</i> . San Sebastian: Nerea - VILLARQUIDE, A.(2004). <i>La Pintura sobre tela II - Alteraciones, materiales y tratamientos de restauración técnicas</i> . San Sebastian: Nerea - VILLARQUIDE, A.(2004). <i>La Pintura sobre tela I - Historiografía, técnicas y materiales</i> . San Sebastian: Nerea
Planned learning activities and teaching methods	Lectures and workshops in which students are encouraged to undertake studies and diagnostics and select methods to be used in conservation/restoration interventions on canvas and wood with the lecturer's support.
Assessment Methods and criteria	Final grade: Practical coursework (10%) Technical report (35%) Written test (55%)
Language of Instruction	Portuguese Mentoring in Spanish
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Conservation and Restoration VII
Course unit code	938030
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Leonor da Costa Pereira Loureiro
Learning outcomes of the course unit	Students will be provided with theoretical and practical knowledge in the fields of conservation and restoration of graphic documents. They should develop autonomous work in the fields of preservation, conservation and restoration of various types of graphic documents.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Modules from the curricula of Graphic Arts and Photography programmes.
Course contents	1.Graphic documents: introduction 2.Paper 3.Support materials 4.Alteration in paper supports and identification of pathologies 5.Characterisation of the cellulosic support 6.Restoration techniques, materials and procedures 8.Packaging, storage, display, transportation 9.Ethical principles 10. Budgeting
Recommended or required Reading	- BANDEIRA, A.(1995). <i>Pergaminho e Papel em Portugal</i> . Lisboa: CELPA (ISBN 972-96838-0-8) e BAD (ISBN 972-9067-22-8) - BROWNING, B.(1977). <i>Analysis of Paper</i> . New York: Marcel Dekker (ISBN-13: 978-0824764081) - GASCOIGNE, B.(2004). <i>How to Identify Prints</i> . London: Thames & Hudson (ISBN-13: 978-0500284803) - Vários, V.(2013). <i>Paper Conservator (The).Paper Conservator (The), I a actual,</i>
Planned learning activities and teaching methods	Lectures. Laboratory sessions including practice with graphic objects from archives, libraries, museums and private individuals.
Assessment Methods and criteria	Practical component: performance, attendance + practical reports. Theoretical component: examination Final grade is the average of the two components and must be at least 9.5/20
Language of Instruction	Portuguese Mentoring in English
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Environmental Control
Course unit code	938031
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	Helena Cláudia Telo Falcão Neto
Learning outcomes of the course unit	Students will familiarise themselves with the factors that contribute to the decay of materials and the ways of controlling external and internal climate conditions of art collections and cultural assets.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	Theoretical Component: 1.Introduction 2.Theoretical principles 3.Water/environment relationship 4.Thermal comfort 5.Thermal loads 6.Lighting technique 7.Exposure to chemical agents Practical Component: 1.Introduction and methodology 2.Technological resources for monitoring and control 3.Monitoring and data analysis 4.Worksheets 5.Risk Assessment 6.Environmental Control
Recommended or required Reading	<ul style="list-style-type: none"> - Schaffer, T.(2001). <i>Effects of Light on Materials in Collections: Data on photoplash and related sources</i>. New York: The Getty Conservation Institute - Matias, L. e Pina dos Santos, C. (2006). <i>Coeficientes de Transmissão Térmica de Elementos da Envolvente dos Edifícios</i>. Lisboa: Laboratório Nacional de Engenharia Civil - Camuffo, D.(1998). <i>Microclimate for Cultural Heritage. Developments in Atmospheric Science</i>. Oxford: Elsevier - Aslhey-Smith, J.(1999). <i>Risk Assessment for Object Conservation</i>. London: Butterworth
Planned learning activities and teaching methods	Lectures and tutorials. Worksheets and case study analysis.
Assessment Methods and criteria	Open-book exam and worksheets. Minimum pass mark is 9.5/20 and is the average of all assessment tasks.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	History III
Course unit code	938057
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando Augusto Desterro Oudinot Larcher Nunes
Learning outcomes of the course unit	A general overview of contemporary history through a systematic approach to the major periods and cycles providing a solid basis for in-depth study. Periodisations are founded on institutional history and international relations because they are of a more structural nature.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	Introduction: The protoinstitutional Portugal(1789-1820); The Contemporary Portugal (1820-1985): First period. The Constitutional monarchy: Second period. The First Republic: third period. The "Estado Novo" period.
