Minimum Common Standards Definition – Model Curricula

Metals

EQF Level 7

This document forms part of a series produced by the ECPL project consortium, in collaboration with E.C.C.O. and ENCoRE. Such documents are the first to respond directly to the European Qualification Framework system (EQF) and are paving the way for future work. [1]

In the context of a proposed future implementation of the EQF for Conservator-Restorer (EQF level 7 and level 8), E.C.C.O. (European Confederation of Conservator-Restorers' Organisations) will review the documents prepared in the ECPL project with other documents (professional profiles, curricula, etc.) produced by member countries to harmonise them for evaluation against the EQF descriptors for the profession to produce final documents in agreement with ENCoRE (European Network for Conservation-Restoration Education).

Conservator-Restorer[2] at EQF Level 7[3]

METALS CURRICULUM

[1] The Commission adopted on 5 September 2006 a proposal for a Recommendation of the European Parliament and of the Council on the establishment of the European Qualifications Framework for lifelong learning (EQF). Adoption is expected before the end of 2007.
The EQF will provide a common language to describe qualifications which will help Member States, employers and individuals compare qualifications across the EU's diverse education and training systems.
The draft recommendation foresees that Member States relate their national qualifications systems to the EQF (by 2009). The system will enable individuals and employers to use the EQF as a reference tool to compare the qualifications levels of different countries and different education and training systems (for example vocational training and higher education). The EQF will function as a type of translation device to make relationships between qualifications and different systems clearer, more transparent and accessible to the general public. (http://ec.europa.eu/education/policies/introduction_en.html)

[2] Conservator-Restorer is an EQF level 7 and level 8 profession.
Several other different professions and occupations work together with the Conservator-Restorer to conserve-restore the cultural heritage.

[3] As described in Annex 2 of the EU SEC(2005) 957 on Lifelong Learning, level 7 qualifications "...recognise self-directed, theoretical and practical learning, some of which is at the forefront of knowledge in a specialised field that provides a basis for originality in developing and/or applying ideas, often within a research context. These qualifications also recognise an ability to integrate knowledge and formulate judgements taking account of social and ethical issues and responsibilities and also reflect experience of managing change in a complex environment."

Introduction

The work that a Conservator-Restorer professional at EQF level 7 is involved with, dealing with cultural property, consists of interrelated and precise activities which require specific competences for them to be managed at the highest level of quality and responsibility.

Because conservation-restoration knowledge and professional culture transcend geographical and national boundaries, curricula should incorporate an international and multicultural perspective.

Background

Professional activities are described in the ECCO Professional Guidelines (Brussels, March 2003).

Opportunities to gain the learning outcomes (knowledge, skills – both cognitive and practical – and competences) required for the conservation-restoration profession, vary widely across Europe. Most consistent is the opportunity to develop academically and professionally. Most (but not all) countries have at least one University course in conservation-restoration. Some countries have courses at both under-graduate and post-graduate stages of academic learning; some have courses at one or the other level. Coverage of curricula varies: most countries do not yet have academic courses covering conservation of modern technologies for example.

For this reason it is very important to fix and to promote throughout Europe the required high level of education as defined in the ECPL curricula, based on ECCO-ENCoRE documents, and to foresee a transitory system to lead from past to future (see point 7 below).

After education in conservation-restoration including a period of practice in employment,[4] and where such measures exist, it is possible for a Conservator-Restorer to have his/her work assessed against a set of professional standards and criteria which verify that s/he is putting into practice the skills and judgement learned during education and development. These measures are currently only available in a minority of European states, but where they are it is considered the norm that they should be undertaken in order to publicly demonstrate reliable professionalism and proficiency in the care of cultural heritage. Such measures are not intended as an alternative to training and education in conservation-restoration.

[4] *Vide infra* subsection Course faculty and infrastructure.

Principles

The following principles need to be outlined:

1. "Conservation-restoration education shall comprise a total of at least 5 years of full-time study of theoretical and practical education and training provided by, or under the supervision of, a university or recognised equivalent, and graduating at Master's level.[5] Master's graduates are expected to be specialised in one particular field of conservation-restoration of cultural heritage".[6] See also point 7.

2 The title of Conservator-Restorer of cultural heritage corresponds to the 7th level according to the European Qualification Framework (EQF), and qualifies to work independently as a professional Conservator-Restorer of cultural heritage, in the public or private sector, or to register for Doctorate's studies (PhD) to develop research in conservation-restoration. A Doctorate (PhD) in conservation-restoration corresponds to the 8th level according to the EQF as long as the person has reached EQF 7th level, professional Conservator-Restorer as defined in point 1.

