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Tuning Educational Structures in Europe

A Guide to Formulating Degree Programme Profiles

Including Programme Competences and Programme Learning Outcomes

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Jenneke Lokhoff and Bas Wegewijs (Nuffic)
Katja Durkin (UK NARIC)
Robert Wagenaar, Julia González, Ann Katherine Isaacs,
Luigi F. Donà dalle Rose and Mary Gobbi (TUNING)
Editors

Competences in Education and Recognition Project (CoRe)

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CoRe 2 PROJECT TEAM

National Academic Recognition and Information Centres (NARIC's)

Archimedes Foundation (Estonian NARIC)
— Gunnar Vaht

Centre international d'études pédagogiques - CIEP (French NARIC)
— Claudia Gelleni
— Françoise Profit

Centrum pro studium vysokého školství - CSVS (Czech NARIC)
— Stepánka Skuhrová

Netherlands organization for international cooperation in higher education – Nuffic (Dutch NARIC)
— Lucie de Bruin
— Marianne Cox
— Susanne Feiertag
— Hendrik Jan Hobbes
— Jenneke Lokhoff
— Bas Wegewijs

UK NARIC
— Cloud Bai-Yun
— Kate Bellamy
— Chris Lyons
— Katja Durkin

Nederlands Vlaamse Accreditatie Organisatie - NVAO (Netherlands Flemish Accreditation Organisation)

— Axel Aerden

TUNING Educational Structures in the World

Joint Coordinators Tuning Process:
— Robert Wagenaar (University of Groningen) and Julia Gonzalez (University of Deusto, Bilbao)

Tuning subject area coordinators:
— History: Ann Katherine Isaacs (University of Pisa)
— Nursing: Mary Gobbi (University of Southampton)
— Physics: Luigi F. Donà dalle Rose (University of Padova)

Test Partners[1]

— University of Oulu, Finland - Department of History - Seija Jalagin
— University of Toulouse, France - Department of History - Jack Thomas
— Karadeniz Technical University, Turkey - Faculty of Arts and Sciences - Kenan Inan
— University of Bucharest, Romania - Faculty of Physics – Laura Tugulea
— Radboud University Nijmegen, The Netherlands - Faculty of Science - Hay Geurts
— Imperial College London, United Kingdom - Department of Physics - Gareth Jones
— Ghent University Association, Belgium – Nursing - Frederik de Decker
— VIA University College, Denmark - Faculty of Health Sciences - Birgitte Hindsgaul, Inger-Margrethe Jensen and Kirsten Mathiesen Bjerg

CoRe 2 Project coordination

Jenneke Lokhoff — Nuffic
Bas Wegewijs —Nuffic
Katja Durkin — UK NARIC

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1 The History subject area thanks the CLIOHWORLD and CLIOHRES colleagues who tested the first draft of the Guidelines, and formulated Degree Profiles relative to the Universities of Potsdam, Galway, Vilnius, Malta, Cyprus, Coimbra, Cluj-Napoca, Suceava, the University of West England (Bristol) and Moscow State Regional University.

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Foreword

The TUNING Guide to *Formulating Degree Programme Profiles, Including Programme Competences and Programme Learning Outcomes* is the result of the successful cooperation between the Tuning network and the recognition experts of ENIC/NARICs (European Network of Information Centres in the European Region and National Academic Recognition and Information Centres in the European Union) working together in the 'Competences in Recognition and Education 2' – CoRe 2 – project.

While the CoRe 2 project has been conducted over the last 2 years, it has a longer prehistory with roots in the *Tuning Educational Structures Europe* project launched by a group of European Higher Education Institutions (HEIs) in 2000. The aim of the Tuning project was to contribute to the main objectives of the Bologna process by the transformation of traditional degrees into bachelor and master degrees and the reconstruction of the logic of their underlying study programmes. Tuning aimed to implement the Bologna process at a university level and concentrated on transparency and the development of a common language in the description of HE programmes, not least to enhance comparability and to foster their international recognition.

Because of this goal, it is not surprising that the activities of Tuning were from the beginning closely followed by the European networks of the European Commission and the Council of Europe/UNESCO, responsible for the recognition of academic and professional qualifications, the NARICs/ENICs. By the middle of the current decade, Tuning was working on a new and radical change in the description of educational programmes. Courses leading to a bachelor or master degree were no longer described solely according to their content. From that point on they were also to be planned according to a degree profile, containing a synthetic description of competences and learning outcomes. The architecture of programmes would shift from a focus on input to a focus on output, from what a student has been taught to what the student has learned and is able to do.

Tuning made it clear from the start that such a challenging approach would be successful only if it could be used in practice, and that descriptions of qualifications emphasizing output should result in improved and less sub-

jective recognition procedures. It was up to the world of recognition to indicate what the degree profile should look like to make this possible. The British and Dutch ENICs/NARICs decided to take up the challenge and to form a partnership to investigate the issue together with Tuning.

Initially, the target of the CoRe 1 project was to find out whether the degree profile was a tool that could be used in recognition in addition to other supporting evidence, such as diplomas, transcripts of records and Diploma Supplements. In the course of the first project it became clear that the information was indeed promising and relevant to admissions officers and credential evaluators. However, the way in which the competences and learning outcomes were described by universities was so diverse, ranging from short lists of very general statements to lengthy and detailed descriptions of several pages, that they could not be used as a coherent and balanced source of information by the target group.

For that reason a second project – CoRe 2 – was launched in the beginning of 2008 with one main objective: to provide a guide with instructions on how to describe the competences and learning outcomes of the degree profile in a consistent way, together with examples illustrating this. Because of the nature of the project, the target group was extended to the HEIs responsible for the drafting of the degree profiles and to other stakeholders, such as accrediting bodies. The present Tuning Guide is the result of this project.

Here, I would like to write a few words of appreciation to those who contributed to the CoRe 2 project and without whom this project never could have succeeded. I am thankful to the CoRe 2 project team for their hard work to come to this final result: the Tuning experts, the recognition experts of the Dutch, UK, French, Czech and Estonian ENICs/NARICs and the expert of the Dutch Flemish accreditation organization. Words of appreciation also go to the official and unofficial test partners for their valuable input, and their dedication to the CoRe 2 project and its objectives. I would like to thank the CoRe 2 coordination team for the devoted and efficient project management. In addition I am grateful to the editors of the guide and all those involved in its final design. Last but not least I thank the European Commission's Erasmus Lifelong Learning Programme and all partners involved for acknowledging the importance of this project and for providing the necessary financial support to carry out this project.

I hope that this Guide, as a practical tool for the design of degree profiles and the formulation of Programme Competences and Programme Learning Outcomes, will answer to the needs of those involved in the transformation of study content into learning outcomes. The greater transparency in programme outputs thus created will certainly facilitate the recognition process. I believe that as such the guide will contribute to the removal of obstacles to mobility and to unhindered access to further studies or the labour market.

Lucie de Bruin

Head of the Dutch ENIC/NARIC

Introduction

The purpose of this TUNING Guide is to offer clear guidance for formulating Degree Profiles. This includes defining Key Programme Competences and writing good Degree Programme Learning Outcomes.

The Guide is an innovative tool to assist in implementing the Bologna Process and the TUNING Process at the level of higher education degree programmes. It is meant for all those involved in the design and delivery of degree programmes. It includes a Template for preparing a Degree Profile.

The Degree Profile is a very brief document, of around two pages, designed to convey the essential information about a specific degree programme. It locates the programme in the academic map of disciplines or thematic studies.

The Profile specifies the subject area or areas studied, identifies the level (first, second or third cycle) and indicates the special features that distinguish it from other similar programmes. The Degree Profile describes, in terms of competences and learning outcomes, what graduates will know, understand and be able to do by the time they have successfully completed the programme. The Profile spells out what can be expected of the graduates in terms of the kinds of tasks they are equipped to undertake, their level of expertise and the responsibilities they can assume.

Formulating a good Degree Profile requires collaborative work, and completing it properly will provide added value in terms of greater awareness of the precise nature of the degree and thereby enable better coordination of the degree programme itself.

The Degree Profile can be a standalone document, e.g. as an information tool in a HEI's degree-course catalogue. It can also be used as part of the Diploma Supplement. When included in the Diploma Supplement – under point 4.2 – the Degree Profile serves as an important element for recognition. It enhances the usefulness of the Diploma Supplement, as it gives the reader a better understanding of the actual degree programme the graduate has completed and hence facilitates appropriate employment or further study.

Who can use the Degree Profile?

While this Guide is targeted at staff at higher education institutions who aim to complete a degree profile for a particular programme, the degree profile itself serves a wider audience.

The degree profile can be used by competent recognition authorities (such as admissions officers) to evaluate the qualification as it provides valuable additional information to the transcript and Diploma Supplement.

For students, the Degree Profile can be used as a orientation tool for choosing their studies and for guiding them in the acquisition of competences. Employers will also benefit from the extra information the degree profile provides on the programme the graduate has completed and on the competences and learning outcomes the graduate has achieved. Furthermore, the information the degree profile provides about a programme can also be valuable to institutions seeking collaboration with other institutions.

The degree profile, and especially section F (learning outcomes), may also be useful for the purpose of obtaining accreditation for the programme, since accreditation procedures in Europe are increasingly focusing on the learning outcomes at programme level.

Structure of the Guide

Chapter 1 describes the context in which it has become necessary and useful to describe Degree Programmes according to an agreed format. It refers briefly to the Bologna and the TUNING Processes, and relates these to the ongoing changes in the European Higher Education Area (EHEA). It discusses the relevance of these processes for academics, students, accreditation organisations and agencies, recognition bodies and employers. Furthermore, it explains how describing degree programmes in terms of degree profiles contributes to the realisation of a student centred, outcome based approach to Higher Education.

Chapter 2 contains a Template for constructing a Degree Profile (2.1) and provides guidelines on how to fill it out (2.2). It also offers detailed information on how to formulate Degree Programme Competences and Learning Outcomes. The Template provides a standard format for the Profile. This format has been devised by international experts and tested by a group of universities, academic experts and recognition bodies. The Template is intended first and foremost to help describe existing degree

programmes. However, it will also be useful for those wishing to design new programmes. Guidelines for this purpose are included in Annex 1.

Chapter 3 contains a Glossary of terms. Many of the key terms used in this Guide are understood very differently in different countries and pedagogical and disciplinary contexts. For this reason it has proved necessary to decide how each term is to be understood for the purposes of this publication. Often it has been necessary to choose one meaning out of several in current use, even in English-speaking environments. Key terms are usually defined the first time they appear in the text of the Guide. In any case, however, it is recommended that the Glossary be used to clarify exactly how they are intended in this publication in order to ensure the mutual comparability and transparency of the degree profiles produced.

These three chapters are supplemented by three annexes. As mentioned above, Annex 1 provides information on using the Profile for the design of new Degree Programmes. Annex 2 gives an up-to-date list of generic competences as developed in the Tuning process. Annex 3 contains 9 examples of Degree Profiles. The profiles are fictitious, but based on real life examples provided by the test partners. These comprise Profiles for each of the three sequential higher education cycles (Bachelor, Master, Doctorate) for three subject areas: History, Physics and Nursing. These subject areas have been chosen to provide varied reference materials for those wishing to formulate Degree Profiles in these and other subject areas, insofar as they exemplify the human and natural sciences and the regulated professions.

The CoRe Projects

The Guide has been produced in the framework of the Competences in Education and Recognition Project 2 (CoRe 2), financially supported by the Lifelong Learning Programme of the European Commission. The Guide has been developed in phases by a team of Tuning experts and representatives of the ENIC- NARIC networks, in collaboration with the Dutch- Flemish Accreditation Organisation (NVAO) and a test group of Universities.

The aim of the project was to develop:

1. a template for the Degree profile and instructions how to complete it;

2. guidelines how to describe learning outcomes; and

3. a Glossary of terms to ensure consistency in the use of words.

These aims follow up on the outcomes of the predecessor of the project, CoRe 1. In CoRe 1 sets of competences and learning outcomes – produced by a number of selected universities – were analysed. It was determined that many of these statements did not meet the minimum requirements for clarity and transparency, both because of how they were formulated and how they were displayed. Hence they were of limited use for recognition purposes. It was concluded that there was an urgent need for guidance in preparing Degree Profiles as well as in describing Programme Competences and formulating Programme Learning Outcomes. CoRe 2, the second phase of the project, has taken up this challenge, and prepared this Guide.

This Guide is the result of the work and testing of a representative group of recognition bodies, higher education institutions and higher education experts. It is presented with the hope that it will prove useful in our shared efforts to foster positive innovation and increase transparency in higher education, both in Europe and worldwide.

More information about the project is available on the CoRe projects website:

www.core-project.eu.

Chapter 1
The Degree Profile in the context of the Bologna Process

The Bologna paradigm

The 47 countries that have signed the Bologna Declaration have agreed to implement student centred, outcome based and transparent higher educational programmes on the basis of three sequential cycles: the Bachelor, the Master and the Doctorate. A number of tools have been developed to facilitate this process.

Student-centred programmes require a change of paradigm and hence a change of mind set of the academic staff responsible for designing and delivering degree programmes. By this we mean that degree programmes should be organised in view of their desired results. At present, in practice, many degree programmes are designed on the basis of tradition and the resources already available. Such programmes can be considered as 'input-based' and 'staff-centred'. In such programmes the emphasis is still placed on the individual interests of academic staff or on the existing organisation of studies. Changing to student-centred programmes fits into a worldwide process of educational innovation to make degree programmes and 'qualifications' (academic awards or certification given on completion of a programme) 'fit *in* purpose' as well as 'fit *for* purpose'. This means not only that the outcomes of the learning process should meet the aims of the programme, but also that those outcomes should meet the needs and expectations of students and society, ensuring employment, personal development and citizenship.

Student-centred degree programmes must be designed in such a way that learners will develop the particular mix of competences considered useful and necessary for the academic, professional and/or vocational area. The verifiable results are described using learning outcomes and credits. Learning outcomes state the extent and the level or standard of competence, including knowledge, that the student will develop. The precise number of credits allocated to individual learning units or entire programmes reflect the amount of time a learner normally needs to achieve the learning outcomes. The successful acquisition of these learning outcomes is verified at the end of the learning unit and/or the degree programme.

The Degree Profile

In a student-centred context, it is very important for the learning process to be transparent. Students must know clearly beforehand what each degree programme entails and what results they can expect from it. Graduates need to be able to show to others what competences they have gained during the learning experience.

The Degree Profile provides a succinct and focussed way of expressing and communicating the most important results of a higher education programme, and thus provides – if completed following the indications included in this guide – an essential tool for communication, transparency and recognition.

The Degree Profile allows us to go beyond the simple statement that a graduate has a degree in a certain subject. In fact, each degree programme has its own identity, based on widely used reference points for one or more subject areas, but also on specific elements developed by the higher education institution offering it. These specific elements might be determined, for example, by the mission of the institution and the particular strengths or orientation of a faculty, school or department, and often by particular constraints and opportunities deriving from the national educational system or the local or regional economy.

The Degree Profile is drawn up by a group of informed persons, including staff members, administrators and students' representatives of the programme described. The Degree Profile should be very concise and it needs to be very clear, which means that each word counts, and should be carefully considered. The degree profile is made up of seven entries including a general entry and the following sub-entries:

- Purpose
- Characteristics
- Employability & further education
- Education style
- Programme competences
- List of Programme Learning Outcomes

Programme Competences and Programme Learning Outcomes

The most important entry contributing to transparency of a programme in the Degree Profile is the careful and accurate definition of Programme Competences and Programme Learning Outcomes, which are described briefly below, and discussed more fully in sections E and F of the following chapter.

