

The Built Heritage Sector in Portugal: Education in Conservation and Professionalisation.

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ABSTRACT: In the built heritage sector in Portugal, regarding professional training for contractors and craftsmen there is no specific preparation on Conservation as it focuses exclusively on new construction. As far as academic education is concerned, Master's degree courses offer some subjects, but generally optional. Recently, there has been an increase in multidisciplinary advanced training, as recommended in the Principles for Capacity Building through Education and Training in Safeguarding and Integrated Conservation of Cultural Heritage, draft by CIF-ICOMOS. However, neither the professional associations nor the existing legislation require these skills before professional practice. This article analyses and discusses professional training and academic education in the built heritage sector in Portugal, as well as the legislation governing the professional practice.

1 INTRODUCTION

The education and qualification of professionals in the built heritage sector is a priority of ICOMOS-Portugal. Recent research has shown that higher education and professional training in the built heritage sector in Portugal are mainly concerned with new constructions (Genin, 2017).

First of all, we must provide some background details about the specific nature of the Portuguese context, where Conservation has never been considered an autonomous discipline, as is the case, for example, in other countries, such as Italy and France (Ferreira, 2017). Regarding higher education, undergraduate studies and the integrated Master's degrees offer architecture and engineering courses that provide qualified and internationally recognised training. In the Master's degree courses, some Conservation subjects are offered, but these are generally optional. Recently, there has been an increase in advanced third degree training, namely Advanced Studies and PhD programmes.

In Portugal, there are two training centres specifically dedicated to professional training for contractors and craftsmen in the north and south of the countryⁱ. These training organisations have no specific Curricular Unit (CU) on Conservation/restoration as they focus exclusively on new constructions.

Universities continue to turn out graduate professionals who will become responsible for projects and works, without giving them, in some cases, specific

education in built heritage Conservation, despite their being the largest source of employment in the current context. This may partially contribute to the proliferation of demolitions and new constructions instead of so-called "rehabilitations", leading to irreversible interventions and a loss of authenticity. "Rehabilitation" has become the fashionable word, instead of "Conservation", for the latter clearly means "to conserve".

Faced with this scenario, it is important to recall the definition of "Conservation" and "Rehabilitation" offered by Feilden, which is that Rehabilitation is one of the levels of Conservation, and that the main goal is minimal interventionⁱⁱ (Feilden, 1982).

1.1. Methodology

The methodology of this paper involved a research on the scanty existing literature regarding Conservation education in Portugal, followed by an exhaustive survey on the reviewing academic curricula in Conservation, namely the courses and curricular units offered at universities and vocational training centres. The data obtained were treated and organised in tables according to the level of studies (first degree, Master's degree and advanced studies).

Some interviews were also conducted with those responsible for operating these courses at different faculties and training centres. Furthermore, a debate with Architectural Faculties Directors' to discuss the education on Conservation was promoted by ICO-

MOS-Portugal, and some of the conclusions are presented in this article.

Besides examining the training that is available, this research is further complemented with data on the legislation and regulations governing the professional associations and the built heritage sector. This information will allow us to further reflect upon and discuss the causes of the problems relating to professional practice in the built heritage sector in Portugal.

1.2. Education

The national qualification framework (NQF), defined in Portaria (Order in Council) No. 782/2009, of 23 July, is closely linked to the European qualification framework (EQF) and adopts the same eight levels of Education: Level 1 – second cycle of basic education; Level 2 – third cycle of basic education, obtained in regular education or through dual certification courses; Level 3 – secondary education aimed at the pursuit of studies at a higher level; Level 4 – secondary education obtained through dual certification courses or secondary education aimed at the pursuit of studies at a higher level plus a professional internship – minimum of six months; Level 5 – post-secondary, but not higher education qualification with credits for pursuing studies at a higher level; Level 6 – first cycle of higher education, undergraduate studies; Level 7 – second cycle of higher education, Master's degree course; Level 8 – third cycle of higher education, advanced studies and PhD (Rocha, 2014).

This paper is mainly concerned with levels 6 to 8. It also analyses the education given to architects and civil engineers, who are responsible for project management, supervision and construction, as well as that given to archaeologists and art historians who are involved right from the moment of preliminary and multidisciplinary study, in keeping with the international recommendations for the safeguarding of Built Heritage.