3 The professional Conservator-Restorer's education has to fulfil the requirements described in point 1. Therefore the suggestion of the document of Bologna on the introduction of Bachelor degree after three years of university studies, is not acceptable for the access to and for the exercise of the profession. Triennial university courses in conservation-restoration qualify only to enter Master's degree.

4. The title of Conservator-Restorer does not foresee sub-levels. Graduates of conservation-restoration of cultural heritage courses, after a Bachelor level, are qualified to enter Master's studies, and can only work in the conservation-restoration of cultural heritage, in the public or private sector, under the direction and supervision of a professional Conservator-Restorer as defined in point 2, as "trainee Conservator-Restorers" or "Conservator-Restorers in training".

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[5] Such training should involve full-time education, exclusively in conservation-restoration, and corresponding to at least 300 ECTS points or not less that 5,000 contact hours, with co-existence (around 50/50) of integrated theory and practice on cultural objects. Provision is made for special cases to be defined during this project, in which such training could be conducted entirely or partly on a part-time equivalent basis. It is recognised as well, that, in special circumstances to be defined in this project, the learning outcomes achieved through the aforementioned formal training may be achieved entirely or in part through other forms of learning. (ECCO-ENCoRE Joint statement on the Education of Conservator-Restorers of Cultural Heritage - 25th of September 2002 and ECPL project statement - Athens 8th of December 2006).

[6] ECCO-ENCoRE paper on Education and Access to the Conservation-Restoration Profession (approved by the General Assembly of E.C.C.O.-Brussels 7 March 2003, and General Assembly of ENCoRE - Torun 9 May 2003) point 2.

5 The title of Conservator-Restorer is distinct from related EQF level 7, or higher professions also working in the heritage conservation sector (e.g. conservation architects, conservation scientists, archaeologists or art historians, etc.).

6 "Related professions and Related occupations"[7] may be involved in the conservation-restoration process. Each one of these "Related professions and Related occupations" might have different qualification levels according to the EQF. These levels are not sub-levels of the Conservator-Restorer's profession and therefore do not qualify for conservation-restoration.

7 A specific assessment procedure will have to be defined, as a transitory measure, to qualify as professionals those individuals who do not entirely fulfil the requirements described in point 1. This may include individuals already working in the field of conservation-restoration without prior qualification in conservation-restoration. This procedure will demonstrate equivalency of knowledge, competences and skills defined in the learning outcomes of formal education.[8]

[7] i.e. architects, art historians, archaeologists, conservation scientists, craftsmen, technicians, etc.

[8] The special cases referred to in footnote 5 will be assessed using the same assessment procedure.

General considerations

In order that students receive the education necessary to do a self governing responsible conservation work, fully developed programmes in conservation-restoration studies must establish a curriculum that achieves the following goals:

- a comprehension of the importance of cultural, historical and artistic heritage in human history and evolution/progress, as foundation of conservation-restoration professional work and code of ethics;
- a solid education in the theory, methodology, and practice of conservation-restoration studies, and in the academic development of the particular field;
- a development of self governing competences in managing and transforming work or study contexts that are complex, unpredictable and require new strategic approaches and competences to take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams;
- solid foundations in some specific collateral disciplines in order to give them relevant and suitable instruments to manage the responsibilities of their future work and to eventually improve their knowledge in those disciplines;
- a development of critical thinking and decision-making skills for the conservation-restoration discipline and in learning to collaborate with other professionals involved in the conservation-restoration of cultural heritage at large;
- an ability to conduct and communicate academic research for the enrichment and development of the conservation-restoration discipline;
- an inculcation of the professional specific code of ethics relating to their professional and social responsibilities and the knowledge of the ethical and legal dimensions of their work.

Conservation-restoration education, in contrast to generic training, is both academic and professional. Therefore, it includes, coordinates and integrates research, theoretical and practical learning, specifically relating to the conservation-restoration of cultural property, strictly applied to practical interventions.