> In this Guide a distinction is made between competences and learning outcomes:
> A **competence** — as we use the term — is a quality, ability, capacity or skill that is developed by and that belongs to the student.
> A **learning outcome** is a measurable result of a learning experience which allows us to ascertain to which extent / level / standard a competence has been formed or enhanced. Learning outcomes are not properties unique to each student, but statements which allow higher education institutions to measure whether students have developed their competences to the required level.

Programme Competences

Each Profile is based on a set of Key Competences to be developed by the learner in the framework of the degree programme. For the purpose of this Guide, the definition of "competences" includes the whole spectrum of abilities and capabilities, from the purely theoretical/ methodological to vocational knowledge and skills. This is reflected in the following definition, as developed in the framework of the Tuning Process:

> Competences represent a dynamic combination of cognitive and meta-cognitive skills, demonstration of knowledge and understanding, interpersonal, intellectual and practical skills, and ethical values. Fostering these is the object of all educational programmes. Competences are developed in all course units and assessed at different stages of a programme. Some competences are subject-area related (specific to a field of studies), while others are generic (common to any degree programme). It is normally the case that competence development proceeds in an integrated and cyclical manner throughout the programme.

The exact mix of competences will differ in different degree programmes, even in the same academic or professional area. The Key Programme

Competences, to be included in the Degree Profile, should be the most important ones that the graduate will have achieved as a result of the specific programme. It should be expected that most Programme Competences will be similar or comparable as between, say, two first cycle programmes in different HEIs in the same subject area. However there might also be differences given the fact that each institution makes its own choices based on its mission and available means.

Programme Learning Outcomes

The purpose of learning outcomes is to describe accurately the verifiable learning achievements of a student at a given point in time, for example at the end of a degree-course, study module or a period of learning in the workplace.

Learning outcomes describe what a learner is expected to know, understand and be able to demonstrate after successful completion of a process of learning. They are statements of concrete and verifiable signs that witness/certify how the planned competences, including the required levels of knowledge, are being developed or acquired.

Statements of learning outcomes can be formulated to describe any type of learning that can be validated, whether it is achieved in a formal or a non-formal or informal setting. In these Guidelines, however, we focus on the key competences and learning outcomes of formalised degree programmes. A crucial feature of the Degree Profile is that it lists the Programme Learning Outcomes. These are statements of what the graduate of the Programme demonstrably knows, understands and is capable of doing when s/he has successfully completed the Degree Programme. They should be formulated in a manner consistent with the statements of learning outcomes of the several course units/modules offered in the Degree Programme.

Developing the key competences is the main objective of a programme. These competences are called Programme Competences (PCs) because they are the cornerstones of a programme. Their achievement is verified through reference to Programme Learning Outcomes (PLOs). More information on PCs and PLOs can be found under Sections E and F of this Guide.

European, national and subject area reference frameworks

Degree programmes are not designed and delivered in a vacuum. If in past times they were designed with reference to disciplinary and institutional traditions, today they are explicitly and implicitly created and managed in reference to overarching qualification frameworks of learning levels and qualifications. In order to design a new Degree Programme, or to locate an existing one in a context understandable to others, reference must be made to general descriptors, national qualifications frameworks and TUNING Subject Area Reference Points.

Descriptors and Qualifications Frameworks

From the European perspective, an important step in constructing the European Higher Education Area has been the development of an agreed set of general descriptors to outline the essential components of any degree programme that leads to the completion of a Bologna cycle. These are known as the Dublin Descriptors (www.jointquality.org) and are based on the following inter-related dimensions:

- Acquiring knowledge and understanding
- Applying knowledge and understanding
- Making informed judgments and choices
- Communicating knowledge and understanding
- Capacities to continue learning

The Dublin Descriptors form the backbone of the Qualifications Framework for the European Higher Education Area (QF for the EHEA).

Besides the qualifications framework for the European Higher Education Area (QF- EHEA), the European Union has established a European Qualifications Framework for Lifelong Learning (EQF - LLL) which has eight levels, covering learning achievements at all educational levels. As far as higher education is concerned, the top 4 levels (that is 5, 6, 7 and 8) in this Framework are compatible with the three cycles, plus the short cycle, included in the Qualifications Framework for the EHEA. Hence, their outcomes correspond to those foreseen in the Dublin Descriptors, even though they are expressed in a slightly different language (see for example: ec.europa.eu/education/pub/pdf/general/eqf/leaflet_en.pdf

Within each subject area, discipline or professional sector, the QF for EHEA Dublin Descriptors and /or the EQF for LLL level descriptors can be applied and adapted according to the specific way that learning is acquired in that sector. Thus the Dublin Descriptors/EQF descriptors form general reference points at the European level in which any specific Degree Programme will be situated.

National Qualifications Frameworks

In recent years, the development of National Qualifications Frameworks has gathered considerable momentum[2]. To establish such a framework, each country sets out its own qualifications framework according to its educational structures and traditions. However, either as part of the Bologna Process or because of EQF for LLL regulations, each country formally states how its own qualifications framework relates to, or interfaces with, the two "European" Qualifications Frameworks. This enables students, employers and accreditation agencies to 'compare and contrast' the learning achievements of students and benchmark (i.e. position) them according to other national and European frameworks.[1]

TUNING Subject Area Reference Points

The above-described qualifications frameworks are general reference points that provide one important tool for defining Programme Learning Outcomes.

Equally important are the international reference points that have been developed at the subject area level. These include the findings and recommendations of a number of European and international projects and networks, and above all, the internationally developed subject area specific reference points produced by the TUNING Educational Structures in Europe project.

In this project, which has now become a "Process" in itself, since it has been extended to a great number of subject areas and is in progress or being planned in many countries and all continents, several hundred academics and many thousands of test partners have collaborated to develop subject area guidelines and reference points, based on competences aligned with the Dublin Descriptors. These have been made widely available, so as to serve as a practical tool for programme design and delivery in any country.

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2 CEDEFOP, *The development of national qualifications in Europe.* Luxembourg, Aug. 2010.

TUNING publishes a growing number of subject specific brochures which contain these guidelines and reference points. Each of them provides a conceptual framework, which for a given subject area describes both the competences to be formed and expected/desired learning outcomes, and also details them as first, second and third cycle descriptors. The brochures are available at: http://tuning.unideusto.org/tuningeu/

Conclusion

As higher education systems become increasingly oriented according to a student-centred and output-based approach, a sensitive but clear and succinct tool is needed for purposes of transparency and recognition. The Degree Profile Template and related Guidelines set out in the following chapter constitute such a tool. Knowing about and keeping in mind these international reference points and level indicators provides information and inspiration for formulating Degree Profile and provides students and employers with a tool they can understand.

Chapter 2
Degree Profile Template & Instructions

This chapter commences with the degree profile template (2.1) and continues with instructions for using it (2.2). Illustrative examples are found in Annex 3.

The Template

The Template consists of a title field and six sections (A-F), and includes succinct instructions for its completion.

DEGREE PROFILE OF Please provide (in bold):	
The **full name of the qualification as written in the original language**. When this is not English, please provide an official **English translation** as mentioned in the Diploma Supplement in *italics*.	
Please provide the **official name of the programme** offered by the institution, in the original language. Please provide also an official translation *in English (if applicable)* in *italics*.	
TYPE OF DEGREE & LENGTH	Please identify the **type of degree**, e.g. whether the degree is the result of a programme offered by a single institution or whether the degree is the result of a joint programme (joint degree or double / multiple degree). Please indicate between brackets the length of the degree programme in ECTS-credits, and/or - if applicable - national/institutional credits and/or years of study.
INSTITUTION(S)	Please give the **official name of the awarding institution(s)**, and the country where it is based (If the name is not in Latin Alphabet, please provide a transliteration or transcription. In addition, please provide also an official translation **in English (if applicable)** in *italics)*.
ACCREDITATION ORGANISATION(S)	Please identify the accreditation organisation(s) **that provides the accreditation of the degree programme or the degree awarding institution, and the country in which the accreditation organisation operates.**

PERIOD OF REFERENCE	Please identify the **year(s) for which the curriculum is validated/approved**.
CYCLE /LEVEL	Please indicate the **cycle/level** of the qualification in relation to the National Qualifications Framework (where available), the EQF - LLL and the QF - EHEA.

A	**Purpose**
	Please provide (in 2 sentences) **a general statement** about the degree programme, providing a short summary – a 'synthetic view' – of the overall **purpose of the programme.**

B		**Characteristics**
1	DISCIPLINE(S) / SUBJECT AREA(S)	Please indicate the main **discipline(s) / subject area(s)** of the degree programme. If the programme is multi- or interdisciplinary, please indicate the relative weight of the major components, if applicable (e.g. politics, law and economics (60:20:20).
2	GENERAL / SPECIALIST FOCUS	Please specify the **general and/or specialist** focus of the degree programme.
3	ORIENTATION	Please outline the **orientation of the degree programme.** *For example whether the degree is primarily research, practically based, professional, applied, related to designated employment, etc.*
4	DISTINCTIVE FEATURES	Please indicate any **additional features that distinguish this degree programme from other similar degree programmes.** *For example: if the programme includes a compulsory international component, a work placement, a specific environment or is taught in a second language.*

C		**Employability & Further Education**
1	EMPLOYABILITY	Please summarise (in maximum 3 lines) the main **employment opportunities** that arise from successful completion of the programme. *Indicate whether the award confers any nationally regulated/protected title on the holder and if so, provide more information about the title and rights attached. Indicate if the title is protected by law.*
2	FURTHER STUDIES	Please indicate (in maximum 3 lines) opportunities for **access to further studies,** both, within and outside the main and specific subject areas identified above (B.1.).

D		Education Style
1	LEARNING & TEACHING APPROACHES	Please indicate (in maximum 3 lines) the **main learning and teaching** strategies and methods.
2	ASSESSMENT METHODS	Please indicate (in maximum 3 lines) the **main assessment strategies and methods.**

E	Programme Competences Please list below the key generic and specific competences up to a total of 15 (see page 28-29 for details). In the case of regulated professions, please refer to page 28-29.
1	GENERIC Please list here the generic programme competences.
2	SUBJECT SPECIFIC Please list here the subject specific programme competences.

F	Complete list of programme learning outcomes
	Please list here the learning outcomes of the programme, up to a total of 15 to 20. For details, see pages 43 - 49

How to use the Template

This section provides specific guidelines on how to complete the Degree Profile. Some examples of good practice have been provided to help you. Please consult the Glossary of Terms (Chapter 3) for specific terminology. To complete the degree profile for your programme, you can download an electronic version of the template on the CoRe website: www.core-project.eu.

Please note that the Degree Profile should:

- be readable in five minutes;
- not be longer than two pages;
- provide a coherent impression of the specific degree; and
- be succinct and to the point, yet provide detailed information and references where necessary.

Title field of the Degree Profile

The title field contains basic information about the Degree.

DEGREE PROFILE OF	
Please provide (in bold): The **full name of the qualification as written in the original language.** When this is not English, please provide an official ***English translation*** as mentioned in the Diploma Supplement in *italics*.	
Please provide the **official name of the programme** offered by the institution, in the original language. Please provide also an official translation **in English (if applicable)** in *italics*.	
TYPE OF DEGREE & LENGTH	Please identify the type of degree, e.g. whether the degree is the result of a programme offered by a single institution or whether the degree is the result of a joint programme (joint degree or double / multiple degree). Please indicate between brackets the length of the degree programme in ECTS-credits, and/or - if applicable - national/institutional credits and/or years of study.
INSTITUTION(S)	Please give the official name of the awarding institution(s), and the country where it is based (If the name is not in Latin Alphabet, please provide a transliteration or transcription. In addition, please provide also an official translation in English (if applicable) in italics
ACCREDITATION ORGANISATION(S)	Please identify the accreditation organisation(s) that provides the accreditation of the degree programme or the degree awarding institution, and the country in which the accreditation organisation operates.
PERIOD OF REFERENCE	Please identify the year(s) for which the curriculum is validated/approved.
CYCLE/LEVEL	Please indicate the cycle/level of the qualification in relation to the National Qualifications Framework (where available), the EQF for LLL and the QF for EHEA.

Full name of the qualification in the original language

Please provide the full name of the qualification in its original language as stated/written on the original qualification, taking into consideration the following indications:

- state the full name of the qualification (i.e. no acronyms);

- include an English translation where the original name of the pro-gramme is not in English. If there is an official English translation available, please use the official one; and,

- ensure that the stated name of the qualification is the same as that used on the qualification certificate, the Diploma Supplement and by any recognised national body responsible for the accreditation or recognition of national qualifications.

Official name of the programme

Please provide the official name of the programme offered by the institution in the original language, taking into consideration the following points:

- use the full name of the programme (i.e. no acronyms);

- include an English translation where the original name of the pro-gramme is not in English. If there is an official English translation available, please use the official one;

- ensure that the stated name of the programme is the same as the name used on qualification certificates, the Diploma Supplement and any recognised national body responsible for the accreditation or recognition of national qualifications.

Type of degree & Length

This section provides the reader information whether the degree is the result of a 'single' programme offered by one institution or whether the degree is the result of a joint programme (offered by more than one in-stitution and resulting in a joint degree or double degree).

Further this section indicates the length of the degree programme. Length is expressed in ECTS-credits and/or if applicable in national/insti-tutional credits and/or years of instruction. Many doctoral programmes are – for example – still expressed in terms of academic years.

Institution (s)

The '**official name of the awarding institution(s)'** informs the reader about the institution(s) that has/have awarded the degree.

In cases of joint degree programmes, all institutions involved in the pro-gramme should be stated (if there are more than 10, please make refer-

ence to the programme website). In these instances, please include the official name of the institutions and the country in which the institutions operate, and also indicate which is the co-ordinating institution.

Accreditation organisation(s)

This section provides readers with information about the quality assurance of the degree programme or the degree awarding institution.

Period of reference

Since programmes, and their objectives, learning outcomes, competences et cetera, can change over time, it is valuable for the reader to be informed about the years in which the programme involved was offered.

Reference dates can be, for example:

- year(s) of accreditation if the accreditation was provided on programme level; and/or
- institutional validation of the programme.

Cycle/Level

To provide the reader information about the cycle/level of the qualification, this section gives:

- the level of the qualification as indicated in the national qualifications framework (if applicable)- e.g. 'Level 6 (Ireland)- Bachelors level' where a formalised qualification framework exists.
- a reference to a European framework (if applicable). If this is done, the level and the framework referred to should be indicated (i.e. EQF for Lifelong Learning or QF for the European Higher Education Area).

Section A – Purpose

Section A provides a brief statement of the aims of the programme.

A	Purpose
	Please provide (in 2 sentences) **a general statement** about the degree programme, providing a short summary –a 'synthetic view'- of the overall **purpose of the programme.**

'Purpose' refers to the aims of programme. Purpose can include personal development of the students and their value to society at large.

Section B – Characteristics

Section B gives further detail on the specific focus, characteristic features and orientation of the programme.

B		Characteristics
1	DISCIPLINE(S) / SUBJECT AREA(S)	Please indicate the main **discipline(s) / subject area(s)** of the degree programme. If the programme is multi- or interdisciplinary, please indicate the relative weight of the major components, if applicable (e.g. politics, law and economics (60:20:20).
2	GENERAL / SPECIALIST FOCUS	Please specify the **general and/or specialist** focus of the degree programme.
3	ORIENTATION	Please outline the **orientation of the degree programme.** *For example whether the degree is primarily research, practically based, professional, applied, related to designated employment, etc.*
4	DISTINCTIVE FEATURES	Please indicate any **additional features that distinguish this degree programme from other similar degree programmes.** *For example: if the programme includes a compulsory international component, a work placement, a specific environment or is taught in a second language.*

B1. *Discipline (s)/ Subject area(s):*

The purpose is to give the reader insight into the relative weight of major components within the programme. For instance, if the programme comprises 60% politics, 20% law and 20% economics this should be listed as follows: 'politics, law and economics' (60:20:20).