Recommended or required Reading	- .. <i>..to be defined on the basis of the students choice of theme.</i> ∴ .
Planned learning activities and teaching methods	Lectures supported by text analysis and debate.
Assessment Methods and criteria	Two mid-term tests with minimum pass mark of 10/20. Final written exam for those failing continuous assessment (minimum pass mark:10/20). An essay that may improve final score by 1 point.
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	History and Technology of Woodcarving (*)
Course unit code	938064
Type of course unit	Optional
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	José Manuel da Silva
Learning outcomes of the course unit	The students should be able to identify the main styles and artistic manifestations of carving, the main techniques and materials used in the production of woodcarving and develop creative thinking and manual skills.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1. The importance of carving and its different applications. Contextualisation of carved artworks and relation with other art manifestations 2. The main manifestations of religious carving in Portugal (altarpieces, choir stalls etc.)and the several styles from Gothic to neo-classical. 3. Practical exercises:carving,gilding, gold leaf decoration
Recommended or required Reading	- Alves, N.(1989). <i>A Arte da Talha no Porto na época Barroca</i> . (Vol. I e II). Porto: C.M. Porto - Ferreira, S.(2008). <i>A TALHA, Esplendores de um passado ainda presente (sec.XVI-XVII)</i> ,. Lisboa: Edições Nova Terra - Budden, S.(1991). <i>Gilding and Surface Decoration</i> . London: United Kingdom Institute for Conservation of historic and Artistic Works - Mactaggart, P.(1984). <i>Practical Gilding</i> . England: Mac & Me Ltd
Planned learning activities and teaching methods	Lectures; face-to-face classes supported by audiovisual resources. Laboratory Practice. Tutorial guidance.
Assessment Methods and criteria	Continuous assessment: Literature review on theoretical matters. Practical performance and technical report + written test. Final assessment - written examination
Language of Instruction	Portuguese Mentoring in Italian
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	History and Technology of Woodcarving and Furniture (*)
Course unit code	938069
Type of course unit	Optional
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando dos Santos Antunes
Learning outcomes of the course unit	Knowledge of the techniques and technologies of wood carving and furniture artistic production; Knowledge/use of raw materials, products, materials, tools and equipment; Put into practice the main production techniques; Develop manual skills, concentration and technical accuracy in execution.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	Introduction to the history of woodcarving and furniture; Materials applied to the artistic production; Wood structures – assemblage and joinery systems; Ornamental and figurative decorative techniques; Decorative coverings in metal leafs and polychromes; Decorative techniques in furniture.
Recommended or required Reading	<ul style="list-style-type: none"> - AA.VV., .(1991). <i>Gilded Wood: Conservation and History. (Gilding Conservation Symposium, Philadelphia Museum of Art, Pennsylvania)</i>. Madison, Connecticut: Sound View Press - BAUDRY, M.(1978). <i>La Sculpture</i>. Paris: Ministère de la Culture, Imprimerie National - BROUN, J.(1994). <i>The Encyclopedia of Wood Working Techniques</i>. London: Quatro Publishing, Headline Book Publishing - TRILLAT, R. e AIMPEAU, B. e TRILLAT, H. (1981). <i>Technologie des Métiers du Bois: Menuiserie, Ebénisterie, Agencement</i>. (Vol. 1,2,3). Paris: Dunod
Planned learning activities and teaching methods	Continuous Assessment: students will perform different optional exercises from the phase of design to the selection and preparation of woods, the marking and transposition of drawing/sketch, the woodworking and decoration/finish.
Assessment Methods and criteria	Assessment and weighted average: Theoretical component: -Portfolio - descriptive report (30%) -Poster (20%) Practical component: -Portfolio - exercises (40%) - Assiduity and class performance(10%).