The Principles for Capacity Building through Education and Training in Safeguarding and Integrated Conservation of Cultural Heritage, draft by the International Training Committee of ICOMOS (CIF) complement the Guidelines for Education and Training in the Conservation of Monuments, Ensembles and Sites, adopted since 1993 by ICOMOS. The article 18 states that "*Conservation Architects, Planners, Landscape Architects, Engineers: These professionals deal with the preservation and conservation of a broad range of tangible and intangible heritage including historic buildings and structures, historic cities and cultural landscapes. These professions require a university degree, plus an advanced degree in their specialised area, and professional accreditation*". The article 23 adds that "*numerous professionals who are not specialised in Conservation can be involved in working on historic*

buildings, structures and sites or in making decisions that will affect heritage environment. Capacity Building requirements for them need to incorporate basic courses on cultural heritage conservation into the university curricula for each of the professional disciplines, in addition to offering a range of short professional-level courses for those already practicing." (CIF, 2013).

1.3. Legislation and Practice

A crucial problem in the Portuguese context is that the legislation does not require adequate skills for construction companies, and the professional associations do not require specialisation in Conservation for the elaboration of projects. Only in the case of listed heritage is the participation required of an architect specialising in Conservation. There is a lack of theoretical training, but everyone practises, since Rehabilitation is currently the largest source of employment in the construction sector.

Moreover, according to the national legislation governing archaeological works, an archaeologist can ask for permission to engage in "C and D Category" archaeological works, which may involve maintenance and conservation activities. The scientific director will be responsible for the safeguarding, protection and conservation of immovable heritage. When it comes to reporting on the archaeological works performed, a "description of the conservation, restoration and protection activities implemented and proposed" has to be included. These indications were maintained in the most recent law, published in 2014 (164/2014). It is not only the built heritage that Archaeology deals with. When it comes to the discovery of objects, the archaeologist is normally the first person to handle these.

The Portuguese architect's order created the Architectural Heritage College, which confers the status of expert on its enrolled students, but does not grant them exclusivity in the elaboration of Specialised Projects. In this way, any architect without training in the area may be responsible for a Conservation project.

In practice, architects design and approve what they call "rehabilitation" projects, which can include: "façadism", "pastiche" and new constructions imposing the "brand identity of an architect". Civil engineers design concrete structures instead of wooden structures. Archaeologists are normally called upon to intervene during the course of the work, but not in the project phase. Art historians are not even called upon to elaborate a preliminary historical study. Construction companies do not have specialised workers.

As observed by Sergio Infante, "*The close relationship between the architectural conservation project and the historical-archaeological research allows us to develop an integrated conservation*

methodology that has theoretically been defended in international charters and resolutions for the restoration of the architectural heritage, but which in practice is not rooted among us. We are already in a period when we can not continue to formulate constantly, and in the abstract, the objectives to be achieved, but it requires us to concentrate and strive to find the necessary qualification to achieve them." (Infante, 2003).

2 ARCHITECTURE

Initially, there were two Architecture courses available in Portugal – in Lisbon and Porto. In the 80s of last century, the Escola Superior de Belas Artes de Lisboa (ESBAL) offered the possibility of choosing, in the last year of the course, from one of three Project areas: Architecture, Urbanism or Conservation. (Aguar, 2018). These specialities were duly recognised.

Nowadays, there are sixteen Integrated Master's Degree courses in Architecture, operating under the Bologna system and corresponding to three years of undergraduate study, followed by 2 years of a Master's Degree course. This qualification is required in order to take responsibility for project design and management. The tendency is for more general education to be provided in the three years leading to the first degree, with more specific courses, such as Conservation, being introduced at the level of the Master's Degree, advanced studies and PhD courses. These last degrees are not restricted to architects, but are also open to other scientific areas.

2.1 Bachelor's Degree

There is no degree in Architecture that includes CUs in Conservation at the undergraduate level (1st cycle). Therefore, students who complete the third year of study will not have received any training in this field.

2.2 Integrated Master's Degree

Among the sixteen Integrated Master's Degrees, only four courses offer a reasonable number of CUs in the area of Architectural Conservation.

One course, in particular, stands out: the Integrated Master's Degree in Architecture and Urbanism (IMAU) at the Escola Superior de Gallaecia, which devotes a whole semester to Conservation, requiring the study of 4 CUs in the 8th semester (Project-Heritage; History and Theory of Conservation and Restoration; Legislation and Heritage Conservation; Diagnosis and Techniques in Conservation and Restoration). In addition to these four CUs being com-

pulsory, this plan allows for the development of the Project in a multidisciplinary way, which is considered to be preferable in the teaching and practice of Conservation.