Please note: sometimes the degree title may not represent the major subject areas explicitly. In this case, consider the substance of the degree, not its title.

B2. *General / Specialist Focus*

This section aims to provide the reader with information on whether the degree is geared towards more general academic education or a specialism, or a combination of the two. A general degree programme focuses

on the breadth of the subject area(s). A specialist programme focuses in greater depth on a particular subject or subjects.

In many cases there will be a combination. For example: a programme in international relations might be broad but also be focussed, e.g. on a particular region or subject, or problem such as conflict resolution. Please specify what your case is.

Please provide a short description of the general focus of the programme. If the degree programme includes a specialism, please provide a succinct statement of the specialism(s).

The focus should be described in no more than 3 sentences.

B3. *Orientation*

The purpose of this entry is to provide the reader with information on the nature of the degree. If the programme is a combination of orientations, please briefly specify.

B4. *Distinctive features*

The purpose of this section is to provide the reader with information concerning the distinctive characteristics of the degree – *vis-à-vis* other degrees in the field – that cannot be listed in the other entries.

The distinctive features should be described in no more than 3 sentences.

Section C – Employability & Further Studies

This section provides information on employability and preparation for further studies.

C		Employability & further education
1	EMPLOYABILITY	Please indicate (in maximum 3 lines) the main areas in which graduates will find employment, giving indications about the level of responsibility they will be qualified to take.
2	FURTHER STUDIES	Please indicate (in maximum 3 lines) opportunities for **access to further studies,** both, within and outside the main and specific subject areas identified above (B.1.).

C1. *Employability*

This section provides the reader with information on employment and professional opportunities open to graduates of the programme. The opportunities relate directly and/or indirectly to the competences obtained in the programme. These opportunities can refer to occupations, job level, access to professional or state licensing examinations, etcetera.

In the case of regulated professions please indicate what regulated/protected title the award programme confers on the holder upon completion and the rights attached to this title. Please name the relevant regulation/law.

C2. *Further Education*

The section aims to provide the reader with information about the opportunities for further studies. These opportunities may include legal access or eligibility for admission to further studies. If this is the case please specify.

Section D – Education Style

This section provides information on learning and teaching strategies, pedagogical philosophy, assessment methods, learning approaches etcetera.

D		Education style
1	LEARNING & TEACHING APPROACHES	Please indicate (in maximum 3 lines) the main learning and teaching strategies and methods.
2	ASSESSMENT METHODS	Please indicate (in maximum 3 lines) the main assessment strategies and methods.

D1. *Learning and Teaching Approaches*

The purpose is to provide the reader with information about the education style.

Examples include: student centred, teacher centred, teacher guided, self directed study, problem based learning, task based learning, research based learning, learning through laboratory practice, reflective learning, work placements, group work, individual study and autonomous learning.

D2. *Assessment methods*

The purpose of this section is to provide information about the main assessment methods in the programme. Take into account the assessment criteria defined for the degree programmes and its units.

Examples include: oral and written examinations, practice, critical incident analyses, case studies, essays, presentations, reports, continuing assessments, examinations and project work, portfolio and self- or peer reflection.

Section E – Key Competences Achieved on Programme Completion

E	PROGRAMME COMPETENCES Please list below the key generic and specific competences up to a total of 15 (see page 28-29 for details). In the case of regulated professions, please refer to page 28-29.
1	GENERIC Please list here the generic programme competences.
2	SUBJECT SPECIFIC Please list here the subject specific programme competences.

Section E lists the key competences obtained by the student in the programme. Before providing instructions on how to list the competences in this section, some necessary background information on competences is provided.

What is meant by **Key Competences**? Key competences are the main competences developed in a degree programme. As explained in chapter 1, competences are understood in this guide in an encompassing way: they cover demonstrated knowledge, understanding, (subject specific and generic) skills, abilities, attitudes and (ethical) values. They cover the whole spectrum of capabilities from pure theoretical and methodological knowledge to vocational knowledge and from research abilities to practical abilities.

We distinguish competences from learning outcomes. This distinction is made to highlight the different roles of the most important players in the teaching, learning and assessment process: academic staff and students. The learning outcomes of a process of learning are formulated by aca-

demic staff, preferably involving student representatives in the process, on the basis of input of internal and external stakeholders. All learning outcomes are the measurable result of a learning experience which allows ascertaining to which extent / level / standard competences have been formed or enhanced. Competences are obtained or developed during the process of learning by the student and therefore belong to the student involved.

It is important to note competences are not always understood this way. In the context of the EQF for LLL, for example, competences are distinguished from knowledge and skills and are described in terms of responsibility and autonomy.

Here however we understand them as stated above. This is because, in an increasingly knowledge- based and technologically- driven world, it is less and less appropriate to make a sharp distinction between higher education and vocational training. As we can see around us in today's world, theoretical studies contain vocational elements (for example work placements), while vocational studies increasingly include theoretical and research components.

Each degree programme has its own mixture of theory, application and vocation. Its profile and the mix of competences covered, is decisive for its classification.

Competence statements

Of course, competences too must be described. The statements used to describe competences are normally short: they indicate an area of capability, which might be connected to a field of knowledge, a skill or related to another competence.

In practice, competences are developed in the framework of a particular subject area. Therefore, it is very useful to link a particular competence to the context in which the competence will actually be applied. This will provide an indication of the level to which the competence is developed in the framework of a degree programme.

In each degree programme a number of key competences are developed in a progressive way. This implies that competences are built in different course units. This is visualized in the image below.

Learning outcomes and competences in study programmes

Tuning Educational Structures in Europe

Example

Course unit/ learning outcome	Competence									
	A	B	C	D	E	F	G	H	I	J
Unit 1		X			X				X	
Unit 2	X			X		X	X		X	
Unit 3		X				X			X	
Unit 4	X		X							X

X = This competence is developed and assessed and is mentioned in the learning outcome of this unit

This type of grid or matrix is widely used in various countries to show which competences are developed in which course units and to what level.

Competence development can also take place in different cycles, as is shown below**:**

Growth of Competence in Degree Programmes
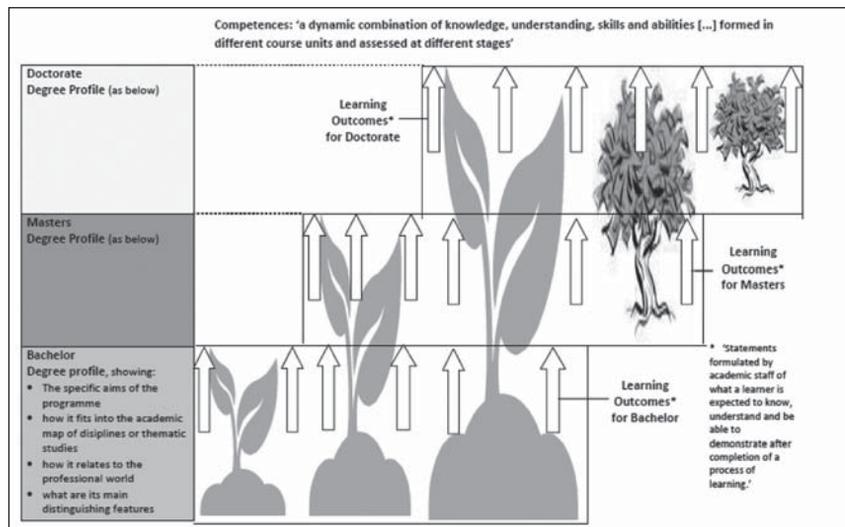
Author: Jeremy Cox, Polifonia Network, for TUNING

Some competences can be developed progressively and sequentially during the three successive HE cycles, while work on others may be limited to one or two cycles. This is visualised in the image by using three types of 'trees': shoots and two more mature trees. When a competence is developed in the Master or Doctoral phase only, it is rooted, nonetheless, in the learning already achieved in the previous cycles, Bachelor and/or Master.

'Generic' and 'subject specific' competences

In section E of the Degree Profile template, first the 'generic' and then the 'subject specific' competences should be listed. The difference between the two is the following:

A **generic competence** is a competence which is transferable between subject areas. For example:

- **Research Ability**: capacity to apply oneself in a dedicated way to the achievement of major goals which contribute to the advancement of knowledge through research.
- **Teamwork**: capacity for working in a team and for assuming responsibility for tasks.
- **Management ability**: capacity to plan and manage projects taking into account budgetary and personnel constraints.
- **Problem solving**: capacity to handle stress and to deal effectively with practical problems.
- **Creativity**: capacity to be creative in developing ideas and in pursuing research goals.
- **Communication skills**: ability to communicate effectively by listening and thinking carefully,
- **Communication of information**: ability to present complex information in a concise manner orally and in writing,

A subject- specific competence is a competence that is performed in a specific subject area and typical of that subject area. For example:

- Ability to demonstrate knowledge of, and ability to use, research techniques and technology.
- Ability to use mathematics to describe the subatomic world and to develop theoretical concepts and models
- Ability to analyse particle interactions in terms of fundamental forces and particles.

- Capability to use Quantum Field Theory in theoretical physics research.

How to list and describe competences in the degree profile

The competences to be listed in Section E of the Degree Profile template are a selection of the 'generic' and 'specific' competences that will have been acquired by the time the programme is completed. A minimum of 8 and a maximum of 15 key competences should be listed under E.

To select the key competences, please single out the main competences of the programme that, listed together, provide a good insight into the character of the programme to a relatively uninformed reader. Please keep in mind that the Degree Profile aims to characterise the degree as a whole. This will be reflected especially in the sets of competences listed here and sets of the learning outcomes listed in section F.

Please note: there are subject areas (for example regulated professions) that might not make a distinction between subject specific and generic competences. If this is your case, please include a note of explanation in the Degree Profile

Describe the competence

As stated above, the set of competences to be developed or further developed in a degree programme represents a dynamic combination of skills, demonstrated knowledge and understanding, interpersonal, intellectual and practical skills and ethical values. Each competence pertains to one or sometimes more than one of these elements. Some will be (more) transversal or generic, others will be (more) subject related.

When describing the competence, remember that:
- the competence should reflect an area of capability in relation to an identified level (first cycle/Bachelor, second cycle/Master, third cycle/ Doctoral studies). The Dublin descriptors could be used as a reference point (see above and Chapter 1).

With regard to the generic competences:
- use the standard list of generic competences developed by Tuning. Do not copy it: rather, use it as a starting point to write a more detailed competence statement tailored to the programme. The most recent version is included in Annex 2.

For generic competences it is suggested to:

- begin with a short definition or the name of the competence (e.g. research, communication, interpersonal, teamwork, ethics) followed by a colon ':' (e.g. communication; and
- add to this short definition a qualifying/informative statement. For example: communication: ability to communicate effectively with a range of people from different backgrounds.

With regard to the subject specific competences:

- note that subject area specialists have designed and validated reference frameworks. For numerous subject areas, Tuning subject area guidelines and reference points and/or the guidelines and reference points developed as part of national and/or sectoral frameworks are available.

Examples

We give some examples of generic competences to illustrate here what is meant. (For further examples, see Annex 3.)

EXAMPLE 1:

Tuning lists 'planning and time management' as a generic competence. This description is very general and does not show what the student is able to demonstrate. Therefore, it is necessary to give more detail and context to the competence so that the reader can understand exactly what the competence entails. An example of a competence statement might be: *capacity to plan and manage projects, taking into account time and personnel constraints*.

EXAMPLE 2:

Another example of a generic competence might be 'teamwork'. This again is a brief definition which provides no specific information about what a student is actually able to do. However, *capacity for working in a team and for assuming responsibility for certain tasks*, provides the reader with information that the student can work with others and can take responsibility for some of the tasks to be performed.

Both examples meet the requirement that the description of the competence should be as short as possible, while at the same time providing enough context and detail as to give the reader some insight into what the student is able to do.

Section F – List of degree programme learning outcomes

The list of Degree programme competences is followed by a list of Degree Programme Learning Outcomes (PLOs).

F	Complete list of programme learning outcomes
	Please list here the **learning outcomes of the programme,** up to a total of 15 to 20 For details, see page 43-49.

The Degree Programme Learning outcomes are a set of statements about what a learner is expected to know, understand and be able to demonstrate by the time all examinations/assessments and required work have been passed successfully and the degree is awarded.

The set of PLOs is the same for all students who have completed the programme. If there are structured optional pathways or tracks within the programme, additional learning outcomes may be added to specify the results of those specific pathways or tracks. In cases where a regulator may require a long and exhaustive list of Programme Learning Outcomes, a reference to where this comprehensive list may be found should be included under F.

When preparing the learning outcomes for inclusion under F use brief yet precise formulations.

In order to choose the Degree Programme Learning Outcomes that should appear in the list, the following points may be useful:

- Use ECTS User Guide 2009 definition of learning outcomes. See:
- http://ec.europa.eu/education/lifelong-learning-policy/doc/ects/guide_en.pdf
- Remember that these are to be the learning outcomes that describe what a student is able to demonstrate upon successful completion of the programme (what the graduate demonstrably knows, understands and is able to do).
- Taken together, the set of PLOs should fully express the characteristic features of the particular programme. When appropriate, include both those which are important but common to many other Degree Programmes and those which distinguish the specific programme described.
- Take into account international reference points for learning outcomes, e.g. Tuning conceptual frameworks for subject areas. See: http://tuning. unideusto.org/tuningeu/
- Check/ensure consistency with (inter-) national standards (e.g. accreditation, quality assurance) when formulating your subject specific competences. See: http://www.bologna-bergen2005.no/Docs/00-Main_doc/ 050221_ ENQA_report.pdf

After completing the list (which should contain no more than 15 to 20 PLOs), it is important to check whether the list of Programme Learning Outcomes accurately reflects the nature of the programme and is complete. The PLOs should align with the programme competences, not necessarily on a one to one basis, but overall.

How to Write Good Programme Learning Outcomes

Learning Outcomes (LOs) are, as the words imply, a specification of the direct results and outcomes of a learning process. Degree Programme Learning Outcomes (PLOs) can be formulated for every cycle / formalized level. They are distinguished from module or course unit learning outcomes which refer to a smaller unit of learning.

So far, the relevance of Degree PLOs has been underestimated. The focus has been on writing learning outcomes for modules and course units. This is unfortunate because it is the Programme Learning Outcomes that:

- play a crucial role in the process of validation and recognition of a qualification;
- offer insight into what the student knows, understands and is able to demonstrate after successful completion of a period of assessed learning resulting in a qualification;
- Are related to the relevant cycle level descriptors;
- should be included in the Diploma Supplement.

PLOs are the <u>intended</u> learning outcomes for each student undertaking the programme. They become the student's <u>achieved</u> learning outcomes at the moment all examinations and required work have been passed or completed successfully to obtain the degree concerned. The learning outcomes to be included in the Profile have thus become the <u>achieved</u> learning outcomes.

It is sometimes argued that the achievements resulting from a degree programme might be more than the sum of the module and/or unit Los. We agree that this is the case. This does not imply, however, that PLOs should be phrased in very general or vague terms, nor that they should be as few as possible. Because PLOs indicate a standard/level of achievement that has been reached, it is crucial that they give a precise overview of what has been learned and has been demonstrated through assessment.