Language of Instruction	Portuguese
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	Iconology (*)
Course unit code	938063
Type of course unit	Optional
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando Augusto Desterro Oudinot Larcher Nunes
Learning outcomes of the course unit	The students should understand the concept and scope of iconology, be familiar with the work tools and gain critical skills on iconology related issues.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Have previous knowledge of History, Art History and Iconography
Recommended optional programme components	Iconography
Course contents	1. Concept and scope of iconology - etymology and concept - iconology and its evolution - the major contributions 2. The iconological documentation and the different approaches 3. The iconological terminology - concept and general aspects - the evolution of western language 4. The colour grammar
Recommended or required Reading	- Gonçalves, F.(1990). <i>História da arte: iconografia e crítica</i> . Lisboa: INCM - Gombrich, E.(1970). <i>Aby Warburg. An Intellectual Biography</i> . London: Warburg Institute - Lemaitre, J. e Dubois, J. (1993). <i>Sources et méthodes de l'hagiographie médiévale</i> . Paris: Cerf - Lindley, P. e Bolvig, A. (2003). <i>History and Images. Towards a new iconology</i> . Brepols: Turnhout
Planned learning activities and teaching methods	Lectures supported by datashow. Practical lessons comprising iconological interpretation.
Assessment Methods and criteria	1. Written assessment: one mid-term test and one exam. 2. Presentation and discussion of an individual coursework assignment worth 40% of the total grade.
Language of Instruction	Portuguese
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	Photographic Methods
Course unit code	938059
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	First Semester
Number of ECTS credits allocated	4.5
Name of Lecturer(s)	António Martiniano Ventura
Learning outcomes of the course unit	Students will be provided with technical and scientific resources that will enable them to learn photographic techniques as a tool for applied work, particularly in the area of conservation/restoration.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contentes	1. Photography as a complex system 2. The photographic approach 3. The interaction of light and matter 4. The close-up photography: micro and macro 5. Object photography: two-dimensional and three-dimensional 6. Light sources in photography 7. Surface examination method 8. Facilities and equipments, handling care and rules of usage.
Recommended or required Reading	<ul style="list-style-type: none"> - AAVV, A. (1992). <i>Problemi di Restauro, Riflessioni e Recherche</i>. (Vol. 1). (pp. 1-150). Florença: Edifir - Thomas, B. (1980). <i>Light - Its Interaction with Art and Antiquities</i>. New York: Plenum Press - Blaker, A. (1989). <i>Handbook for Scientific Photography</i>. London: Focal Press - AA. VV., .. (1992). <i>Problemi di Restauro, Riflessioni e Recherche</i>. : Edizioni Firenzi - Ventura, A. (0). <i>Fotografia Aplicada - algumas considerações gerais</i>. Acedido em 10 de novembro de 2014 em https://dl.dropboxusercontent.com/u/6359651/foto%20aplicada/foto_aplicada%202.pdf - Silveira Ramos, M. e Soudo, J. (0). <i>Manual de Técnicas Fotográficas</i>. Acedido em 9 de novembro de 2014 em https://dl.dropboxusercontent.com/u/6359651/manuais%20de%20fotografia/1_Manual_Tec_Foto.pdf - Silveira Ramos, M. e Soudo, J. (0). <i>Manual de Técnicas de Iluminação em Fotografia</i>. Acedido em 9 de novembro de 2014 em https://dl.dropboxusercontent.com/u/6359651/manuais%20de%20fotografia/3_Manual_Ilum_Foto.pdf
Planned learning activities and teaching methods	A number of structured exercises are proposed that help students understand and master the photographic processes.
Assessment Methods and criteria	Assessment is based on class performance and the presentation and defense of practical coursework assignments.
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Conservation and Restoration Project
Course unit code	938037
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	6
Name of Lecturer(s)	Carla Maria P. Calado Rodrigues do Rego Fernando dos Santos Antunes Helena Cláudia Telo Falcão Neto Leonor da Costa Pereira Loureiro Ricardo Pereira Triães Fernando Manuel Conceição Costa
Learning outcomes of the course unit	Students should be able to expand previously acquired knowledge and skills and apply them in new situations, develop new competencies adapted to current labour market as well as develop communication and dissemination strategies.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	In this course students should produce: - A Conservation and Restoration project on a topic of the relevant specialty selected with the lecturer's advice and also followed up and supervised by him/her. - Public oral presentation of the project making use of multimedia resources.
Recommended or required Reading	- BUYS, S. e OAKLEY, V. (1993). <i>The Conservation and Restoration of Ceramics</i> . London: Butterworth, Heinemann - ORDOÑEZ, C. e ORDOÑEZ, L. e ROTAECHÉ, M. (1996). <i>Il Mobile: Conservazione e Restauro</i> . Fiosole: Nardini Editore - PERUSINI, G. (1989). <i>Il Restauro dei Dipinti e delle Sculture Lignee</i> . Firenze: Del Bianco Editore - AIRES-BARROS, L. (1991). <i>Alteração e Alterabilidade das rochas</i> . (Vol. 1). Lisboa: Instituto Nacional de Investigação Científica, Centro de Petrologia e Geoquímica da Universidade Técnica de Lisboa
Planned learning activities and teaching methods	Tutorial sessions to support students in the preparation of projects including the provision of specific reading.