> *"Conservation-restoration education shall comprise a total of at least 5 years of full-time study of theoretical and practical education and training provided by, or under the supervision of, a university or recognised equivalent, and graduating at Master's level. Such training should involve full time education, exclusively in conservation-restoration, and corresponding to at least 300 ECTS points or not less that 5.000 contact hours, with co-existence (around 50/50) of integrated theory and practice on protected cultural objects.*
>
> *The integral nature, meaning and function of cultural heritage must be central to all aspects of the curriculum. Supporting theoretical subjects*

> *should be carefully integrated into the curriculum and closely related to conservation/restoration practice which should constitute the major part of the syllabus. Studies in conservation/restoration practice should include advanced work and provide an insight into scientific theoretical and/or experimental methodologies, qualifying the student to participate in scientific development work. Furthermore, a systematic approach to the critical appraisal of ethical and aesthetic problems should form an integral part of the study program."*[9]

By inculcating in students the attributes of professionalism, a conservation-restoration programme must bring students to realize that professional education includes a lifelong undertaking, involving questioning acknowledged ideas and methods, revising received wisdom, and maintaining and developing professional practices. Lifelong learning enables conservation-restoration professionals to maintain knowledge, skills and competencies and to improve them as the profession develops and changes.

Course faculty and infrastructure

The conservation-restoration study programme must be supported by an academic infrastructure and resources capable of accomplishing the programme objectives, including coordinated and integrated research, theoretical and practical learning. The programme must include the requested curricula hours of coordinated and integrated practice, and should comprise some practical experience within a professional environment through learning agreements determined by the academic institution, the student and the professional entity.[10]

- A proper education environment should ensure: the availability of cultural objects, entrusted directly to the educational academic institution; the availability of scientific professionals and laboratories at students' disposal, alongside with physical resources; facilities and structures for academic research; adequate administration, and financial support.

- Teaching staff's specialisations and qualifications: Conservator-Restorers, conservation scientists, art historians, archaeologists, architects, curators, legal experts, artists, craftsmen, administration experts, IT specialists, etc., normally stand at level 7 and 8 and are necessarily capable of teaching (i.e. trained in adult education, etc.). In addition, Conservator-Restorers teaching conservation-restoration practice must be highly experienced in practical conservation-restoration interventions.

[9] ENCoRE Clarification of Conservation/Restoration Education at University Level or Recognised Equivalent, Munich 2001.
[10] *Vide supra* subsection Background.

- Teacher/student ratio: for conservation-restoration practice, including related scientific investigations not exceeding 1:6.

- Admission and selection process: entry requirements are strictly necessary to verify applicants' aptitudes: visual memory, sense of colour, manual coordination and dexterity, ability to concentrate, sensitivity for aesthetics and detail and a critical sensibility.[11]

[11] Aptitudes cannot be disregarded as basic characteristics of Conservator-Restorers' work. These aptitudes are essentially native of the single individual, therefore studies and practice cannot form but only develop them.

Learning outcomes – Conservator-Restorer

(Model Curriculum)

Knowledge

1. Advanced general knowledge, comprehensive of related scientific issues, of **archaeological, historic and modern materials, techniques and manufacturing processes** in relation to cultural property at large. Highly specialized knowledge in the field of metals.
2. Advanced general knowledge, comprehensive of related scientific issues, of the **composition and properties of the constituents** of cultural property at large. Highly specialized knowledge in the field of metals.
3. Advanced general knowledge, comprehensive of related scientific issues, of **damage and decay causes**, processes and effects on cultural property at large, paying special attention to environmental interactions. Highly specialized knowledge in the field of metals and in particular of electrochemical corrosion, corrosion processes from burial, outdoor or indoor environments, including the comprehension and ability to interpret Pourbaix diagrams and identify signs of active corrosion.
4. Advanced general knowledge, comprehensive of related scientific issues, of the composition, properties and effects of **traditional and modern conservation materials** on cultural property at large. Highly specialized knowledge in the field of metals.
5. Advanced general knowledge, comprehensive of related scientific issues, of **conservation-restoration treatments** of cultural property at large. Highly specialized knowledge in the field of metals (i.e. consolidation techniques, wet and dry cleaning methods, manual and mechanical repair, chemical and electrolytic methods and other advanced technologies for the cleaning or stabilization such as laser or hydrogen plasma reduction).
6. Advanced general knowledge, comprehensive of related scientific issues, of **preventive conservation treatments** of cultural property at large. Highly specialized knowledge in the field of metals and their collections (i.e. environmental monitoring and control; protection and storage methods and techniques; display and transport; security; disaster planning and management; remedial conservation, survey of collections).
7. Critical awareness of **knowledge issues in the sciences** (including chemistry, physics, biology, mineralogy etc.) relevant to the field of metals and at the interface between the different disciplines related to conservation-restoration.
8. Advanced knowledge of **technical and scientific methods of documentation**, examination and recording, including the principles of

measuring the deterioration of cultural property. Advanced knowledge of technical and scientific methods of documentation, examination and investigation (i.e. identification of metals in terms of chemical and mineralogical constituents that make up the object, including any decorative techniques such as the use of niello, metal inlays, gilding etc.).