PLOs are aligned with, and informed by, relevant international and na-
tional frameworks at both the general educational level and the specific
subject level. General international frameworks for Europe are the Quali-
fications Framework for the European Higher Education Area (QF for the
EHEA), and the European Qualifications Framework for Lifelong Learning
(EQF for LLL), which is based on an eight level system (see chapter 1). For
each cycle, or level, a set of descriptors has been designed to describe the
attainments / attributes of all those holding that qualification. These de-
scriptors are meant for programmes in general, in relation to the level/cy-
cle involved, and by definition are not related to a particular subject, topic
or area. They should be taken into account when phrasing and designing
PLOs. When they are available, it is – in addition – strongly advised to con-
sult subject specific frameworks, such as the relevant Tuning subject area
reference frameworks and/or national conceptual frameworks of subject
related descriptors. These frameworks contain subject specific descriptors
for each of the cycles or levels and are used as a reference to decide
whether the LOs of a particular programme meet minimum standards.

This subsection provides tools for designing and writing good PLOs. Phras-
ing PLOs is a skill in itself and it is a job that should be done by the team of
academics teaching the programme. Writing PLOs requires a step by step
approach and clear criteria against which they can be evaluated.

The following are characteristics of good verifiable, comprehensible and
observable PLOs. They should be:

- **Specific** (giving sufficient detail, written in clear language)
- **Objective** (formulated in a neutral way, avoiding opinions and am-
biguities)
- **Achievable** (feasible in the given timeframe and with the resources
available)
- **Useful** (they should be perceived as relevant for higher education
studies and civil society)
- **Relevant** (should contribute to the aim of the qualification involved)
- **Standard-setting** (indicate the standard to be achieved)

(These general characteristics also apply to module and unit LOs.)

The language used to describe the learning outcomes is of crucial impor-
tance. While there are a variety of different ways of outlining a learning
outcome, each one normally contains five key components:

1. An **active verb form;**

2. An indication of the **type** of LO: knowledge, cognitive processes, skills, or other competences:

3. The **topic** area of the LO: this can be specific or general and refers to the subject matter, field of knowledge or a particular skill;

4. An indication of the **standard** or the **level** that is intended / achieved by the LO;

5. The **scope** and/or **context** of the LO.

Different taxonomies or classification systems have been developed to explain how people learn and what features distinguish the beginner from the expert. The taxonomies have specific verbs and expressions associated with their classification system. While these systems can be helpful in writing LO statements, each of these taxonomies has its strengths and shortcomings. Each has been developed in a particular timeframe and for a particular purpose and might not always be applicable to present day learning[3].

Nevertheless, let us first think about the <u>choice of verb</u> to be used. It can be argued that the grouping of verbs to a level of achievement is to a certain extent arbitrary, because a particular verb might have differences in connotation for different subject areas, cultures and languages. Verbs might not easily be translated from one language to another without a significant change in meaning.

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3 One of the most prominent taxonomies is the one developed by Benjamin Bloom in 1956 and further developed by others. Bloom focuses on levels of thinking behaviours in the cognitive domain. Bloom distinguishes six levels: knowledge, comprehension, application, analyses, synthesis and evaluation (ability to judge) and has linked applicable *verbs* to these levels. The word knowledge has here a technical meaning, quite different from what is usually meant. Bloom also drew attention to the affective domain or wider competences that is interpersonal skills, attitudes, values. He has ordered these in five ascending categories that is receiving (lowest), responding, valuing, organizing and characterizing (highest level) and again has related these to active verbs. Other authors have drawn attention to the psychomotor (e.g. Fitts and Posner) and experiential domains (e.g. Steinaker and Bell). The psychomotor domain focuses on the co-ordination of brain and muscular activity and distinguish different levels from observation or imitation to the highest level of creativity (for example in music, fine arts etc.). Experiential learning relates to the extent to which the individual participates or engages with the experience and the roles or tasks associated with it.

Despite this warning, it may be useful, first, to give some examples of active verbs as a source of inspiration.

In ascending order, these might be:

 • List, describe, explain, compare, argue, dispute, analyse, critique

or

 • Observe, participate, lead, disseminate

or

 • Listen, intervene, resolve

Second, the LO should clearly reflect the type of learning to be achieved. The language should indicate whether the LO is predominantly focused on one or more of the types of learning. This means making it explicit whether the LO is about acquiring knowledge, developing understanding and cognitive processing, learning a mechanical skill, a professional stance or the like.

All LOs should indicate clearly the topic or subject matter of the learning: a field of knowledge, a professional activity, an ability to perform, or a particular skill.

The LO needs to set the standard or level of learning to be achieved: this needs to reflect the breadth, depth, and complexity of the learning as well as the relevant qualification descriptor.

To illustrate the above, we analyse here below a few examples from the fields of History, and Physics.

Some examples of PLOs from the subject area of History:

a) [The student has] demonstrated knowledge of European and world chronology, especially from 1500 on, and is able to describe in synthetic terms the main approaches to the study of European empires and to world and global history

b) [The student has] demonstrated capability to address a research problem, retrieving the appropriate sources and bibliography, and giving critical, narrative form to his/her findings in a text of around 60 pages.

Using our component table we can derive the following:

a) to demonstrate to describe	knowledge	European and world chronology, especially from 1500 on	in synthetic terms	the main approaches to the study of European empires and to world and global history
verb	*type*	*subject*	*standard*	*scope/ context*

b) to address	retrieving the appropriate sources and bibliography (skill)	a research problem	critical, narrative form	findings in a text of around 60 pages.
verb	*type*	*subject*	*standard*	*scope/ context*

An example of a more complex PLO in the field of physics is the following:

• Ability to make measurements of physical quantities and to pursue an investigation by the design, execution and analysis of experiments, to compare results with existing knowledge and theories, and to draw conclusions (including degree of uncertainty).

Similarly, this LO can be broken down according to the five key components:

Ability to make	measurements (knowledge)	physical quantities	pursue an investigation by the design, execution and analysis of experiments	compare results with existing knowledge and theories, and to draw conclusions (including degree of uncertainty).
verb	*type*	*subject*	*standard*	*scope/ context*

Progression routes can be indicated by offering PLOs for three levels, for example first and second cycle and the doctorate. This can be done in general for all types of a LO. We give here examples for a transferable skill or generic competence as well as for a subject area related competence.

The first example here illustrates how to use the generic competence *Creativity:*

Level	Programme learning outcome
First cycle/ Bachelors	Demonstrable ability to generate and convey new ideas or to generate innovative solutions to known problems or situations
Second cycle/ Masters	Demonstrable ability to generate original, quality ideas that can be made explicit and defended in both known and unfamiliar situations
Doctorate	Demonstrable ability to contribute original, practical, applicable and complex ideas and solutions that affect self and own processes as well as others.

To illustrate the subject specific competence an example has been chosen from the field of Nursing:

Level	Programme learning outcome
First cycle/ Bachelors	The nurse can work closely with individuals, groups and carers, using a range of skills to carry out comprehensive, systematic and holistic assessments. The assessments must take into account current and previous physical, social, cultural, psychological, spiritual, genetic and environmental factors that may be relevant to the individual and their families.
Second cycle/ Masters	In his/her designated speciality, the nurse must demonstrate his/her mastery of advanced nursing skills, (including diagnostic and therapeutic techniques) to assess and manage patients with complex health/illness states.
Clinical Doctorate	The nurse can demonstrate leadership in his/her chosen clinical area; able to influence and set strategic practice development and research agendas.
Doctorate/ PhD	Can demonstrate a systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of the discipline of nursing, or an area of professional nursing practice.

Further reading on Learning Outcomes

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Chapter 3
Glossary

The following provides an overview of terms frequently used throughout the Guide. The aim of the glossary is to facilitate a similar use of terms in order to contribute to the transparency and comparability of Degree Profiles for recognition purposes.

TERMS	Definitions
Ability	Acquired or natural capacity, competence, proficiency or talent that enables an individual to perform a particular act, job or task successfully.
Access	Certain qualifications convey the holder with the right to access specific qualifications at a particular education level within the education system in which the qualification was taken. For instance a first cycle degree usually provides access to second cycle studies.
Accreditation	Accreditation is the establishment of the status, legitimacy or appropriateness of an institution, programme or module of study by a designated competent authority.
Accreditation organisation	A designated competent authority which is legally entitled to accredit an institution, programme or module of study within the context of a national education system.
Assessment methods	The total range of methods used to evaluate the learner's achievement in a course unit or module. Typically, these methods include written, oral, laboratory, practical tests/examinations, projects, performances and portfolios. The evaluations may be used to enable the learners to evaluate their own progress and improve on previous performance (formative assessment) or by the institution to judge whether the learner has achieved the learning outcomes of the course unit or module (summative assessment).
Attitude	Complex mental state involving beliefs,feelings, values and dispositions to act in certain ways.
Academic Awarding institution	A university or other higher education institution which awards degrees, diplomas, certificates or credits at tertiary level.
Benchmark	A standard, used for comparison. See also: *Subject benchmark statements*

Competences	Competences represent a dynamic combination of cognitive and metacognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills, and ethical values. Fostering these competences is the object of all educational programmes. Competences are developed in all course units and assessed at different stages of a programme. Some competences are subject-area related (specific to a field of study), others are generic (common to any degree course). It is normally the case that competence development proceeds in an integrated and cyclical manner throughout a programme.
Competent authority	Person or organization that has the legally delegated or invested authority, capacity, or power to perform a designated function.
Course unit	A self-contained, formally structured learning experience. It should have a coherent and explicit set of learning outcomes, expressed in terms of competences to be obtained, and appropriate assessment criteria. Course units can have different numbers of credits.
Credential evaluation	Comparing and assessing foreign qualifications, facilitating the integration of national education systems.
Credit	The 'currency' used to measure student workload in terms of the time required to achieve specified learning outcomes. It enables staff and students to assess the volume and level of learning, based on the achievement of learning outcomes and the associated workload measured in time. Credit can be awarded to a learner in recognition of the verified achievement of designated outcomes at a specific level through work based learning or prior learning as well as through coursework. Credit cannot normally be lost once achieved, although in particular circumstances an institution can lay down that credits must have been awarded within a certain timeframe to be recognized as part of the study programme. This will be the case in subject areas where knowledge and skills are subject to rapid change, e.g. Informatics, Medicine, etc.
Degree Profile	A Degree Profile describes the specific characteristics of an educational programme or qualification in terms of learning outcomes and competences, following an agreed format.
Degree programme	A set of coherent educational components, based on learning outcomes, that are recognized for the award of a specific qualification through the accumulation of a specified number of credits and the development of specified competences..

Descriptors	Generic statements of the outcomes of study for a qualification. They provide clear points of reference that describe the main outcomes of a qualification, as defined in the National Frameworks, and make clear the nature of change between levels.
Diploma Supplement	The Diploma Supplement is an annex to the official degree/qualification designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the holder of the degree/qualification. It is based on the model developed by the European Commission, Council of Europe and UNESCO/CEPES. It facilitates international transparency and the academic/professional recognition of qualifications.
Discipline	See *Subject Area*
Directive EC/36/2005	Directive EC/36/2005 on the recognition of professional qualifications. European Directive 2005/36/EC aids mobility by obliging Member States to consider the qualifications acquired elsewhere in the Community to allow access to a regulated profession in their territory.
Dissertation	A formally presented written report, based on independent research/ enquiry/project work, which is required for the award of a degree (generally a first or a second degree or a doctorate). It may also be called a thesis. See also: *thesis*
Dublin Descriptors	The Dublin Descriptors provide very general statements of typical expectations of achievements and abilities associated with awards that represent the end of a Bologna cycle. General level descriptors have been developed for the 'short cycle within the first cycle' and the first, second and third cycle. The descriptors consist of a set of criteria, phrased in terms of competence levels, which enables to distinguish in a broad and general manner between the different cycles. The following five sets of criteria are distinguished: • Acquiring knowledge and understanding • Applying knowledge and understanding • Making informed judgments and choices • Communicating knowledge and understanding • Capacities to continue learning The Dublin descriptors have been developed by an international group of experts, which has named itself the Joint Quality Initiative (JQI). The work of the JQI and Tuning is considered complementary by both parties.

ECTS	ECTS is a learner-centred system for credit accumulation and transfer based on the transparency of learning outcomes and learning processes. It aims to facilitate planning, delivery, evaluation, recognition and validation of qualifications and units of learning as well as student mobility. ECTS is widely used in formal higher education and can be applied to other lifelong learning activities.
Elective	A course unit that may be taken as part of a study programme but is not compulsory for all students.
European Qualifications Framework for Lifelong learning (EQF-LLL)	A European Qualifications Framework (EQF) is an overarching framework that makes transparent the relationship between European national (and/or sectoral) educational frameworks of qualifications and the qualifications they contain. It is an articulation mechanism between national frameworks. At present two European Qualifications Frameworks exist. One focuses only on Higher Education and has been initiated as part of the Bologna Process, the other focuses on the whole span of education and has been initiated by the European Commission. The first framework is named a Framework for Qualifications of the European Higher Education Area, abbreviated as QF – EHEA (see below). The second extends across all areas including that of higher education and is called European Qualifications Framework for Lifelong Learning, abbreviated as EQF - LLL. The EQF - LLL, adopted by the 47 countries participating in the Bologna Process, is a system that aims to: Enable learners (citizens, employers, etc.) across Europe to understand the full range and relationship between the various national, local and regional European higher education qualifications Promote access, flexibility, mobility, collaboration, transparency, recognition and integration (links) within, and between, European higher education systems. Defend diversity, in the content and delivery of educational programmes and therefore national, local, regional and institutional academic autonomy. Improve the competitiveness and efficiency of European higher education See also: *National Qualifications Framework*
Generic competences	Generic Competences are also known as transferable skills or general academic skills. They are general to any degree programme and can be transferred from one context to another.