Assessment Methods and criteria	Assessment includes: -Written Research Work - Conservation-Restoration project (70%); -Public Oral Presentation of Project (15%); -Computer Multimedia Document supporting the oral presentation(15%).
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	History and Theory of Conservation and Restoration
Course unit code	938039
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando Sanchez Salvador Leonor da Costa Pereira Loureiro
Learning outcomes of the course unit	An overview of the history of C&R:the 19th century and Viollet-le-Duc and John Ruskin;the modern theories of Camilo Boito, Giovannoni and Césare Brandi. Recent contemporary authors. Students must demonstrate to understand C&R ethical principles and make informed decisions.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme componentes	Not applicable.
Course contentes	A synopsis of conservation theories. The 19th century and early theories and intervention criteria - The restoration approach of Viollet-le-Duc. John Ruskin and the anti-restoration movement. Modern theories and criteria: Camilo Boito and Gustavo Giovannoni.Brandi and the Critical Restoration. The evolution in Portugal: from the 19th century to the present day.
Recommended or required Reading	- Brandi, C.(1988). <i>A Teoria de la Restauración</i> . Madrid: Alianza Editorial - Gonzales-Varas, I.(2000). <i>Conservación de benes culturales-Teoria, história, principios e normas</i> . Madrid: Ediciones Cátedra - Neto, M.(1997). <i>James Murphy e o restauro do Mosteiro de Santa Maria da Vitória</i> . Lisboa: Editorial Estampa - Martinez-Justícia, M.(2001). <i>História y Teoria de la Conservación e Restauración Artística</i> . Madrid: Editorial Tecnos
Planned learning activities and teaching methods	Lectures comprising case study analysis and discussions.
Assessment Methods and criteria	Continuous assessment - class performance and written mid-term test. Final assessment - written examination
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	History of Portuguese Art III
Course unit code	938061
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Teresa Ribeiro Pereira Desterro
Learning outcomes of the course unit	Students should be able to identify and contextualise Portuguese contemporary art movements as well as the major artists of this period. They should view the work of art as an object of an artistic, aesthetical and historical nature.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1 - The Naturalism 2 - Portugal in 1910 and the Humorists 3 - Futurism in Portugal 4 - Amadeu de Sousa Cardoso (works, themes and styles) 5 - Eduardo Viana 6 - The Twenties 7 - The Thirties and the birth of the "Estado Novo" 8 - Vieira da Silva: "perspective as an abstraction" versus "abstraction as a perspective" 9 - Sculpture(1850-1950) 10- Portuguese architecture in the 20th century
Recommended or required Reading	- Moura, Sobral, Gonçalves, Meco., C.(1986). <i>História da Arte em Portugal</i> . (Vol. 11,12,13,14). Lisboa: Alfa - Afonso, N.(1999). <i>O Sentido da Arte</i> . Lisboa: Livros Horizonte - França, J.(2000). <i>A Arte e a Sociedade Portuguesa no Século XX</i> ,. Lisboa: Livros Horizonte - França, J.(1990). <i>A Arte em Portugal no Século XIX</i> ,. (Vol. 1,2). Lisboa: Bertrand
Planned learning activities and teaching methods	Lectures and practical classes focused on the analysis of artworks and its description, identification and contextualisation. Reading and interpretation of conceptual texts. Tutorial support.
Assessment Methods and criteria	Continuous assessment: a mid-term test + a practical essay on a theme of their choice to be selected among the themes dealt with in class (oral presentation included). Final assessment:written examination
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Iconography
Course unit code	938062
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Carlos José Rodarte de Almeida Veloso
Learning outcomes of the course unit	1.Provide the students with the comprehension of the concepts applied to Iconography/Iconology and their various forms. 2.Sensitise them to the several levels of interpretation and understanding of a work of art. 3.Provide them with the necessary skills to decode those interpretation levels.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	1.Iconography, Iconology and the study of symbols: the value of image. 2.Classical iconography. 3.Jewish iconography. 4.Christian iconography. 5.Islamic iconography. 6.Profane iconography. A possible systematization.