The Integrated Master's Degree course in Architecture, Specialisation in Interior Architecture and Building Rehabilitation, of the Faculty of Architecture of the University of Lisbon (FAUL) has, in its 4th year, three compulsory CUs (Conservation, Restoration and Rehabilitation I and II and Rehabilitation and Conservation Technology) and three optional CUs from among a broad choice of 13 CUs in the Conservation area (Geotechnics and Foundations of Old Buildings; Materials and Technologies of Traditional Construction; Conservation Project; Restoration and Rehabilitation; Urban and Site Rehabilitation Project; Legal Protection and Heritage Management; Pathology in Traditional Construction; Colour Design for the Rehabilitation of Architectural Surfaces; Urban Rehabilitation Project in Historic Areas – Strategy of Intervention; Seismic Rehabilitation Project; Heritage Sustainability and Rehabilitation; Conservation Techniques; History and Theory of Architectural Restoration). Many of these optional CUs are included in advanced and doctoral studies, allowing for a specialised learning. With so many available options, students are thus able to acquire good skills and knowledge in the Conservation area, if they are well taught, and can take a total of six CUs.

The Integrated Master's Degree course in Architecture (IMA) of FAUL has two compulsory CUs (Conservation, Restoration and Rehabilitation; Rehabilitation and Conservation Technologies) and the possibility of taking two optional CUs in the 4th year and two others in the 5th year, from among the 13 CUs previously stated. Just as in the previous course, students may acquire basic competences if they complete a total of six CUs in the Architectural Conservation area.

The IMA of the University Autónoma has two compulsory CUs in the 4th year (Architectural Heritage and Methods of Rehabilitation I and II).

In the other courses, the possibility of studying subjects related to Conservation is either limited in nature or does not exist at all.

Five courses offer only one CU in Conservation, and do not have optional CUs. The CUs are mostly included in the area of technology:

- The IMA of ISCTE – University Institute of Lisbon, Instituto Superior Técnico (Conservation and Rehabilitation of Buildings);
- The IMA of the University of Beira Interior (Heritage Restoration and Urban Regeneration);
- The IMA of Universidade Fernando Pessoa (Building Rehabilitation);
- The IMA of Instituto Superior Técnico (Building Rehabilitation);

- The IMA of Universidade Lusófona (Rehabilitation and Conservation of Buildings).

Seven courses do not have any compulsory CUs in Conservation and only offer the subject as an option.

- The IMA of the University of Minho offers two optional design Studio (Atelier) and related Seminar in the 4th and the 5th year (History and Ucrony; Pathology and Rehabilitation). Moreover, this IMA offers one optional CU in the 4th year (Sustainability and Durability of Buildings) and three optional CUs in the 5th year (Urban Heritage; Conservation and Restoration of the Built Heritage; Pathology and Non-Structural Rehabilitation of Buildings and Urban Heritage). Students can, if desired, take a total of six CUs in the Conservation area;

- The IMA of the University of Coimbra offers three options (Intervention in the Cultural Heritage. Rehabilitation Policy and Law; Reconstruction Theory and Practice);

- The IMA of the Faculty of Architecture of the University of Porto offers two options from three (Architectural Intervention in the Archaeological Context; Architectural Heritage; Building Rehabilitation);

- The IMA of the University of Évora (Methodologies of Intervention in the Architectural Heritage).

Finally, there are three courses that do not even offer options – at Universidade Lusíada, of Porto and Lisbon, and Escola Superior Artística do Porto.

This means that in those courses where the CUs are either optional or non-existent, the future architect can obtain a Master's degree without ever having heard of Conservation.