International recognition	1. Methodologies and procedures to understand foreign qualifications and establish their comparability in view of further studies or employment. 2. A formal acknowledgement by a competent authority of the standing of a foreign educational qualification with a view to access to educational and/or employment activities.
Key competences	Key Competences are the most important competences that the graduate will have obtained as a result of completing a specific degree programme.
Learner	Anyone who acquires new knowledge, behaviours, skills, values, or understanding, which may involve synthesizing different types of information.
Learning outcomes	A Learning Outcome may be described as a *statement of what a learner is expected to know, understand and be able to demonstrate after completion of a process of learning.* Learning outcomes are expressed in terms of the level of competence to be obtained by the learner. They relate to level descriptors in national and European qualifications frameworks. See also: *Programme learning outcome*
Level (cycle) descriptors	Generic statements describing the characteristics and context of learning expected at each level against which learning outcomes and assessment criteria can be reviewed.
Levels	Levels are understood to be a series of sequential steps to be taken by the learner (within a development continuum) expressed in terms of a range of generic outcomes, within a given programme. They can also reflect the expected outcomes of degree programme in terms of cycle level descriptors
Module	The term module has different meanings in different countries. In some it means a course unit; in others a module is a group of course units. In others again course units are made up of a number of modules. In Tuning a module is defined as a course unit or a combination of course units in a system in which each course unit carries the same number of credits or a multiple thereof. See also: *course unit*
National register	Official national listing of state recognized programmes/ institutions/ qualifications/ professions
National Qualifications Framework	A national framework of qualifications is a single description, at national level or level of an educational system, which is internationally understood. The framework describes all qualifications awarded in the system considered and relates them to each other in a coherent way. One very clear example is that of the Republic of Ireland http://www.nqai.ie/en/ See also: *Qualifications Descriptors.*

Optional subject/ course	A course unit that may be taken as part of a study programme but is not compulsory for all students.
Programme Learning Outcomes	A coherent set of 15 to 20 statements expressing what a learner is expected to know, understand and be able to do after successful completion of a degree programme.
Progression (paths)	The process which enables learners to pass from one level of competence acquisition to the next.
Protected titles	Certain professional titles are legally protected and may only be used by people who have undergone specific training as outlined by the relevant professional body.
Qualification	Any degree, diploma or other certificate issued by a competent authority attesting the successful completion of a recognized programme of study
Qualification descriptors	Generic statements of the outcomes of study. They provide clear points of reference that describe the main outcomes of a qualification often with reference to national levels.
Qualifications Framework for the European Higher Education Area (QF-EHEA)	An overarching framework that makes transparent the relationship between European national higher education frameworks of qualifications and the qualifications they contain. It is an articulation mechanism between national frameworks. See also the explanation above under EQF for LLL).
Quality assurance	The process or set of processes adopted nationally and institutionally to ensure the quality of educational programmes and qualifications awarded.
Recognition networks	ENIC: European Network of Information Centres in the European Region. NARIC: National Academic Recognition Information Centres in the European Union. Network of national centres providing information, advice and assessment of foreign qualifications. Created to help improve the academic recognition of international awards and facilitating the integration of national education systems.
Reference point	Non-prescriptive indicators that support the articulation of qualifications, learning outcomes or related concepts Source: Bologna Working Group on Qualifications Frameworks, 2005
Regulated professions	Professions to which access or practise in the host EU Member State is, by law or regulation or administrative provision, conditional upon the possession of certain fixed professional qualifications.
Skills	A skill is the learned capacity to achieve pre-determined results often with the minimum outlay of time, energy, or both. Skills are often divided into general/generic and subject specific skills.

Student centred learning	An approach or system that supports the design of learning programmes which focus on learners' achievements, accommodate different learners' priorities and are consistent with reasonable students' workload (i.e. workload that is feasible within the duration of the learning programme). It accommodates for learners' greater involvement in the choice of content, mode, pace and place of learning.
Subject benchmark statements	Subject benchmark statements set out expectations about standards of degrees in a range of subject areas. They describe what gives a discipline its coherence and identity, and define what can be expected of a graduate in terms of the abilities and skills needed to develop understanding or competence in the subject.
Subject specific competences	Competences related to a specific subject area.
Teacher centred learning	The transmission of information from a knowledge expert (teacher) to a relatively passive recipient (student/learner) or consumer.
Thematic studies	A degree programme focusing on a particular subject or topic of interest. Thematic studies in higher education are of multi- or interdisciplinary character.
Thesis	A formally presented written report, based on independent research/enquiry/ project work, which is required for the award of a degree (generally a first or a second degree or a doctorate). It may also be called a dissertation.
Transcript	An official (e.g. certified) document which provides a complete summary of the student's academic record at that institution(s) leading to a qualification.
Tuning	Tuning Educational Structures in Europe is a university driven project which aims to offer an approach to implement the Bologna Process at higher education institutional and subject area level. The Tuning approach contains a methodology to (re-)design, develop, implement and evaluate study programmes for each of the Bologna cycles. The term "Tuning" emphasizes the notion that universities are not aiming to unify or harmonize their degree programs into a prescribed set of European curricula, but rather are looking for points of convergence and common understanding based on diversity and autonomy.

Sources

Bologna Working Group on Qualifications Frameworks, 2005
ECTS Users' Guide, 2009
Tuning Educational Structures Projects
QAA-UK. The Quality Assurance Agency for Higher Education (QAA)

Annex 1
Designing a study programme

Designing a study programme and defining its programme competences and learning outcomes

This Guide is primarily designed for those who wish to describe an existing programme. However formulating a Degree Profile is also one of the first steps in creating a new degree programme, or attempting to improve an existing one.

In either case, the first step is to determine whether the programme is needed by students and society, rather than whether there are academics eager to teach in it.

Determining this will require a careful and objective consideration of such factors as the labour market, the development of the subject area, emerging technologies and the like.

Once the general area of the programme has been identified or decided, it will be helpful to consult the general reference points and the subject area specific references points that have been established for the academic or professional area.

This will help in designing the degree programme, that is defining the profile, identifying the related set of competences to be developed and formulating the learning outcomes to be achieved.

Designing study programmes and defining programme competences and learning outcomes require careful planning and teamwork by the responsible staff. In student centred or output oriented programmes all faculty staff who are involved in offering parts of the degree programme have a shared responsibility for its outcomes and for conducting the units or modules of which the programme is constructed.

The learning outcomes of the individual units should, together, result in the level of competences to be obtained by the learner, to be verified by the overall learning outcomes. According to the Tuning methodology all units are – in one way or another – related to each other. This not only

applies to the units or modules which are part of the major or core part of the programme, but also to minor course units and electives. In a well designed programme, minors and electives should strengthen the profile of the programme while giving learners the ability to 'custom fit' the programme to their needs.

Programmes normally presume progression regarding the level of competences to be obtained and hence the learning outcomes to be achieved. As a consequence, the learning outcomes of units/modules which develop the competences at the highest level should precisely match the Programme Learning Outcomes.

In defining new degree programmes and improving existing ones the following '10 step' process may be helpful.

Ten steps for designing/improving new programmes (or improving existing ones)

1. **Determine need and potential**
   - Consult stakeholders (potential students, academics, potential employers) to verify that the degree is needed.
   - Decide whether the programme proposed satisfies established or new professional and/or social demands.

2. **Define the profile and the key competences**
   - Identify the main discipline(s) / subject area(s) which form the basis of the degree programme
   - Specify whether the focus of the degree programme is to be general and/or specialist.
   - Decide on the orientation of the degree programme.
   - Identify and describe the potential fields / sectors where its graduates may find employment.
   - Identify and describe its contribution to developing citizenship and personal culture.
   - Identify the Key Programme Competences, making if possible a distinction between generic and subject specific competences, most relevant for the degree programme proposed (up to 15).

• Formulate these key generic and subject specific competence in greater detail by making use of the instructions included in this guide (under section E).

3. **Formulate the Programme Learning Outcomes**

• Formulate the Programme Learning Outcomes related to the Key Programme Competences identified (up to 15 to 20) by making use of the guidelines in this guide (under section F).

4. **Decide whether to 'modularise' or not**

• Decide whether each course unit should carry a set number (e.g. 5 or its multiples) or carry a random number based on the workload foreseen.

• Allocate ECTS credits to each course unit, based on the convention that a semester carries 30 ECTS credits and a normal academic year 60 ECTS credits and the recommendation that one ECTS credit corresponds to 25-30 hours of student workload.

5. **Identify competences and formulate learning outcomes for each module**

• Select the generic and subject specific competences to be formed or enhanced in each module on the basis of the Key Programme Competences identified under step 3.

• Formulate the learning outcomes for each competence to be developed in the course unit.

6. **Determine the approaches to teaching, learning and assessment**

• Decide how the competences can best be (further) developed and assessed, to achieve the intended learning outcomes.

• Foresee a variety of approaches to learning, teaching and assessment.

7. **Check whether the key generic and subject specific competences are covered**

• Check progression paths of the key generic and subject specific competences identified.

• Check whether all programme key generic and subject specific competences are covered by the modules/course units.

8. **Describe the programme and the course units**

   • Prepare a programme description and course unit descriptions on the basis of the profile, key Programme Competences, Programme Learning Outcomes, allocation of credits and the teaching, learning and assessment approaches identified.

9. **Check balance and feasibility**

   • Check whether the completed programme is balanced in terms of the effort it requires and the competences to be achieved.

   • Check whether the credits have be allocated on sound principles and that the students can complete the individual units and the whole programme within the allotted time,

10. **Implement, monitor and improve**

   • Implement the degree programme and its components according to a clear structure and transparent implementation plan.

   • Monitor the degree programme and its components by making use of both student and staff questionnaires to evaluate teaching, learning and assessment, as well as output information in terms of success rates. It is also advised to make use of the Tuning Checklist for Curriculum Evaluation included in annex 2 of the publication, Julia Gonzalez and Robert Wagenaar, eds., *Tuning Educational Structures in Europe. Universities' Contribution to the Bologna Process. An Introduction* (2nd. Ed. Bilbao, Groningen, 2008) also available on the Tuning website

   (http://tuning.unideusto.org/tuningeu).

   • Use a feed back and feed forward system to analyse the outcomes of the evaluations and expected developments in the field with respect to society as well as to academia.

   • Use the information collected to enhance the degree programme and its components.

Annex 2
List of Generic Competences

TUNING List of Generic Competences

1. Ability to communicate in a second (foreign) language
2. Capacity to learn and stay up-to-date with learning
3. Ability to communicate both orally and through the written word in first language
4. Ability to be critical and self-critical
5. Ability to plan and manage time
6. Ability to act on the basis of ethical reasoning
7. Capacity to generate new ideas (creativity)
8. Ability to search for, process and analyse information from a variety of sources
9. Ability to work autonomously
10. Ability to identify, pose and resolve problems
11. Ability to apply knowledge in practical situations
12. Ability to make reasoned decisions
13. Ability to undertake research at an appropriate level
14. Ability to work in a team
15. Knowledge and understanding of the subject area and understanding of the profession
16. Ability to motivate people and move toward common goals
17. Commitment to conservation of the environment
18. Ability to communicate key information from one's discipline or field to non-experts
19. Ability for abstract and analytical thinking, and synthesis of ideas
20. Ability to interact constructively with others regardless of background and culture and respecting diversity
21. Ability to design and manage projects
22. Ability to interact with others in a constructive manner, even when dealing with difficult issues
23. Ability to show awareness of equal opportunities and gender issues
24. Commitment to health, well-being and safety
25. Ability to take the initiative and to foster the spirit of entrepreneurship and intellectual curiosity
26. Ability to evaluate and maintain the quality of work produced

27. Ability to use information and communications technologies
28. Commitment to tasks and responsibilities
29. Ability to adapt to and act in new situations and cope under pressure
30. Ability to act with social responsibility and civic awareness
31. Ability to work in an international context

Annex 3
Examples Degree Profiles History, Nursing, Physics

On the following pages full degree profiles for the subject areas used as examples in this Guide are given in order to provide a general overview how of what such Degree Profiles look like and how the different sections interact with each other. The examples are fictional, although a variety of real life examples (provided by the test partners of the CoRe 2 project) have been used for inspiration.

Please note that the Degree Profile should not be longer than 2 pages in format A4.

History

History example 1

Degree profile of History Baccalaureus Artium [Bachelor in Arts] **Degree Programme in Modern History**	
TYPE OF DEGREE & LENGTH	Single degree (180 ECTS-credits)
INSTITUTION	Universitas Utopiensis (University of Utopia), Arcadia
ACCREDITATION ORGANISATIONS	Quality assurance agency Utopia in Arcadia
PERIOD OF REFERENCE	Degree programme implemented in 2008, accredited for 5 years
LEVEL	QF for EHEA: 1st Cycle; EQF level 6; NQF of Arcadia: 1st Cycle

A	Purpose
	To provide students with the foundations of a historical approach to understanding modern society and culture, with particular emphasis on the development of Europe from 1500, and its relations with the wider world. Specialist areas are local (national) history, EU History and broad developments in other continents.

B		Characteristics
1	DISCIPLINES(S) / SUBJECT AREA(S)	History, multi-disciplinary; major in history, associated minors in political science, anthropology, international relations, communications; a foreign language is compulsory; electives in humanities, social sciences, economics and education. History 60%; minor 25%; language 5%; electives 10%.

2	GENERAL / SPECIALIST FOCUS	General with emphasis on identifying and using primary and secondary sources and historiography critically.
3	ORIENTATION	Research orientation, with a strong component of communications and interpersonal skills in the own language and the second language. Special tracks are provided for future teachers and archivists.
4	DISTINCTIVE FEATURES	Students may emphasise either EU history and history of international relations or EU history and the history of a non-European macro area. An Erasmus mobility experience is recommended but not compulsory; all students participate in special seminars with incoming Erasmus students.

C	Employability & further education	
1	EMPLOYABILITY	Positions at Bachelor level in the public/private administration, archives (archive track), media and communications, journalism.
2	FURTHER STUDIES	Access to related second-cycle degree programmes, and – with some further work – to un-related second cycle degree programmes. Access to teacher training (education track); to specialised archival studies (archival track).

D	Education style	
1	LEARNING & TEACHING APPROACHES	The general learning style is task-based learning. There are some lecture courses, accompanied by workshops and seminars. Most learning is in small groups (up to 20 persons) and emphasizes discussion, preparation of presentations autonomously and in small groups. In the final year about half time is dedicated to the final thesis, which is also presented and discussed with a discussion group of teachers and peers.
2	ASSESSMENT METHODS	Presentations: oral (power point) and written; examinations: oral for the conceptual parts; written for the basic historiographical knowledge; students keep a portfolio.

E	Programme competences
1	GENERIC — **Critical and self-critical abilities:** ability to think in scientific terms, pose problems, gather data, analyse them and propose findings. — **Written and oral communication in one's own language:** ability to write and speak correctly according to the various communication registers (informal, formal, scientific). — **Ability to work autonomously, taking initiatives and managing time:** ability to organise complex efforts over a period of time, producing the required result on schedule. — **Ability to work with others** in a multidisciplinary multi-national setting.

| 2 | Subject specific

— **Basic general knowledge:** orientation in the major themes of present historical debate and knowledge of world chronology.
— **Applying knowledge in practice:** ability to use background information and information retrieval skills to formulate a coherent discussion of a historical problem.
— Awareness of the **on-going nature** of historical research and debate
— Awareness of the **connections** between present-day issues and the past
— Knowledge of the **general diachronic framework** of the past
— **Specific knowledge** of the chronologies and historiographical interpretations of colonisation, decolonisation, modernity, post-modernity and globalisation.
— Knowledge of at least one specific **thematic area** (international relations, economic history, history of ideas, gender history, history of science and technology, etc.).
— **Ability to retrieve and handle information** from a variety of sources (electronic, written, archival, oral) as appropriate to the problem, integrating it critically into a grounded narrative
— Ability to use the **appropriate terminology and modes of expression** of the discipline in oral and written form in one's own language and in the second language. |

| F | Programme learning outcomes |

The graduate can demonstrate:

— knowledge of European and world chronology, especially from 1500, and ability to describe in synthetic terms the main approaches to the study of European empires and to world and global history
— that he/she is able to formulate texts and briefs based on up-to-date historical information such as can be of use in e.g. journalism, for local bodies and museums.
— ability to speak and write simple texts and presentations as well as the more complex and scholarly text required in the final year, using the appropriate communication registers
— ability to organise his/her work programme in the final year autonomously, as shown in preparing for colloquia on his/her thesis, volunteering for participation in working groups, keeping track of these activities in his/her portfolio.
— ability to identify and describe the political and culture context in which major debates about colonisation and decolonisation have developed and can identify the main historians involved in those debates.
— knowledge of the major world events and processes over the last, roughly, two millennia, although specialising in modern and early modern history.
— ability to describe historiographical tendencies of the last twenty years and to identify the major actors in the debates about modernity, post-modernity and globalisation and the related understandings of the relationships between the world's peoples;

— detailed knowledge of a specific chosen field: (international relations, economic history, history of ideas, gender history, history of science and technology), as shown by reading, studying and reporting on a minimum of 5 significant works pertaining to it.
— capability to address a research problem, retrieving the appropriate sources and bibliography, analysing it, and giving critical, narrative form to his/her findings in a text of around 20.000 words.
— ability to work productively in a team with persons from other countries, taking into account the diversities of background and understanding of his/her co-workers to address specified tasks;
— as shown in presentations, essays and final thesis, ability to use appropriate terminology and to narrate and discuss facts and interpretations in clear and precise language.
— ability to make oral presentations and write texts of up to 10 pages in his/her second language.