Recommended or required Reading	- GRIMAL, P.(1992). <i>Dicionário de Mitologia Grega e Romana</i> . Lisboa: Difel - PANOFSKY, E.(1986). <i>Estudos de Iconologia. Temas humanísticos na Arte do Renascimento</i> . Lisboa: Estampa - PEREIRA, P.(2014). <i>Decifrar a Arte em Portugal</i> . (Vol. 2 a 4). Lisboa: Círculo de Leitores - RÉAU, L.(1996). <i>Iconografía del Arte Cristiano</i> . (Vol. 1 a 5). Barcelona: Ediciones del Serbal
Planned learning activities and teaching methods	Lectures and practical classes supported by textual sources and datashow.
Assessment Methods and criteria	A written test for the students with a minimum of 50% of attended classes: a minimum mark of 10/20 exempts them from final examination. Final examination as applicable.
Language of Instruction	Portuguese Mentoring in French
Work placement(s)	Not applicable.

B - Description of individual course units

Course unit title	Furniture History and Technology (*)
Course unit code	938068
Type of course unit	Optional
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando dos Santos Antunes
Learning outcomes of the course unit	- Be familiar with the history and technology of furniture production. -Recognize the material, technological, artistic and aesthetic nature of an object. -Practise with production techniques specially decoration and finishing/polishing -Carry out projects
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	A. Introduction to the History of Furniture B. Introduction to Wood Conservation Laboratory C. Wood: Types, Properties, Characteristics, Defects D. Resins, Adhesives and Gums E. Artistic Furniture: - Wood-Staining with: Aqueous woodstains (Mordants); Transparencies (Dyes) Water and Alcohol Anilines. - Finishings/Polishings: Abrasives (Dry polishing); Oil; Varnish and Wax
Recommended or required Reading	- BROUN, J.(1994). <i>The Encyclopedia of Wood Working Techniques</i> . London: Quatro Publishing, Headline Book Publishing - CORKHILL, T.(1979). <i>A Glossary of Wood</i> . London: Stobart Davies - RAMOND, P.(1998). <i>Marquetry</i> . Dourdan: Éditions H. Vial - JOYCE, E.(1987). <i>The Technique of Furniture Making</i> . London: Batsford Book
Planned learning activities and teaching methods	Lectures. Laboratory sessions including practice on furniture production techniques, decoration and finishing/polishing exercises with the lecturer's support. Tutorial guidance.
Assessment Methods and criteria	CONTINUOUS ASSESSMENT • Theoretical Component(50%): - Portfolio-Technical specifications(30%) - Poster (20%) • Practical Component(50%): - Portfolio-Exercises developed in practical classes(40%) - Class performance (10%)
Language of Instruction	Korean
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	Heritage Law (*)
Course unit code	938066
Type of course unit	Optional
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando Augusto Desterro Oudinot Larcher Nunes
Learning outcomes of the course unit	Students should demonstrate to know the fundamentals of Portuguese cultural heritage law, be able to solve some real-world cases and be familiar with some comparative law approaches.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course content	1 . Heritage law. Preliminary concepts. 2 . Overall evolution of the concept of heritage and legislation from the 19th century to present. 3 . The evolution of the Portuguese legal system 4 . The Public Administration with jurisdiction over cultural heritage 6 . The guidelines of the present legal system 7. The patronage system 8. The professional status of conservators/restorers
Recommended or required Reading	- NABAIS, J.(1997). <i>Introdução ao Direito do Património Cultural</i> . Coimbra: Almedina
Planned learning activities and teaching methods	1. Lectures 2. Theoretical/Practical classes supported by case study analysis, problem solving and legislation analysis.
Assessment Methods and criteria	Written assessment: a) mid-term test. A mark of 10/20 exempt students from taking final exam b) final exam with minimum pass mark of 10/20
Language of Instruction	Portuguese
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	Sacred Worship and Worldview (*)
Course unit code	938067
Type of course unit	Optional
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Maria Madalena Giraldes Barba Pessoa Jorge Oudinot Larcher
Learning outcomes of the course unit	An overview of sacred art and its integration in the 3 great religions of the Book. Students should be able to integrate sacred objects in their social context and in the harmony-tension relationship between official norms and popular religiosity and be able to carry out detailed inventories.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable.
Recommended optional programme components	Not applicable.