Integrated Masters in Architecture (IMA) and Integrated Masters in Architecture and Urbanism (IMAU)	Mandatory CU	Optional CU
Un. Gallaecia (IMAU)	4	0
Un. Lisboa - FAUL, (IMA, Interiores e Reabilitação do Edificado)	3	3
Un. Lisboa - FAUL (IMA)	2	4
Un. Autónoma de Lisboa (IMA)	2	0
ISCTE-Instituto Universitário de Lisboa (IMA)	1	0
Un. Beira Interior (IMA)	1	0
Un. Fernando Pessoa (IMAU)	1	0
Un. Lisboa - IST (IMA)	1	0
Un. Lusófona (IMA)	1	0
Un. Minho (IMA)	0	4
Un. Coimbra (IMA)	0	4
Un. Porto - FAUP (IMA)	0	3
Un. Évora (IMA)	0	1
Escola Sup. Artística do Porto (IMA)	0	0
Un Lusíada, Porto (IMA)	0	0
Un. Lusíada, Lisboa (IMA)	0	0

Figure 1. Number of compulsory and optional CUs in Building Conservation and Rehabilitation in the courses of Integrated Master's Degrees in Architecture (IMA) and Urbanism (IMAU) in Portugal.

2.3 Master's Degree and Postgraduate Courses

The Master's Degree and Postgraduate Studies are courses from the 2nd cycle of Higher Education, which allow for specialisations, but do not confer the knowledge and skills required for the authorship and management of Architecture Projects. The entry requirement for these courses is a Bachelor's or First Degree, and they are open to students from other related areas of academic study.

The following courses in the Architectural Conservation area are available in Portugal:

- The Master's Degree in Integrated Urban Rehabilitation at the University of Coimbra;

- The Postgraduate Course in Trends in Urban and Architectural Rehabilitation at Universidade Lusíada do Porto;

- The Postgraduate Integrated Project for the Rehabilitation of Old Buildings, at Universidade Lusófona de Lisboa;

- The Postgraduate Built Heritage Rehabilitation Course, at Universidade Fernando Pessoa, in Porto.

2.4 Advanced Level

The two Faculties of Architecture in Lisbon and Porto both offer courses for the 3rd cycle of specialisation in Architectural Conservation.

The Faculty of Architecture of the University of Lisbon (FAUL) offers two possibilities for specialisation: a) Advanced Diploma in Architectural Conservation and Rehabilitation Project, with the scientific areas of: Architectural Project; Architectural Technologies; Theory and History; Drawing and Geometry; b) PhD in Architecture – Specialisation in Conservation and Restoration, with four CUs in the area of Conservation: Colour Design for the Rehabilitation of Architectural Surfaces; Conservation Project; Rehabilitation and Restoration; Urban and Site Rehabilitation Project; and Legal Protection and Heritage Management. These CUs are also options for the IMA Course.

The Advanced Diploma course is closely linked to the PhD study plan, allowing for continuity and greater specialisation in Conservation.

The Faculty of Architecture of the University of Porto (FAUP) also offers an Advanced Diploma Course linked to its PhD programme in Architecture. However this course does not propose any specialisation in Conservation.

The Advanced Diploma course in Architectural Heritage offered by FAUP lasts for one year and includes the areas of Architecture and Design, and Architectural Engineering.

The remaining PhD programmes offered by other institutions do not include a specialisation in Architectural Conservation. There is only one compulsory CU relating to Conservation in the PhD Architecture

Programme of IST (Constructive Processes; Rehabilitation and Sustainability). The PhD Programme in the Architecture of Contemporary Metropolitan Territories at ISCTE-IUL offers one optional CU (Surveying and Photogrammetry Methods in Conservation Projects). The remaining PhD programmes of the University of Minho, University of Coimbra and Universidade Lusófona do not offer compulsory CUs, but may, however, include optional CUs.

3 CIVIL ENGINEERING

As in the case of Architecture, the education provided in Engineering tends to offer more general CUs for undergraduate studies and Master's Degrees, with very little concern for conservation issues. Moreover, there is a greater emphasis on the teaching of concrete structures compared with timber structures, which are much more compatible with historical buildings. Some courses offer Conservation CUs only at the Master's Degree level.

3.1 Undergraduate Studies

Again, as in the case of Architecture, the Bachelor's or First Degree offers no courses with Conservation CUs. All CUs in this area are only taught at the Master's Degree level.

3.2 Integrated Master's Degree

Of the 11 Integrated Master's Degrees in Civil Engineering (IMCE) analysed, only the University of Aveiro offers some training in the Conservation area. There are two compulsory CUs in the 4th year (Pathology of Constructions, Conservation and Rehabilitation of Constructions), as well as other optional CUs.

For the other courses in Civil Engineering, in the specialist area of Constructions, four courses offer one compulsory CU: the Faculty of Engineering of the University of Porto – FEUP (Pathology of Materials), Instituto Superior Técnico – IST (Pathology and Rehabilitation of Constructions), University of Beira Interior (Pathology of Constructions) and Universidade Nova (Rehabilitation of Buildings).