Archival Track:

— ability to illustrate the historical bases and the legal framework for the archival system in Arcadia.
— ability to access repertories and inventories of private and public archives
— ability to illustrate and apply in practice the principles of cataloguing historical documents relating to the modern and early modern period as regards local history and history of country Arcadia.

Education Track:

— ability to illustrate the main pedagogic methods used in primary and secondary schools
— ability to design and guide a learning/teaching experience for school children related to EU and global history.

History example 2

Degree profile: History **Magister Artium (Master of Arts)** **Degree Programme in Modern History**	
TYPE OF DEGREE & LENGTH	Single degree (120 ECTS-credits)
INSTITUTION	Universitas Utopiensis (University of Utopia), Arcadia
ACCREDITATION ORGANISATION(S)	Accreditation organisation of Arcadia
PERIOD OF REFERENCE	Degree programme accredited for 5 years in 2007
LEVEL	QF for EHEA: 2nd cycle; EQF level 7; NQF of Arcadia: 2nd cycle

A	Purpose
	To provide students with a broad critical formation in the area of History, in which both critical thinking and practical research skills are emphasised, and supported by the development of the competences necessary for communication, collaboration, dissemination and management of projects.

B		Characteristics
1	DISCIPLINES(S) / SUBJECT AREA(S)	**History:** the major emphasis is on history, but some work in one or more related areas is obligatory. The student chooses the area(s) with reference to his/her specific interest and area of specialisation (such as sociology, anthropology, archaeology, art history, area studies, communications studies, economics, international relations or a language). History; minor; electives (70:20:10).
2	GENERAL / SPECIALIST	**General:** with emphasis on developing a broad overview as well a deep knowledge of the relationship of the human past and present and an ability to understand critically the transformations that the practice of historiography is undergoing today.
3	ORIENTATION	**Research orientation:** emphasizing both individual and group research competences; strong emphasis also on writing and other forms of communication in own language and fluent use of a European and a non-European language.
4	DISTINCTIVE FEATURES	The programme develops European and world history perspectives as deep knowledge and a critical approach to national and regional historiographies. Spatial as well as diachronic and thematic aspects of History from the Middle Ages to the present are cultivated. Students are encouraged to take advantage of possibilities for study outside Europe for their thesis work, although this is not obligatory.

C		Employability & further education
1	EMPLOYABILITY	Positions at Postgraduate (MA) level in the public/private administrations, museums, archives (with minor and electives in archival studies), communications, journalism, and, with additional qualification, secondary school teaching , and historical research
2	FURTHER STUDIES	Access to related third cycle (doctoral) programmes; access to further qualification for secondary school teaching (on a *numerus clausus* basis in Arcadia).

D		Education style
1	LEARNING & TEACHING APPROACHES	The learning style is based on active learning, giving relevant responsibility to the student, both for choice of subject and organisation of time. Courses are in seminar form, with methodological workshops for students working on the same period or diachronic theme. In the first year the student chooses a research orientation, including the courses in related disciplines to be taken, and discusses his/her choices in a colloquium. In the final year about half time is dedicated to the thesis, presented and defended before a commission of academics.
2	ASSESSMENT METHODS	Assessment is on: 1) Presentations: oral (power point) and written; 2) Examinations: oral for the conceptual parts; written for the historiographical knowledge; 3) in the first year there is a colloquium; 4) in the final year discussion and defence of the thesis.

E		Programme competences
1		GENERIC

— **Critical and self-critical skills:** ability to formulate a problem, address it with appropriate information and methodology, to arrive at a valid conclusion.
— **Concern for quality and ethical commitment:** awareness of the standards required for scientific research and publication including critical awareness and intellectual honesty.
— **Interpersonal skills and teamwork:** ability to participate in group work, taking the lead as appropriate, in an international or multicultural group.
— **Written and oral communication in one's own language and another language:** ability to write and speak correctly according to the various communication registers (informal, formal, scientific).
— **Working autonomously, designing strategies and managing time:** ability to organise complex efforts, integrating the results of diverse studies and analyses and producing the required product according to the established deadlines. |

2	SUBJECT SPECIFIC
	— **World history: knowledge and understanding of:** main historical processes and events in all continents since the early middle ages and their interrelation and of current debates and research orientations regarding them. — **Analysis of documents:** retrieving, understanding and placing archival material, historiographical contributions and debates regarding the past in their political and cultural context. — **Historical period / theme:** Detailed knowledge and understanding of a particular period/thematic domain and the methodologies and historiographical debates regarding it. — **Knowledge of the resources** available for historical research including those based on ICT and ability to use them appropriately. — **Use of appropriate terminology and modes of expression** of the discipline in oral and written form in one's own language and in a second language. — Awareness of and ability to use **tools of other human sciences** as necessary with regard to a research project. — **Cooperation** to complete specific tasks relating to the discipline (gathering and treating data, developing analyses, presenting results). — **Planning and delivering an individual research-based contribution** to historiographical knowledge bearing on a significant problem.

F	Programme learning outcomes
	The graduate has demonstrated: — ability to formulate and refine a significant research problem, gathered the necessary information to address it and formulated a conclusion which can be defended in a scholarly context. — awareness of and commitment to scientific standards in accuracy and breadth of the documentation located, utilised and cited in assignments and in the final dissertation. — ability to participate in group work productively and taking the lead on occasion, presiding over debates and discussions in an international or multicultural group. — ability to present written texts and to give oral presentations of different length and complexity in his/her own and another language useful for the area of specialisation. — ability to choose a sector of specialisation, planning and completing appropriate course work, and utilising the resulting competences in preparing and carrying out a research plan within the established time frame. — ability to illustrate in parallel, highlighting analogies, diversities and connections between major events and processes in various parts of Eurasia, Africa and the Americas, both before and since the epoch of European 'discoveries'.

- capability of analysing historical documents and historiographical texts from various periods, interpreting and contextualising them correctly in course work, written reports and the final dissertation.
- detailed and critically founded knowledge of the chosen period or thematic domain of specialisation in course work and written tests as well as in the final dissertation.
- ability to use of ICT resources in a scholarly way, applying high standards of textual analysis to electronic as well as to traditional archival, narrative and oral sources.
- ability to distinguish different registers of scholarly expression and to apply them appropriately in summaries, reviews and written and oral assignments as well as in his/her final dissertation.
- ability to use tools of other human, natural or exact sciences when necessary to tackle a research problem.
- ability to work productively in groups organised to locate, retrieve and process data to address a research task and to take responsibility for organising some phases of the work.
- ability to conduct and complete a medium length research project, incorporating tools from related disciplines, and addressing a significant problem regarding a European or non-European area in post medieval times, elaborating his/her findings in the form of a narrative text provided with critical apparatus (e.g. notes, references, annexes, documents) as appropriate to the subject, of about 50.000 words and defended it before a commission of academics.

History example 3

Degree profile: History **Philosophiae Doctor (Doctor of Philosophy)** **Degree Programme in Modern History**	
TYPE OF DEGREE & LENGTH	Single degree (240 ECTS-credits / 4 academic years)
INSTITUTION	Universitas Utopiensis (University of Utopia) in Arcadia
ACCREDITATION ORGANISATION(S)	Accreditation organisation of Arcadia
PERIOD OF REFERENCE	Degree programme accredited for 5 years in 2007
LEVEL	QF for EHEA: 3rd cycle; EQF level 8; NQF of Arcadia: 3rd cycle

A	Purpose
	The overall aim is to provide postgraduate students with advanced research skills in the disciplinary area, whilst broadening their understanding of more general debates on societal developments and the role that history can have in addressing these.

B		Characteristics
1	DISCIPLINES(S) / SUBJECT AREA(S)	**History:** Modern and Contemporary. The main part of the degree work, corresponding to 120 credits, is devoted to the doctoral research and thesis and comprises research, analysis of documentation and elaboration of the written text according to international standards of excellence. Other course work or workshops and seminars are chosen by the learner/early stage researcher in history or related areas. History: other (80:20).
2	GENERAL / SPECIALIST FOCUS	**General:** The early stage researcher is given full support in elaborating a research theme and preparing a practical and theoretical/methodological strategy for dealing with it: all themes pertaining to world and European history from 1500 (history of science, gender, politics, imperialism, decolonisation, nationalism, globalisation, etc.) can be accepted, if they are consonant with the capabilities of the doctoral staff.
3	ORIENTATION	**Research orientation:** with a practical component consisting in training in international project design and management.
4	DISTINCTIVE FEATURES	Whilst most efforts are dedicated to the dissertation, for the remaining time the early stage researcher may choose amongst a variety of scientific or theoretical courses and work oriented activities: e.g. training in editing, communications, project design and funding search.

C		Employability & further education
1	EMPLOYABILITY	Positions requiring advanced research training and high-level expertise in public and private administration, media and communication, publishing, research and teaching in higher education institutions or research bodies.
2	FURTHER STUDIES	Some post doctoral fellowships are available and may contain a further education component.

D		Education style
1	LEARNING & TEACHING APPROACHES	The learning style is based on active learning, especially on an individual large-scale research project, carefully monitored, but giving relevant responsibility to the early stage researcher for choice of method, subject, organisation of time. Although normally a full-time degree programme, it is possible to arrange for part-time study compatible with employment.
2	ASSESSMENT METHODS	Assessment of course work and seminars is according to the practices in those activities. The overall assessment is 'in itinere', at regular intervals three times per year (first year colloquia on research and study plan; second year colloquia on other studies and on research results; third year on analysis and written elaboration of the results). Final assessment and Degree award takes the form of a public defence of the dissertation: original, of publishable quality, of about 100.000 words.

E		Programme competences
1		GENERIC — **Critical and self-critical skills:** ability to offer a critique on publications, presentations and theses present in international scientific debate, identifying and defending one's own position in regard to them. — **Abstract reasoning, problem modelling:** ability to identify relevant problems and delineate them in way useful to the advancement and transfer of scientific knowledge and understanding. — **Concern for quality and ethical commitment:** awareness of the standards and the mindset required for scientific inquiry and publication — including critical awareness and intellectual honesty. — **Communication:** ability to write, speak, and listen according to various registers in one's own language and another language, presenting complex problems to specialists and non-specialists; awareness of the uses and modalities of media. — **Working autonomously; time management:** ability to organise acquisition of theoretical and practical tools, addressing complex efforts, integrating the results of diverse studies and analyses and producing a final product by a set deadline. — **Interpersonal abilities:** cooperation in a local or international milieu to complete specific tasks relating to the discipline (gathering and treating data, developing analyses, presenting and discussing results).

2	SUBJECT SPECIFIC — **Knowledge base:** broad well-grounded knowledge of major events and processes worldwide over the last half millennium; detailed or very detailed knowledge of the specific research field accompanied by knowledge of the general scholarly debate and specific contributions to the individual historical research area. — **Information management:** ability to identify, access, analyse and integrate information from various sources, documents and texts to deal with relevant historical problems. — **Knowledge of resources** (including those based on ICT), available for research in one's specific field of history and in related fields. — **Analysis of historical documents:** ability to find, retrieve, contextualise and interpret substantial quantities of archival or documentary material. — **Individual research:** ability to plan and deliver an original research-based contribution to historiographical knowledge, bearing on a significant problem, of publishable quality. — **Programme design and management:** understanding of and ability to apply in practice principles of cooperative research to history and the social and human sciences.

F	Programme learning outcomes
	The recipient of the doctoral degree has demonstrated: — ability to synthesize and discuss recent publications, in and outside the immediate research area. — ability, as witnessed by publication of at least one published review article and one published book review, to use critical knowledge in the public sphere; tautology. — ability to elaborate and present convincingly to a group of qualified researchers a relevant and well-argued research plan for dealing with a significant problem. — capability to carry out an extended original research product based on critical examination of sources and provided with the necessary scientific apparatus in terms of notes, bibliographies and publication of relevant documents. — ability to present research results and discuss them in both academic and non-academic contexts, orally and in written form, in the context of doctoral seminars, scientific meetings and public initiatives (outreach workshops). — ability to present his or her own research results orally in another language. — ability to prepare press kits/effective synthetic information on faculty initiatives publishing them in the press, on the web or through major mailing lists. — ability, verified through thrice-yearly colloquia and final defence, to plan time effectively obtaining the necessary results. — in writings, oral interventions and presentations as well as in course work and dissertation, knowledge of debates and trends, ability to analyse and to refer appropriately to major historiographical works of the last half century. — In the above contexts, awareness of and ability to interact intellectually with the most recent historiographical production in the specific research field.

— ability to use archival inventories, library catalogues and up-to-date ICT resources to locate sources and documentary material useful for his or her own research.
— ability to discover, analyse and integrate a large corpus of documents from various archives and sources In the final dissertation and the research leading up to it.
— ability to plan an original research-based contribution to historiographical knowledge, bearing on a significant problem, of publishable quality.
— knowledge of major cooperative research possibilities for social sciences and humanities, presenting a critical report on at least one major programme, identifying positive/ negative aspects for his/her own research area.

Nursing

Nursing Example 1

<table>
<tr><td colspan="2" align="center">Degree profile of
First cycle degree in Nursing with Nurse Registration
(Bachelor of Science in Nursing)</td></tr>
<tr><td>TYPE OF DEGREE & LENGTH</td><td>Single degree (180 ECTS-credits)</td></tr>
<tr><td>INSTITUTION</td><td>National University of Atlantis, Atlantis</td></tr>
<tr><td>ACCREDITATION ORGANISATION(S)</td><td>Accreditation organisation of Atlantis.
Nursing and Midwifery Council Atlantis</td></tr>
<tr><td>PERIOD OF REFERENCE</td><td>Programme validated for 5 years for cohorts commencing October 2008</td></tr>
<tr><td>LEVEL</td><td>QF for EHEA: 1st cycle; EQF level 6; NQF level 6 of Atlantis</td></tr>
</table>

A		Purpose
		The aim of this degree programme is to prepare graduate registered nurses who are safe, caring and competent decision makers who accept personal and professional accountability for their actions. Their programme is research and evidence based, actively promoting critical thinking, independent and ethical practice. The programme meets the academic and professional requirements of the National Competent Authority (Nursing and Midwifery Council Atlantis) and the requirements of Professional Services Directive 2005/26/EC, for the 'nurse responsible for general care'.

B		Characteristics
1	DISCIPLINES(S) / SUBJECT AREA(S)	The main subject is nursing theory and nursing practice (50:50).
2	GENERAL / SPECIALIST FOCUS	General nursing.
3	ORIENTATION	This is an academic degree with a professional orientation applied to the theory and practice of nursing.
4	DISTINCTIVE FEATURES	The degree has a substantive component of interdisciplinary learning with other health and social care professionals. Students have one elective period of three months. The degree is undertaken in an active research environment.

C		Employability & further education
1	EMPLOYABILITY	Upon successful completion of the programme, graduates are eligible to register with the national competent authority (Nursing and Midwifery Council Atlantis) to be registered nurses who have fulfilled the requirements of Article 31 of the Professional Services Directive 2005/36/EC.