Course contents	I. The Sacred Worship and Worldview in the three religions of The Book: history and heritage (religious buildings and implements): 1 . Judaism 2 . Christianity (catholic, orthodox and other eastern communities) 3 . Islam II. Christian art topics 1. The great Vatican Councils and rules on the use of religious icons 2 . Specific aspects of the Portuguese world: the case of Charities
Recommended or required Reading	- ., ..(2001). <i>Dicionário de História Religiosa de Portugal</i> . (Vol. 1 a 4). Lisboa: Universidade Católica
Planned learning activities and teaching methods	Lectures supported by datashow. Tutorial guidance.
Assessment Methods and criteria	Mid-term test (30%) and monography (70%) including oral presentation. A minimum average mark of 10/20 exempts students from taking the final exam.
Language of Instruction	Portuguese Mentoring in French
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	Portuguese History III
Course unit code	938060
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando Augusto Desterro Oudinot Larcher Nunes
Learning outcomes of the course unit	A general overview of contemporary history through a systematic approach to the major periods and cycles providing a solid basis for in-depth study. An exploration of documentary sources with an approach to relevant aspects of cultural heritage.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	Not applicable
Recommended optional programme componentes	Not applicable
Course contentes	INTRODUCTION. THE PROTOCONSTITUTIONAL PORTUGAL (1789-1820). The Revolutionary Threat(1789-1807). The Royal Court in Brazil (1807 - 1821) CONTEMPORARY PORTUGAL. From the Liberal Revolution to accession to the European Community (1820-1985) I. The Constitutional Monarchy (1820 - 1910) II. The First Republic (1910- 1926) III. The "Estado Novo" period (1926 - 1974)
Recommended or required Reading	- Serrão, J.(1974). <i>A Historiografia Portuguesa. Doutrina e Crítica</i> . (Vol. 1-3). Lisboa: . - Serrão, J.(1990). <i>Dicionário de História de Portugal</i> . (Vol. 1-6). Porto: .
Planned learning activities and teaching methods	Lectures supported by debate and analysis.
Assessment Methods and criteria	Two mid-term tests with minimum pass mark of 10/20. Final examination for those failing continuous assessment (minimum pass mark:10/20) 1 essay which may improve final score by 1 point.
Language of Instruction	Portuguese
Work placement(s)	Not applicable

B - Description of individual course units

Course unit title	Representation Methods
Course unit code	938038
Type of course unit	Compulsory
Level of Course unit	First Cycle
Year of Study	Third Year
Semester/Trimester when the course unit is delivered	Second Semester
Number of ECTS credits allocated	4
Name of Lecturer(s)	Fernando Sanchez Salvador
Learning outcomes of the course unit	Students should develop individual and team skills for representing 2D and 3D objects and be able to create appropriate graphic and drawing structures.
Mode of delivery	Face-to-face
Prerequisites and co-requisites	A pass in the module Introduction to Representation Methods is recommended.
Recommended optional programme components	Not applicable.
Course contents	Introduction. Graphic representation types. Ornate drawings: architectural and indoor spaces, furniture, ornamental motifs. Architectural and construction drawing. Urban space and city drawings. Reconstitutive and prospective drawing. Scale and proportion. Surveying techniques.
Recommended or required Reading	<ul style="list-style-type: none"> - CARNEIRO, .(1995). <i>Campo Sujeito e Representação no Ensino e na Prática do Desenho/ Projecto</i>. Porto: FAUP Publicações, Serie 2 Argumentos-seis lições - DAMISCH, .(1994). <i>L'Origine de la Perspective</i>. Paris: Ed. Champs- Flammarion. - GIL, J.(1996). <i>A imagem- nua e as Pequenas Percepções, Estética e Metafenomenologia</i>. Lisboa: Ed.Relógio d' Água Editores - GHYKA, .(1983). <i>Estética de las Proporciones en la Naturaleza y en Las Artes</i>. Barcelona: Editorial Poseidon
Planned learning activities and teaching methods	Lectures, tutorials and field trips.
Assessment Methods and criteria	Continuous assessment: practical coursework and portfolio(Tr1+Tr2): C= 0,5 Tr1 +0,5 Tr2. Collective discussion. Written test:Ex= 0,5 (Tr1 + Tr2) + 0,5 Exam
Language of Instruction	Portuguese
Work placement(s)	Not applicable.