In the area of Structures, the CU of Conservation is normally optional. Only the University of Beira Interior offers a compulsory CU (Pathology of Constructions).

The supply of training in Conservation is clearly insufficient in the Civil Engineering curriculum. Moreover, the greatest shortages are found in the area of Structures. Structural reinforcement is one of

the most crucial issues in Conservation projects, which are the responsibility of civil engineers. This speciality is needed at the very start of any project, in order to prepare a report on the conservation situation of the structures.

Integrated Masters in Civil Engineering (IMCE)	Mandatory CU	Optional CU
Un. Aveiro (IMCE)	2	2
Un. Nova de Lisboa - FCT (IMCE,	1	2
Un. Beira Interior (IMCE, Constructions and Structures)	1	2
Un. Lisboa - IST (IMCE, Constructions)	1	0
Un. Porto - FEUP (IMCE, Materials and process of construction)	1	0
Un. Minho (IMCE, Structures)	0	2
Un. Nova de Lisboa - FCT (MIEC,	0	2
Un. Coimbra (MIEC, Construções e	0	1
Un. Minho (IMCE, Constructions)	0	1
Un. Lisboa - IST (IMCE, Structures)	0	1
Un. Porto - FEUP (IMCE, Structures)	0	1

Figure 2. Number of compulsory and optional CUs in Conservation and Rehabilitation of Buildings, in the Integrated Master's Degree courses in Civil Engineering (IMCE) in Portugal.

3.3 Master's Degree and Postgraduate Courses

University of Minho offers two 2nd cycle Master's Degree Courses: Construction and Rehabilitation; and Structural Analysis of Monuments and Historical Constructions, each lasting three semesters.

The University of Coimbra offers an Advanced Specialisation Master's Degree Course in Building Rehabilitation, lasting three semesters. It is divided into two branches: Structural Rehabilitation of Buildings and Non-Structural Rehabilitation of Buildings.

As in the case of Architecture, these Master's Degree programmes are intended for students holding a Bachelor's or First Degree, but they do not confer qualifications relating to the authorship or management of projects.

3.4 Advanced Studies

FEUP offers Advanced Studies programmes in Heritage Building Rehabilitation, for both civil engineers and architects.

University of Minho offers a PhD programme for Civil Engineers, plus a wide range of optional CUs: Restoration and Conservation of Materials; History of Construction and Conservation; Inspection and Diagnosis; Building Rehabilitation; Built Heritage Management Systems; Repairing and Strengthening Techniques; Conservation; Optimisation and Rehabilitation of the Road Network; Life Service Project and Quality Control.

The PhD programme in Civil Engineering/Buildings, at Coimbra University, offers four optional CUs: Building Energy and Acoustics Rehabilitation Strategies; Rehabilitation of Historic Buildings, Rehabilitation of Façades and Roofs, Building Rehabilitation. In the Structures area, three optional CUs are offered: Design, Dimension and Rehabilitation of Structures, Rehabilitation of Historic Structures, Rehabilitation of Concrete Structures.

IST offers a PhD Programme in Eco-buildings and Rehabilitation.

4 ARCHAEOLOGY

In relation to the education provided in the field of Archaeology in Portugal, it should be stressed that this is a considerably recent area. In the 1980s, Archaeology emerged as a degree offered by History Departments and no longer as just a CU, following the Southern European model, whereas in Northern Europe this training is more specialised (Meireles, 2006: 116).

Training in archaeology has been growing since then, so that nowadays there are many courses offered all around the country. Unlike Architecture or Civil Engineering there are no Integrated Master's Degrees in Archaeology, although a Master's Degree is considered compulsory for those wishing to coordinate archaeological works.

Most future archaeologists in Portugal do not have any training in Conservation, although, in their future careers, they will be expected to deal with built heritage on a daily basis.

4.1 Undergraduate Studies

Most of the basic training offered in Archaeology does not include compulsory education in Conservation, either in theory or practice. It is only when Archaeology is taught in connection with Heritage and History that we find compulsory CUs relating to Conservation:

- The First Degree in Cultural Heritage and Archaeology offered by the University of Algarve is the only one that has two compulsory CUs: "Introduction to Cultural Heritage"; and "Management of Cultural Heritage"

- The First Degree in History and Archaeology offered by the University of Évora has a compulsory CU entitled "Introduction to Cultural Heritage".