2	FURTHER STUDIES	Successful graduates are well suited to further academic and/or professional education at post graduate level in the fields of nursing, specialist practice, healthcare, nursing and health sciences research, leadership and management.

D	Education style	
1	LEARNING & TEACHING APPROACHES	An enquiry based, blended learning approach is taken. Face to face lectures accompany podcasts, e-learning, group work, interprofessional learning and peer assessment, self directed study, research based learning, reflective learning, work placements, group work, individual study and autonomous learning.
2	ASSESSMENT METHODS	Dissertation project, seen and unseen written examinations, practice competence based assessments, teamwork, critical reflections on practice, essays, presentations, reports, multiple choice and short answer examinations.

E	Programme competences
1	GENERIC As a regulated profession, the degree programme meets the competences and quality assurance procedures required by the national competent authority (Nursing and Midwifery Council Atlantis (see their website www.nursingmidwiferycouncil.atlantis.org). In addition, the programme complies with the Atlantis Higher Education Quality Assurance Agency requirements for academic programmes at first cycle level. This includes the generic competences (also known as key skills) expected of first cycle graduates (see their web site www.qualityassuranceagency.atlantis.org).In collaboration with the nursing stakeholders, the Quality Assurance Agency has also produced a set of benchmark statements for the nursing profession and the programme meets these standards (see www.qualityassuranceagency/nursing.atlantis .org). The competences listed below represent the synoptic and most characteristic competences of this programme. — **Interprofessional teamwork:** can work effectively in an inter professional team; — **Communication:** can communicate effectively and sensitively with lay and vulnerable people; — **Critical appraisal skills:** ability to critically appraise evidence related to practice; — **Life long learning:** ability to take responsibility for their personal learning and practise.

| 2 | SUBJECT SPECIFIC

The competent authority has an extensive list of required specific competences that are listed on their website (www.nursingandmidwiferycouncil. atlantis.org). This programme meets all these competences which are clustered within five key overarching competence domains summarised below. As mentioned above, the programme graduates will also have demonstrated their achievement of the Quality Assurance National benchmark statements for Registered Nurses at first cycle level.

— **Professional values:** practise according to the competent authority Code of Conduct and legal and ethical codes related to professional practice;
— **Communication and interpersonal skills:** able to build therapeutic relationships and partnerships with individuals, family and community members, without prejudice to their individual needs and preferences;
— **Nursing practice and decision- making skills:** use evidence, experience and cognitive skills to articulate and make sound reasoned clinical and managerial decisions;
— **Leadership, management and team working:** able to work with individuals and teams to promote and deliver high quality person-centred care;
— **Theoretical knowledge that underpins professional practice and nursing research:** knows how to appraise clinical, professional and disciplinary knowledge to explain practise and participate in the research process. |

F	Complete list of programme learning outcomes
	In addition to the competences and learning outcomes required by the competent authority, the graduates of this programme can demonstrate:

— A detailed and comprehensive knowledge of the theories and evidence that underpin nursing assessment, planning, practice and audit so as to deliver safe, effective evidence based practice;
— The ability to safeguard, protect and advocate for vulnerable persons and those unable to articulate their needs and wishes for care;
— High standards of nursing skills and practice appropriate to the needs of clients and communities and commensurate with best practice recommendations;
— The ability to communicate effectively with lay people, patients, carers and professionals;
— The ability to teach, supervise and assess junior colleagues in professional practice. |

Nursing Example 2

Degree profile of **Masters of Science (MSc)** **'Leadership and management in health/social care services'**	
Type of degree & Length	Single degree (90 ECTS-credits)
Institution	National University of Atlantis, Atlantis
Accreditation Organisation(s)	Accreditation organisation of Atlantis
Period of reference	This programme was validated by the University for 5 years for cohorts commencing from 2009
Level	QF for EHEA: 2nd cycle; EQF level 7; NQF of Atlantis: level 7

A	Purpose	
	The purpose of this Masters programme is to enable registered health/social care practitioners to assume a clinical/ professional leadership role in the health/social care sector. The successful graduates should demonstrate a robust, evidence-based, scientific and personal knowledge of the effectiveness of leadership and management strategies in improving health/social care services in their field of practice.	

B	Characteristics	
1	Disciplines(s) / Subject area(s)	The main disciplines are health/social care leadership and professional development. Leadership and management, professional development, applied research (40:20:40).
2	General / Specialist Focus	Specialist: health/social care leadership and management.
3	Orientation	Applied.
4	Distinctive features	This interdisciplinary degree has a requirement for the production of a service improvement project.

C	Employability & further education	
1	Employability	Graduates are well prepared for clinical/professional leadership roles of large teams/clinical units.
2	Further studies	Advanced/specialist/consultant practitioner, executive leadership courses or studies. Doctoral studies.

D		Education style
1	LEARNING & TEACHING APPROACHES	There is a focus on personal self awareness-development, group and project work, seminars and design, implementation and evaluation of a substantive service improvement.
2	ASSESSMENT METHODS	Critical self and peer reflection, project reports, evidence appraisals, critical incident analysis, seminars. Essays and presentations.

E		Programme competences
1	GENERIC	

GENERIC

The programme complies with the Atlantis Higher Education Quality Assurance Agency requirements for academic programmes at second cycle level. This includes the generic competences (also known as key skills) expected of second cycle graduates (see their web site www.qualityassuranceagency. atlantis.org). The competences listed below represent the synoptic and most characteristic competences of this programme.

— **Communicate confidently:** using a variety of means such as project reports, information technology and verbal discussions with peers, subordinates and super-ordinates within the inter-professional team.
— **Team work:** work effectively as part of a student group and a multi-agency team, using problem solving skills to explore scenarios.
— **Self and peer reflection:** Demonstrate self and peer reflection skills for personal and professional development.
— **Project and resource management:** Effectively lead and manage a project with due attention to ethics, justice, time and resources.
— **Culture and diversity:** demonstrate respect for culture and diversity through personal leadership /management style.

SUBJECT SPECIFIC

Within the context of the student's field of professional practice and client population(s) the graduate is able to demonstrate capability in:

— **Effective leadership and management skills:** development of a significant service improvement project.
— **Critical appraisal and application:** can appraise models of leadership, management and service improvement for their relevance to practise.
— **Effectively using research skills and knowledge:** can design and evaluate an improvement project based on appropriate evidence.
— **Creativity and innovation:** designs services sensitive to the health/social care needs of a designated client population.
— **Analysis and likely impact of current and future policy trends:** can plan strategically taking account of predicted and likely trends in the sector.
— **Judging future workforce needs:** can use a range of information sources to predict future training and employment requirements.
— **Influencing strategic debates:** can present reasoned arguments at local or national level.

F	Complete list of programme learning outcomes
	Within the context of the student's field of professional practice, organisation and client population(s), the graduates can demonstrate the ability to: — Critically review their personal leadership and management skills so as to develop a personal action plan for achievement by the end of the programme. — Analyse their organisational culture(s) and critically debate the impact of this culture on staff performance, client experience and health outcomes. — Draw on a range of evidence to justify and defend change/improvements that should lead to positive outcomes for the organisation/people concerned. — Plan, execute and critically evaluate their leadership and management of effective, appropriate and sustainable change in their work environment. — Show a critical knowledge of the factors that promote working environments conducive to the generation of creative and innovative solutions to organisational or client based problems. — Anticipate future workforce needs taking account of ethical human resource management and public health drivers. — Critically debate the current and future roles of clinical leaders and managers in the light of current policy developments, global trends and public health targets (international, national and local). — Produce management reports or presentations suitable for executive level appraisal. — Use a range of interpersonal skills to lead and influence others, including the management of conflict situations. — Critically debate how patient safety is enhanced or compromised by leadership, management, strategic and corporate governance practises.

Nursing example 3

Degree profile of **PhD in Nursing**	
TYPE OF DEGREE & LENGTH	Single degree (180 ECTS-credits / 3 academic years)
INSTITUTION	National University of Atlantis, Atlantis
ACCREDITATION ORGANISATION(S)	Accreditation organisation of Atlantis
PERIOD OF REFERENCE	This programme was validated by the University for 5 years for cohorts commencing from 2009
LEVEL	QF for EHEA: 3rd cycle; EQF level 8; NQF of Atlantis: 3rd cycle

A	Purpose	
	The purpose of this doctoral programme is to develop highly skilled researchers in the field of health sciences and health care practice. Successful graduates will have completed a rigorous and peer reviewed independent empirical project underpinned by high quality research training in an interdisciplinary environment.	

B	Characteristics	
1	DISCIPLINES(S) / SUBJECT AREA(S)	Health sciences and health care research.
2	GENERAL / SPECIALIST	Specialist: research in health sciences and practice.
3	ORIENTATION	Research.
4	DISTINCTIVE FEATURES	Compulsory research training programme and personal development portfolio.

C	Employability & further education	
1	EMPLOYABILITY	Research; senior management and leadership in health and social care; higher education; charities; clinical work, policy and governmental positions.
2	FURTHER STUDIES	Learned societies (professional organisations) and other organisations.

D	Education style	
1	LEARNING & TEACHING APPROACHES	The main approach is through supervision - face to face with 2 supervisors, presentations, training needs analysis with action plan according to individual needs. Research training seminars and skills training to meet generic competences. Production of research portfolio. The students receive research training governed by the Code of Practice recommended by the National Research Council (see www.nrcatlantis.org).

2	Assessment methods	Interim assessments of self review, development of research and generic skills and mid-term assessment by viva and written thesis. Final oral defence to independent peers and written thesis.

E	Programme competences

1	**Generic** The programme complies with the Atlantis Higher Education Quality Assurance Agency requirements for academic programmes at third cycle level. This includes the generic competences (also known as key skills) expected of third cycle graduates (see their web site www.qualityassuranceagency. atlantis.org). The competences listed below represent the synoptic and most characteristic competences of this programme. — **Critical self –reflection:** able to identify and address personal and academic development needs; — **Communicate research:** can communicate effectively in oral and written forms to lay and professional audiences; — **Information technology:** able to use IT in the context of implementing research projects; — **Project management skills:** can demonstrate a timely and well planned research study; — **Supports others:** to give help through teaching, mentoring or demonstrating activities; — **Works ethically:** identifies, respects and manages ethical, cultural and diversity issues; — **Entrepreneurship:** identifies opportunities for entrepreneurship or public impact activity; — **Team working:** knows enablers and barriers to effective team working
2	**Subject specific** Within the context of their specialist area of health science professional/research activity PhD graduates will have demonstrated the capability to: — Create and interpret **new knowledge;** — Demonstrate a substantive and **current knowledge base;** — Conceptualize, design, implement and evaluate a **substantive research project;** — Demonstrate a detailed understanding of a range of contemporary **research techniques;** — Manage effectively relevant **health and safety issues;** — Manage effectively **research and governance requirements;** — Conduct **ethical research;** — Argue and defend a **theoretical position based on empirical work.**

F	Complete list of programme learning outcomes
	Within the context of their specialist area of health science professional/research activity PhD graduates will have demonstrated the capability to: — Communicate and present research ideas effectively in both oral and written forms to a range of professional and lay audiences; — Use information technology appropriately for database management, recording and presenting material; — Provide effective support to others when involved in teaching, mentoring or demonstrating activities; — Identify and manage ethical issues in the conduct of research and respect issues of culture and diversity — Identify opportunities for entrepreneurial or public impact activity; — Create and interpret new knowledge through original research or other advanced scholarship, of a quality to satisfy a peer review, extend the forefront of the discipline and merit publication; — Demonstrate a systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of an academic discipline or an area of professional practice; — Conceptualize, design and implement a research project for the generation of new knowledge, applications or understanding at the forefront of the discipline, and to adjust the project design in the light of unforeseen problems; — Demonstrate a detailed understanding of applicable techniques for research and advanced academic enquiry; — Analyse, with assistance from one or more members of the supervisory team, any initial or on-going training needs with respect to research and generic/transferable skills, and participate in appropriate training activities as advised by one or more members of the supervisory team in order to meet these needs; — Anticipate and manage effectively health and safety issues that arise from the effective use of resources in the research environment; — Anticipate and manage effectively research and governance requirements related to conducting research in health care environments with people.

Physics

Physics example 1

Degree profile of **Bachelor of Science in Physics**	
TYPE OF DEGREE & LENGTH	Single degree (180 ECTS-credits)
INSTITUTION	University of Galaxy, Solaris
ACCREDITATION ORGANISATION(S)	Accreditation organisation of Solaris
PERIOD OF REFERENCE	Accreditation by National Agency of Solaris: 2008
LEVEL	QF for EHEA: 1st cycle; EQF level 6; NQF of Solaris: 1st cycle

A	Purpose	
	To provide education in Physics, envisaging various employment capabilities and careers. To prepare students with particular interest in specialized areas of Physics for further studies.	

B	Characteristics	
1	DISCIPLINES(S) / SUBJECT AREA(S)	General physics: Physics; Mathematics; Informatics; Others (50: 30: 5: 15).
2	GENERAL / SPECIALIST FOCUS	General education in experimental and theoretical physics.
3	ORIENTATION	Based on previous research and exposed to current research but introducing specializations envisaging specific employment/career opportunities: Physics (topics in Theoretical and Applied Physics), Biophysics, Medical Physics, Informatics.
4	DISTINCTIVE FEATURES	The course is taught also in English.

C	Employability & further education	
1	EMPLOYABILITY	Positions in companies/small enterprises and institutions (research, quality assurance, commerce) from technological and informatics sector, bio-medical and pharmaceutical sector, environmental sector. Positions in financial institutions. Teaching positions.
2	FURTHER STUDIES	Master programs in Physics (theoretical, applied physics), interdisciplinary programs related to Physics (Biophysics, Medical Physics, Geophysics), Master programmes in engineering / technological physics or Informatics.

D		Education style
1	LEARNING & TEACHING APPROACHES	Lectures, laboratory classes, seminars, small group work, individual study based on text books and lecture notes, individual consultations with academic staff, preparing Diploma dissertation.
2	ASSESSMENT METHODS	Written exams, oral exams, laboratory reports, oral presentations, continuing assessments, final comprehensive exam, assessment of Diploma dissertation.

E		Programme competences
1		GENERIC — **Analysis and synthesis:** Capacity for analysis and synthesis using logical arguments and proven facts. — **Flexible mind:** acquisition of a flexible mind, open to apply basic physical knowledge and competences in a wide range of job opportunities and in everyday life. — **Team-work:** capability to perform guided teamwork in a lab setting and related special skills demonstrating capacity for handling the rigor of the discipline and for time management (including meeting deadlines). — **Communication skills:** Ability to communicate effectively and to present complex information in a concise manner orally and in writing and using ICT and appropriate technical language. — **Popularization skills:** Ability to communicate with non-experts, including some teaching skills. — **Ethical commitment:** Ethical commitment from the point of view of both professional integrity and awareness of possible physics social impact.
2		SUBJECT SPECIFIC — **Deep knowledge and understanding:** Ability to analyze physical phenomena (both natural and technological) in terms of fundamental physics principles and knowledge and by means of appropriate mathematical methods. — **Estimation skills:** ability to make order-of-magnitude estimates and find approximate solutions with explicit statements of assumptions and the use of special and limiting cases. — **Mathematical skills:** Ability to understand and master the use of the mathematical and numerical methods most commonly used in physics. — **Experimental skills:** Ability to perform experiments independently, as well as to describe, analyze and critically evaluate experimental data. — **Problem solving:** Ability to solve a wide range of problems by identifying their fundamental aspects and using both theoretical and experimental methods as derived from physics curriculum. — **Computational skills:** Ability to use appropriate software such as programming languages and packages in physics and mathematical investigations.

