EUROPEAN QUALIFICATIONS FRAMEWORKS
NATIONAL QUALIFICATIONS FRAMEWORKS

HIGHER EDUCATION

STATE OF PLAY

A THE STRUCTURE OF EQF LINKED TO NQF

They are several processes at work

1 THE HIGHER EDUCATION PROCESS: A EUROPEAN QUALIFICATIONS FRAMEWORK FOR HIGHER EDUCATION (QF for EHEA)

1.1. The framework of qualifications for the European Higher Education Area

The declaration of 29 ministers responsible for higher education in Bologna in 1999 started a new era for HE. The Bergen Conference of European Ministers Responsible for Higher Education 19-20 May 2005 adopted the overarching framework for qualifications in the EHEA, comprising :

- three cycles (including, within national contexts, the possibility of intermediate qualifications), with an agreement first on the two first cycles in Bologna in 1999 and then on the doctorate as the third cycle in Berlin 2003
- generic descriptors for each cycle based on learning outcomes and competences,
- and credit ranges (ECTS) in the first and second cycles.

Ministers committed themselves to elaborating **national frameworks for qualifications** compatible with the overarching framework for qualifications in the EHEA by 2010, and to having started work on this by 2007.

They also underlined the importance of ensuring complementarity between this framework and the proposal for a broader framework developed on the initiative of the European Commission

1.1.1. The three cycles:

- First cycle qualification (Bachelor), typically include 180-240 ECTS credits : qualifications that signify completion of **the first cycle** are awarded to students who:
- have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study;

- can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study;
- have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues;
- can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences;
- have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.

- second cycle qualification (Master), typically include 90-120 ECTS credits, with a minimum of 60 credits at the level of the 2nd cycle : qualifications that signify completion of **the second cycle** are awarded to students who:
- have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with the first cycle, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context;
- can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study;
- have the ability to integrate knowledge and handle complexity, and formulate judgments with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments;
- can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non specialist audiences clearly and unambiguously;
- have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

- third cycle qualification (doctorate): qualifications that signify completion of **the third cycle** are awarded to students who:
- have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field;
- have demonstrated the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity;
- have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international refereed publication;
- are capable of critical analysis, evaluation and synthesis of new and complex ideas;
- can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise;
- can be expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge based society.

1.1.2. Generic descriptors (vs reference level descriptors)/ Dublin descriptors

"The Dublin descriptors offer generic statements of typical expectations of achievements and abilities associated with qualifications that represent the end of each of the Bologna cycle. They are not meant to be prescriptive; they do not represent threshold or minimum

requirements and they are not exhaustive; similar or equivalent characteristics may be added or substituted. The descriptors seek to identify the nature of the whole qualification"[1].

See Annex 1

1.1.3. Credit range

The Bologna Framework incorporates a system of credits: the European Credit Accumulation and Transfer System (ECTS) as a key instrument informing the credit systems operating (more or less) within the national frameworks of the EHEA.

ECTS was introduced in 1989, within the framework of Erasmus, it was set up initially for credit transfer in order to facilitate the recognition of periods of study abroad. Then ECTS has been seen as an accumulation system and became one of the key objectives of the Bologna process. And in Berlin, in 2003, minister encouraged "member states to elaborate a framework of comparable and compatible qualifications for their higher education systems, which should seek to describe qualifications in terms of workload, learning outcomes, competences and profile"[2]

Now ECTS is considered as "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 as well as student mobility".

ECTS was based on the principle that 60 credits measure the workload of a full-time student during an academic year. Now the approach is progressively evolving paying more attention to learning outcomes and to the competences (ass the overall results of learning) effectively acquired by students. (See Annex 2).