- The First Degree in Archaeology of the University of Porto has a compulsory CU entitled "Heritage Management", in which the study of heritage conventions is introduced.

- The First Degree in Art History of the University of Lisbon's "Introduction to Heritage Science"

can be an optional CU chosen by Archaeology students

- The First Degree in Art History of Universidade Nova de Lisboa's "Introduction to Heritage Science" can be an optional CU chosen by Archaeology students.

First Degree in Archaeology	Compulsory CU	Optional CU
Un. Lisboa – FL	0	1
Un. Nova de Lisboa - FCSH	0	1
Un. Minho – ICS	0	0
Un. Coimbra – FL	0	0
Un. Porto – FL	1	0
Un. Évora – ECS	1	0
Un. Algarve - FCSH	2	0

Figure 3. Number of compulsory and optional Conservation-related CUs in First Degree courses in Archaeology in Portugal.

4.2 Master's Degrees

As far as Master's Degree studies are concerned, the situation is even more critical, but it can be argued that the following courses are concerned more with research than with providing an education for the purposes of professional integration.

It is only in relation to the study of objects, mainly prehistorical ones, that the title "Conservation" appears as an optional CU at Instituto Politécnico de Tomar.

MA in Archaeology	Compulsory CU	Optional CU
Un. Lisboa – FL	0	0
Un. Nova de Lisboa – FCSH	0	0
Un. Minho - ICS	0	0
Un. Coimbra - FL	0	0
Un. Porto - FL	0	0
Un. Évora - ECS	0	0
Un. Algarve - FCSH	0	0
Un. Autónoma	0	0
Inst. Politécnico de Tomar	0	0
Inst. Politécnico de Tomar	0	1

Figure 4. Number of compulsory and optional Conservation-related CUs in MA Archaeology courses in Portugal.

4.3 Advanced Studies

While, in 2001, only the University of Porto offered a PhD programme in Archaeology (Bicho, 2001: 15), there are now six universities providing such

courses: University of Lisbon-FL, Minho-ICS, Coimbra-FL, Porto-FL, Évora-ECS and Algarve-FCSH. None of these provide any specific training in Conservation. Yet again, it can be argued that there are specific programmes relating to Conservation when it comes to advanced studies in the Heritage sector.

5 ART HISTORY

5.1 Undergraduate Studies

In the case of education in Art History, in recent years there has been an increase in the number of CUs relating to “Heritage Studies”, responding to the proliferation of professional fields in this area. These CUs also comprise Conservation, but they adopt a theoretical and historical approach, rather than a technological or Conservation-related practice.

However, as happens in other disciplines, there are still relatively few CUs relating to Heritage Conservation in Art History education, namely three compulsory CUs in the following first degrees: University of Porto, “Heritage Management” (3rd year); University of Lisbon, “Introduction to Heritage Science” (1st year) and Universidade Nova de Lisboa, “Introduction to Heritage Science” (2nd year). At the University of Coimbra, there is only one optional CU: “Heritage and Museology” (2nd semester).

First Degree in Art History	Compulsory CU	Optional CU
Un. Porto - FL	1	0
Un. Coimbra - FL	0	1
Un. Lisboa - FL	1	0
Un. Nova de Lisboa – FCSH	1	0

Figure 5. Number of compulsory and optional Conservation-related CUs in First Degrees courses in Art History in Portugal.

5.2 Master’s Degrees

In the Master’s Degree courses, there are more CUs available relating to Heritage Studies and Conservation, in particular 10 compulsory CUs in the Master’s Degree courses at the University of Porto (3 CUs); University of Coimbra (1); University of Lisbon (4); University of Algarve (1) and Universidade Lusíada (1). As far as optional CUs are concerned, there are four at the University of Porto; two at Universidade Nova de Lisboa and three at the University of Algarve.