— **Physics culture:** Ability to provide explanations of a wide range of natural processes and objects (both natural and technological) ranging in scale from the universe as a whole (including its evolution from its origins to the present) to subatomic particles and processes; this ability to be grounded in a deep knowledge and understanding of a wide range of physics topics and theories.
— **Learning ability:** ability, through independent study, to enter new fields by using mathematics and physics knowledge.

F	Complete list of programme learning outcomes

— Ability to demonstrate knowledge and understanding of physics fundamentals in: classical mechanics, vibrations and waves, optics and spectroscopy, thermodynamics, electromagnetism, quantum physics. The level of this knowledge of core physics is a basic one, i.e. the level needed for working with established areas of applications but not as high as is needed for research at the frontiers of knowledge.
— Ability to demonstrate knowledge and understanding of mathematics relevant for physics at a basic level, i.e. differential and integral calculus, algebra, analytic functions of real and complex variables, vectors and matrices, vector calculus, ordinary and partial differential equations, statistics, Fourier methods and – furthermore – capability of using such tools in physics applications.
— Ability to demonstrate experimental skills in physics (i.e. knowledge of experimental methods and how to perform physics experiments) under supervision, in order to test hypotheses and to investigate phenomena and their physical laws (i.e. being able to ask for the right questions; familiar with most common instrumentations; designing, assembling, conducting experiments; collecting and analyzing data, including careful error analysis and critical evaluation of experimental results).
— Ability to demonstrate knowledge and understanding at a basic level of elements of theoretical physics (analytical mechanics, classical electromagnetism, relativity, etc.; quantum theory; statistical mechanics) to appreciate the role of models and theories in the development of physics and to shape a flexible mind.
— Ability to demonstrate knowledge and understanding at a basic level of modern physics (atomic and molecular, nuclear and sub-nuclear, solid state, astrophysics) with some exposure to research frontiers.
— Ability to apply knowledge and understanding at an operational level of elements of applied physics and related subjects (chemistry, electronics et related) to foster awareness of interrelations among hard sciences.
— Basic knowledge and understanding of special fields chosen by the student: theoretical physics, photonics, polymers, condensed matter physics, biophysics, medical physics, informatics in order to prepare for future specialization and/or interdisciplinary approaches.
— Ability to perform computer calculations related to physics problems by using appropriate software and at least one programming language, learning how to analyse and display results.
— Acquisition of good working habits concerning both working alone (e.g. diploma thesis) and in teams (e.g. lab reports, including team-leading), achieving results within a specified time-frame, with an emphasis on awareness about professional integrity and on how to avoid plagiarism.
— Demonstrated proficiency in using English language, including subject area terminology, for literature search.

Physics example 2

Degree profile of **Master of Science (MSc) in Physics and Astronomy**	
TYPE OF DEGREE & LENGTH	Single degree (120 ECTS-credits)
INSTITUTION	University of Galaxy, Solaris
ACCREDITATION ORGANISATION(S)	Accreditation organisation of Solaris
PERIOD OF REFERENCE	Accreditation by National Agency of Solaris: 2008
LEVEL	QF for EHEA: 2nd cycle; EQF level 7; NQF of Solaris: 2nd cycle

A	Purpose
	To provide students with the knowledge, skills and insights pertaining to the fields of physics and astronomy that will enable them to practise their future professions independently. To become eligible for the advanced programmes for scientific researchers or designers (O-track), communication experts (C- track), teachers (E- track) or research managers in business organizations (MT- track).

B		Characteristics
1	DISCIPLINES(S) / SUBJECT AREA(S)	Physics and Astronomy: Physics, Astronomy, others (40:40:20).
2	GENERAL / SPECIALIST FOCUS	The Research track of the degree programme has 4 specializations: Biophysics and Neuroscience, High Energy Physics, Astrophysics, Molecules and Functional Materials.
3	ORIENTATION	The research track is research oriented; the teaching track is professionally oriented and the other tracks are applied ones.
4	DISTINCTIVE FEATURES	There are 4 tracks: 1 research, 1 professional and 2 applied tracks.

C		Employability & further education
1	EMPLOYABILITY	Research positions in University or Research Organisations. Positions in (Science) communication, management or research: financial companies/ insurance companies/ governmental departments/ informatics companies, in consultancy. Secondary school teaching.
2	FURTHER STUDIES	Doctoral studies in physics or astronomy.

D	Education style	
1	LEARNING & TEACHING APPROACHES	A combination of lectures, problem solving classes, project work, research lab work, preparation of final thesis.
2	ASSESSMENT METHODS	Written exams, oral exams, essays, presentations, final thesis.

E	Programme competences	
1	GENERIC — **Flexible mind:** acquisition of a way of thinking that will enable them to penetrate and solve problems, while maintaining a critical stance towards established scientific insights. — **Popularization skills:** ability to hold an oral presentation and to write a lucid article on the research conducted and on modern concepts in physics and astronomy for a general, non-specialist public. — **Ethical commitment:** achieving a sufficient knowledge of and insights into the role of physics and astronomy in society in order to function adequately in their future professions and reflect on societal problems.	
2	SUBJECT SPECIFIC **For all tracks** — **Deep knowledge and understanding:** ability to use principles and laws of physics and astronomy in conjunction with the needed advanced mathematics in order to describe the natural phenomena. — **Problem solving:** ability to formulate, analyse and synthesize solutions to scientific problems at an abstract level by dividing them into testable subproblems, differentiating between major and minor aspects. — **Modelling:** ability to set up appropriate models of natural phenomena, deriving consequences and deepening understanding of the natural world. — **Computing skills:** ability to design and implement computer programs and to use current application programs. — **Communication skills:** ability to communicate with colleagues in the same discipline about scientific knowledge, both at basic and specialist levels; ability to report orally and in writing, and to discuss a scientific topic, in the home language as well as in English. **Moreover for the Research track** — **Research skills:** ability to formulate new questions and hypotheses in the fields of physics and astronomy, and to select the appropriate pathways and research methods for solving these questions, taking into account the available resources, on the occasion of presentations and/or reports' submission. — **Learning to learn:** ability to assimilate newly acquired knowledge of physics and astronomy and to integrate this knowledge. In addition, ability to orient oneself at specialist level in a sub-area of physics and astronomy that lies outside the chosen specialization.	

For the Communication track

— **Applying specialised knowledge:** ability to put effectively into practice a number of theories in the field of communication.
— **Advanced communication skills:** ability to reflect on the ways in which communication skills are put into practice, efficiently applying communicative concepts.
— **Self-critical skills:** insight into factors that have a positive or negative effect on communication and ability to identify and influence these factors in concrete communicative situations.

For the Education track

— **Applying specialized knowledge:** ability to put effectively into practice a number of theories in the field of education.
— **Teaching skills:** ability to reflect on the ways in which teaching skills are put into practice, efficiently applying educational concepts.
— **Peer advising & leadership skills:** ability to guide early stage/other colleagues in mastering and practising the teaching profession.

For the Management track

— **Analysis and synthesis skills:** Ability to analyse and make diagnosis for various types of complex management questions in science-related, knowledge-intensive organizations.
— **Applying specialized knowledge:** ability to put effectively into practice a number of theories in the fields of management science and business administration.
— **Updating skills:** ability to make literature search related to these theories and ability to reflect critically on them, with a focus on papers devoted to counselling in the above fields.

F	Complete list of programme learning outcomes

For all tracks in general

— Graduates will be able to make measurements of physical quantities and to pursue an investigation by the design, execution and analysis of experiments, to compare results with existing knowledge and theories, and to draw conclusions (including degree of uncertainty).

For the Research track

— Graduates will have gained adequate knowledge and insights pertaining to the basic sub-areas of physics and astronomy. The scope of this basic knowledge will be sufficient to allow them to do practical training in one of the research groups.
— Graduates will possess sufficient research skills in at least one sub-area of physics and astronomy to conduct scientific research under supervision.
— Graduates will be able to understand scientific articles on the chosen specialization. Furthermore, they will be able to follow the developments in the chosen specialization (level: Physical Review) thus profitably learning /interacting with other researchers.

— Graduates will be able to find relevant scientific sources relating to physical or astronomical problems that need to be solved.

For the Communication track

— Graduates will have sufficient knowledge of various theories of communication that will enable them to reflect critically on the literature in the field of communication.
— Graduates will possess skills in the fields of scientific journalism and technical communication and knowledge of recent developments in these fields.

For the Education track

— Graduates will have sufficient knowledge of various theories of education that will enable them to reflect critically on the literature in the field of educational counselling.
— Graduates will achieve an adequately comprehensive overview about how scientific analyses and solutions to questions should be applied in concrete curricular and extra-curricular settings.

For the Management track

— Graduates will have gained an overview of and insight into the various theories in the fields of management science and business administration, at a level which allows them to reflect critically on the literature dealing with counselling in those fields.
— Graduates will have gained insight into the several tools and strategies relating to the diagnosis and analysis of various types of complex management questions at a level which allows them employment in science-related, knowledge-intensive organizations, effectively applying theoretical concepts from management science and business administration.
— Graduates will be able to use these tools and strategies in practice and to report on them orally and in writing.

Physics example 3

Degree profile of **Doctorate in High Energy Physics**	
TYPE OF DEGREE & LENGTH	Single degree (4 academic years)
INSTITUTION	University of Galaxy, Solaris
ACCREDITATION ORGANISATION(S)	Accreditation organisation of Solaris
PERIOD OF REFERENCE	Accreditation by National Agency of Solaris: 2008
LEVEL	QF for EHEA: 3rd cycle; EQF level 8; NQF of Solaris: 3rd cycle

A	Purpose	
	To provide training in research in experimental high energy physics and to support students in carrying out original research leading to the creation of new scientific knowledge and the production and defence of a thesis.	

B		Characteristics
1	DISCIPLINES(S) / SUBJECT AREA(S)	Experimental Particle Physics.
2	GENERAL / SPECIALIST FOCUS	Research in experimental high energy particle physics.
3	ORIENTATION	Fundamental research but including development of new technology and/or analysis methods which may have wide applicability.
4	DISTINCTIVE FEATURES	Conducted in a large research group active in a wide range of particle physics experiments at accelerator laboratories around the world and also in non-accelerator experiments. Extensive set of advanced lecture courses and seminars.

C		Employability & further education
1	EMPLOYABILITY	Post-doctoral positions in research groups in universities or research laboratories. Positions in financial institutions, in research or management, in industry and commerce. Self employment.
2	FURTHER STUDIES	Lifelong learning activities in researcher's or other careers (e.g. in highly specialised technological fields). Moreover further doctoral training in fields related to physics, applied physics and computer science is easily possible.

D		Education style
1	LEARNING & TEACHING APPROACHES	Primarily close guidance, support and feedback from a research supervisor. Guidance and support from other group members including post-docs, more experienced research students and technical staff. Training in research methodology from specific interactive courses provided by the Graduate School. Lecture courses, tutorials, seminars, private study based on library and internet resources, project work and individual consultations with academic staff.
2	ASSESSMENT METHODS	Written examinations (questions and problems), assessed seminars and progress reports. Monitoring and reporting on progress in achieving tasks and meeting deadlines. Examination of final thesis by experienced research physicists from other universities and oral examinations.

E		Programme competences
1		GENERIC — **Research Ability:** Competence to initiate and carry out (individually and/or as part of a team) investigations which contribute to the advancement of knowledge and understanding of the physical universe and to produce results. — **Teamwork:** Capacity for working in a complex research team and for assuming responsibility for tasks including taking into account budgetary and personnel constraints. — Creativity: Capacity to be creative in developing ideas and in pursuing research goals. — **Communication skills:** Ability to communicate effectively to specialist and non-specialist audiences and to present complex information in a concise manner orally and in writing using appropriate technical language and methods. — **International Outlook:** Ability to work in large international groups appreciating different national and cultural traditions and ways of working. — **Management ability:** Ability to work to a specific time scale and budget and to manage and motivate the work of others to attain goals. — **Teaching Ability:** Competence to teach undergraduate students in tutorials and laboratory classes. — **Ethical Commitment:** To demonstrate ethical commitment and an appreciation of the ethos of scientific research.

2	SUBJECT SPECIFIC
	— **Particle Physics Research Ability:** Competence to carry out original research in experimental high energy physics and to achieve research results which constitute an advancement of knowledge of the field coupled with an appreciation of the most important questions to be addressed and the research methods to be employed.
	— **Technological Ability:** Competence in the use of research techniques and technology related to high energy physics.
	— **Design Ability:** Competence to design (or to contribute to the design of) particle detectors and complete experimental set-ups.
	— **Data Analysis Ability:** Competence in the analysis of data from particle physics experiments which may be on a very large scale and which may require the use of powerful computing resources, e.g. grid computing.
	— **Critical and Evaluative Ability:** Competence to interpret results from experiments and to take part in discussions with experienced research physicists concerning the scientific implications of new results.

F	Complete list of programme learning outcomes
	— Acquisition of knowledge and understanding of advanced high energy and particle physics and related fields including experimental techniques and detector technology; the level of this knowledge is that needed for research at the frontiers of knowledge and directed to extending those frontiers.
	— Ability to write clearly and effectively an extensive, deep and detailed account of research work.
	— Ability to give subject-specialised research seminars and to produce research publications for major research journals.
	— Ability to conduct surveys and searches for information in subject-related literature using a variety of resources including journals, data-bases and on-line resources.
	— Ability to write and defend a major thesis in the subject based on actual individual research and to incorporate (and acknowledge) the contributions of other team members.
	— Achievement of appropriate knowledge, understanding and ability to use data analysis and statistical techniques at the most advanced level.
	— Ability to create large computer codes in a variety of computer languages according to the needs of the doctoral thesis and to adapt, develop and incorporate software initially produced by others.
	— Ability to monitor and control detectors of various kinds in advanced experimental research settings, including specialised electronics, data collection systems and other specialised equipments, which may involve areas of physics such as optics, mechanics and nano-fabrication.
	NB. It must be understood that the most important and essential outcomes in this doctoral programme are not 'learning outcomes' but rather "research outcomes" in which new knowledge is created and/or applied (through thesis report, journal papers, spin-offs and patents, etc.).

Contact us

The CoRe Project is coordinated by Nuffic - Dutch ENIC/NARIC.

Project coordinator

Ms Lucie de Bruin
Head, International Recognition
Department
P.O. BOX 29777
2502 LT The Hague
The Netherlands
lbruin@nuffic.nl

Policy Officers

Mr Bas Wegewijs: wegewijs@nuffic.nl
Ms Jenneke Lokhoff: jlokhoff@nuffic.nl

The Tuning Project is co-ordinated by the University of Deusto, Spain and the
University of Groningen, The Netherlands.

General Co-ordinators

Julia González
University of Deusto
Spain
relint@relint.es

Robert Wagenaar
University of Groningen
The Netherlands
r.wagenaar@rug.nl

Project assistants

Ingrid van der Meer
Faculty of Arts, *Tuning* Project
University of Groningen
P.O. Box 716
9700 AS Groningen
The Netherlands
Tel.: + 31 35 542 5038 /
     + 31 50 363 5263
Fax: + 31 50 363 5704
y.van.der.meer@rug.nl

Pablo Beneitone
International Relations Office
University of Deusto
Av. De las Universidades 24
48007 Bilbao
Spain
Tel. :+ 34 944 139 068
Fax: + 34 944 139 069
pablo.beneitone@deusto.es

Visit the Tuning website for more information at

http://tuning.unideusto.org/tuningeu and

www.rug.nl/let/tuningeu