9. Critical **analysis and elaboration** of scientifically established data.
10. Critical awareness of knowledge issues in the field of the **humanities** (including history, art history, archaeology, ethnology, philosophy etc.) relevant to the field of metals and at the interface between the different disciplines related to conservation-restoration.
11. Highly specialized knowledge of the **history of conservation-restoration** and the **ethics of the profession**.
12. Comprehensive, specialized, factual and theoretical knowledge of the relevant **legislation**.
13. Comprehensive, specialized, factual and theoretical knowledge of **health and safety** issues, notably with respect for the environment.
14. Comprehensive, specialized, factual and theoretical knowledge of **communication** skills.
15. Critical awareness of knowledge issues in **Information Technology**.
16. Highly specialized knowledge of methodologies for the **assessment and evaluation** of individual objects, collections and historic and archaeological contexts.
17. Critical awareness of knowledge issues on the processes involved in **making reproductions** of cultural property.
18. Advanced knowledge of **research methods** involving a critical understanding of theories and principles.
19. Factual and theoretical knowledge of **management and administration** (including working facilities, staff and resources, lab organization and management; acquisition of materials, tools and equipment, maintenance etc.).

Skills

1. Ability to apply specialized problem-solving skills to develop new knowledge and procedures and to integrate knowledge from different disciplines to perform **conservation and restoration activities** such as autonomous treatments to metals (i.e. consolidation techniques; wet and dry cleaning methods; adhesive removal; manual and mechanical repair of metal; chemical and electrolytic methods, and other advanced technologies for the cleaning or stabilization of metals, such as laser or hydrogen plasma reduction), programmes, projects and surveys, including experimental and developmental work based on scientific and humanistic methodology. In specialisations dealing with works of art the ability to proceed with the aim to reveal their spiritual and content value while applying the highest measure of respect to the originality and physical, historical and aesthetical unity and artistic form of works of art and ability to interpret the aesthetic value of an artwork.
2. Ability to apply specialized problem-solving skills to develop new knowledge and procedures and to integrate knowledge from different disciplines to perform **preventive conservation**, including the measurement of damaging factors and their influence on metals, as well as the analysis of risks and their control.
3. Ability to apply advanced skills in **scientific analysis**, to interpret and evaluate the results of research performed by others; ability to apply advanced skills in technical and scientific methods of **documentation**, examination and investigation and recording, including the principles of measuring the corrosion of metals.
4. Ability to apply specialized problem-solving skills in **research and/or innovation**, in order to develop new knowledge and procedures in conservation-restoration related to metals.
5. Ability to apply specialised problem-solving skills for the **research, assessment and evaluation** of individual objects, collections and historic and archaeological contexts related to metals.
6. Ability to apply specialised problem-solving skills for the research, **identification and dating** of archaeological, historical and modern materials, techniques and manufacturing processes related to metals.
7. Ability to consider and integrate both **ethical and aesthetic issues**, as independent professionals, and/or in cooperation with “Related professions and Related occupations” (i.e. art historians, archaeologists, etc.) who contribute to conservation-restoration study/work related to metals.
8. Ability to apply a comprehensive range of cognitive and practical **communication skills**, both oral and written.

9. Ability to apply expertise in **management and administration** in order to generate solutions to specific problems in the field of conservation-restoration work/study related to metals (including staff matters, working facilities and resources – lab organization and management; acquisition of materials, tools and equipment; maintenance).

Competences

1. Competence in managing and transforming **conservation-restoration work/study contexts** related to metals that are complex, unpredictable and require new strategic approaches, notably through effective planning and coordination.
2. Competence in managing and transforming the **storage, handling, transport and display** of cultural property made completely or partly of metals, all complex and unpredictable matters that require new strategic approaches, notably through effective planning and coordination.
3. Competence in managing and transforming **preventive conservation work/study contexts** related to metals and their collections that are complex, unpredictable and require new strategic approaches, notably through effective planning, coordination, and taking into account the risks caused by damaging factors and their influence on cultural property.
4. Competence in providing **advice and technical assistance** for the preservation of cultural property.
5. Competence to **take responsibility** for contributing to professional knowledge and practice in conservation-restoration and/or for reviewing the strategic performance of teams.
6. Competence to contribute to the development of conservation-restoration **educational programmes** and competence to teach.
7. Competence to **disseminate** information gained from examination, treatment or research.