We can also find the following CUs in other Master’s Degree courses:

- At the University of Porto, Master’s Degree in “Art History, Heritage and Visual Culture”, two

compulsory CUs: “Heritage Studies and Practices” (1st year, 1st semester) and “Cultural and Heritage Management” (2nd year, 2nd semester); Master’s Degree in Portuguese Art History, two optional CUs: “Contemporary Architecture, Urban Space and Heritage Interventions I” (1st year, 1st semester) and “Contemporary Architecture, Urban Space and Heritage Interventions II” (1st year, 2nd semester); Master’s Degree in Art History and Heritage, three compulsory CUs: “Heritage Identification and Classification” (1st year, 1st semester – Specialisation A in Local and Regional Studies); “Heritage Theories and Policies” (1st year, 2nd semester – Specialisation B in Historical Archives); “Cultural Mediation and Heritage Dissemination” (1st year, 2nd semester – Specialisation C in Heritage Mediation).

- At the University of Coimbra, Master’s Degree in “Art and Heritage”, one compulsory CU: “Heritage Theory and History” (1st year, 1st semester);

- At the University of Lisbon, Master’s Degree in “Art, Heritage and Restoration”, three optional CUs: “Heritage Planning and Heritage” (one semester); “Heritage and Cultural Tourism (one semester); “Archaeology and Heritage Intervention” (one semester);

- At Universidade Nova de Lisboa, Master’s Degree in “Art, Heritage and Theory of Restoration”, two optional CUs: “Portuguese Heritage in the World” (2nd semester) – Specialisation in Antiquity and Middle Ages Arts, Specialisation in Early Modern and Maritime Expansion Arts, and Specialisation in Contemporary Art; “Artistic Heritage in a Global World: Concept, Recreation and Merit” – Specialisation in Early Modern and Maritime Expansion Arts (one semester);

Master’s Degree in Art History	Compulsory CU	Optional CU
Un. Porto- FLUP		
Art History, Heritage and Visual Culture	2	0
Portuguese Art History	0	2
Art History and Heritage	3	0
Un. Coimbra		
Art and Heritage	1	0
Un. Lisboa		
Art, History and Restoration	0	3
Un. Nova de Lisboa		
Art History	0	2
Un. Algarve		
History and Heritage	1	3
Un. Lusíada		
Art History	1	0

Figure 6. Number of compulsory and optional Conservation-related CUs, in Art History Master’s Degree courses in Portugal

- At the University of Algarve, Master's Degree in History and Cultural Heritage, one compulsory CU: "Heritage Memory and Identity"; and three optional CUs: "Literature and Heritage" (1st year, 1st semester), "Rural Heritage in the Algarve" (1st year, 1st semester) and "Heritage Text Editing" (1st year, 2nd semester);

- At Universidade Lusíada, Master's Degree in Art History: one compulsory CU "Artistic Heritage History" (1st year).

5.3 *Advanced Studies*

There are several PhD courses in Art History which have Conservation CUs studied from a theoretical, philosophical or historical perspective, namely at the University of Porto, University of Coimbra, University of Lisbon and University of Évora..

6 OTHER COURSES

Besides the courses mentioned above, there are several first degrees linked to Conservation: "Construction and Rehabilitation", at Instituto Politécnico de Tomar; Built Heritage Rehabilitation at the University of Aveiro; Cultural Heritage at the University of Évora; Art and Heritage Sciences at the University of Lisbon; Cultural Heritage and Archaeology at the University of Algarve and Heritage Management at Escola Superior de Educação in Lisbon.

There are also Master's Degrees offered in Tourism, Territory and Heritage at the University of Coimbra, in Heritage and Cultural Tourism at Escola Superior de Educação in Lisbon, and in Heritage Studies at University Aberta.

Finally the course for Conservators/Restorers, which was initially a practical course, is now offered in all levels of education. There are three First Degree and Master's Degree courses in Conservation and Restoration at Instituto Politécnico de Tomar, Universidade Católica and Universidade Nova de Lisboa. This latter university also offers a PhD programme in Conservation and Restoration. In this way, it is considered that conservators/restorers, should continue to be the main workers guaranteeing the good conservation of materials, but they should also form part of the multidisciplinary team engaged in conducting the preliminary studies necessary for the Conservation project, just like Archaeologists and Art Historians.

7 CONCLUSIONS

Following the Bologna agreement, 2006 marked a turning point in higher education all across Europe. Since then, higher education has had to adjust to an ECTS system, whereby students can personalise

their studies. Yet, most of the available programmes have a huge number of compulsory CUs, leaving few options, with very few optional CUs available in Conservation, even in those fields that deal with built heritage, such as Architecture, Engineering, Archaeology and Art History, which are analysed in this article.

Research shows that the Integrated Master's Degrees in Architecture and Civil Engineering in Portugal do not offer adequate training in Conservation, which is necessary for the preparation (or appreciation) of projects, and the supervision and execution of Conservation works. The knowledge that is required for professional practice is only acquired at postgraduate level, in advanced studies or PhD programmes.

Of the sixteen Integrated Master's Degree courses in Architecture, there are only four with a reasonable number of compulsory Conservation CUs (four, or at least two). In five courses, there is only one compulsory CU. In four courses, the CUs are only optional and, in three courses, there are not even any optional CUs. The CUs offered are mainly in the area of Technology, although the Architectural Conservator also needs to learn Conservation Theory, History, Philosophy, Legislation and Project Design.

In Civil Engineering, the situation is even worse. Of the 11 courses analysed, only five offer compulsory training in Conservation, while, in the remaining nine courses, this area is only optional. The CU is normally offered in the last years, as part of the specialisation in Construction. In the structural area, this CU normally does not exist, which is incomprehensible.

It should be stressed that one CU amounts to approximately 12 classes in five years of study. In those cases where the CU in Conservation is optional or does not even exist, Architects and Engineers can graduate without ever having heard of Conservation.

This formative framework, within a professional context that is progressively marked by the practice of Conservation/Rehabilitation, has some repercussions on professional practice, resulting in less informed and qualified interventions regarding the conservation of existing structures and the respective applied arts. Above all, it results in the proliferation of the aforementioned "façadism", which is also the result of a legal gap in urban and heritage safeguarding and management.

The universities and professional associations may give a contribution to solving this problem. Regarding the present research and the principles stated by CIF-ICOMOS, it is recommended for architects and engineers: a) adequacy of the study plans of the Integrated Master's Degrees, offering at least 2 CUs devoted to Conservation project, in the domain of theory and technology, so that all the professionals can have a minimum knowledge on this matter;

b) the exclusivity for professionals with specialisation in this area, through Master's Degrees and Postgraduate Studies from the 2nd cycle, or Advanced Studies and PhDs from the 3rd cycle. These hypotheses must be considered as a measure offering the protection and safeguarding of the architectural heritage.

On the other hand, according to the national legislation, an archaeologist is expected to be able to elaborate a description of a conservation or restoration intervention and to implement/propose protection activities for the sites. Yet, from the study programmes analysed, very few optional CUs in Conservation are offered in archaeology education and even fewer of these are compulsory. Of the seven first degrees analysed, only four have compulsory CUs relating to Conservation, while it is hoped that in two cases a student might choose an optional CU offered in Art History degrees, which mention Conservation in their title. Of the ten Master's Degrees analysed, only one contemplates an optional CU. What can be expected then of archaeologists, if throughout their education they are taught no conservation or restoration concepts? Some might argue that we should rely on multidisciplinary teams, but the reality is that there are rarely such complete teams in the field, and we leave it to archaeologists to be responsible for providing informed and accurate information on Conservation relating to the managed/researched site. These professionals should also have, as architects and engineers, at least one more year of specific studies in Conservation, prior to beginning practice.

In Art History, of the four first degree courses analysed, three include compulsory training in Conservation and one course offers an optional CU in this area. At the Master's Degree level, there are five courses with compulsory CUs and four courses with optional CUs. These units approach the subject of Conservation from a theoretical, philosophical or historical perspective.

In the present context, with Conservation being the main field of professional activity (for architects, engineers, archaeologists, art historians and other technicians and workers), this article maintains that these CUs should be included in a more urgent and consistent way in students' curricula, all the way from first degrees to postgraduate advanced studies, if we are not to destroy our own heritage, which is a non-renewable resource.

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ⁱ In Lisbon, Centro de Formação Profissional da Indústria da Construção Civil e Obras Públicas do Sul (CENFIC) and in Porto, Centro de Formação Profissional da Indústria da Construção Civil e Obras Públicas do Norte (CICCOPN).

ⁱⁱ Definition by Feilden: "Always bearing in mind the final aim and the principles and rules of conservation, particularly that the minimum effective intervention is always the best. Seven ascending degrees of intervention can be identified. In any major conservation project, several of these degrees may take place simultaneously in various parts of the "whole". The seven degrees are (1) prevention of deterioration; (2) preservation of the existing state; (3) consolidation of the fabric; (4) restoration; (5) rehabilitation; (6) reproduction; (7) reconstruction".