According to Stephen Adam, the process of implementation "has been slowed by the lack of levels in ECTS and the imprecise nature of ECTS credits, which in practice, at institutional level are only beginning to be defined in terms of learning outcomes. Credits expressed in terms of learning outcomes are a powerful way to recognise and quantify learning achievements from different contexts; they also provide an effective structure for relating qualifications to each other… Currently, there are difficulties associated with the definition and understanding of ECTS credits in terms of learning outcomes and workload – as to whether learning outcomes or workload takes primacy in the definition of a credit. If credits are tied too firmly to workload their application to lifelong learning (the recognition of informal and non-formal learning) is made problematic and the possibility of multi-speed flexible delivery of qualifications is prevented…For the EQF, or any integrated systems for lifelong learning, it is imperative there is a single understanding of credits or artificial barriers are built into the very system that seeks to eradicate them. It is clear that complex national and institutional credit systems must seamlessly articulate with national qualifications frameworks

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[1] Bologna Working Group on Qualifications Frameworks (2005), "A framework for qualifications of the EHEA", http://www.ond.vlaanderen.be/hogeronderwijs/bologna/documents/050218_QF_EHEA.pdf
[2] Berlin, 19 September 2003, Communiqué of the Conference of ministers responsible for higher education: "Realising the European higher education area".

and international overarching frameworks and one way to achieve this is by universal application of credits based on a common understanding of learning outcomes"[3].

The links with qualifications framework has been more clearly established in the last version of the "ECTS users Guide" (October 2008).

"European and national qualification frameworks are based on agreed level descriptors, with learning outcomes and credits related to such levels.

In the Bologna framework levels are called cycles and the cycle descriptors are known as rhe "Dublin descriptors"

The first two Bologna cycles are associated with the following ECTS credit range:

- first cycle qualifications typically include between 180 and 240 ECTS credits;
- second cycle qualifications typically include between 90 and 120 ECTS credits with a minimum of 60 ECTS credits at the level of the second cycle.

National qualifications frameworks may contain sub-levels (or intermediate qualifications) within the Bologna cycles (e.g. a short cycle within the first cycle). These sub-levels allow institutions to structure a particular qualification and regulate progression through the qualification. Hence a first cycle qualification may have two or even three sub-levels with credits attached to them".

2 THE EUROPEAN COMMISSION PROCESS: THE EUROPEAN QUALIFICATIONS FRAMEWORK FOR LIFELONG LEARNING (EQF-LLL)

This process started with the affirmation of the necessity of better transparency, comparability, transferability and recognition of competences and/or qualifications between different countries and at different levels in order to increase mobility between European countries in the Declaration of ministers responsible for vocational education and training in Copenhagen in 2002. This intention was confirmed in Maastricht two years later when ministers declared that a priority should be given to "the development of an open and flexible European qualifications framework founded on transparency and mutual trust. The framework will provide a common reference to facilitate the recognition and the transferability of qualifications coveting both VET and general (secondary and higher) education, based mainly on competences and learning outcomes".

To work on a proposal, the European Commission set up in November 2004 an Expert Working Group entrusted in developing a draft European Qualification Framework for lifelong learning to encompass all education in Europe (12 members from general, vocational and higher education and training, and social partners and sectors). The experts produced a working document on which the Commission based its consultation.

A consultation process with Member States and stakeholders was launched in July 2005 by the Commission on the basis of its document (Commission Staff working document –

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[3] S. Adam, "Learning outcomes current developments in Europe: update on the issues and applications of learning outcomes associated with the Bologna process, presentation in the Bologna Seminar 21-22 February 2008, Edinburgh, 19p.

"Towards a European Qualification Framework for LLL"). This document announces that an EQF would consist of three main elements:

- a set of common reference points located in a structure of 8 levels. These 8 levels were defined through learning outcomes: knowledge, skills and personal and professional competences (autonomy and responsibility, learning competence, communication and social competence and professional and vocational competence)
- these levels would be supported by a range of tools such as an integrated European credit transfer and accumulation system, Europass, Ploteus database on learning opportunities,…
- common principles and procedures providing guidelines for co-operation between stakeholders

This document stipulates that EQF would be broader than the European Framework developed by EHEA.

The Commission launched the discussion with representatives of Member States and stakeholders at the informal meeting of European education ministers of London. They received around 120 contributions from 31 countries. The results of the consultation have been presented and discussed in Budapest in February 2006. It appears that EQF is seen as a "constructive initiative" and that there is a broad agreement on 7 issues:

- the EQF is necessary and relevant
- the EQF implementation and use should be voluntary
- the EQF is a meta-framework acting as a translation device
- the EQF must be based on learning outcomes
- the 8-level structure is accepted
- the EQF must be underpinned by quality assurance principles and procedures
- implementing the EQF will require substantial commitment by stakeholders at national level, in particular on the articulation with NQF

But it has been asked:

- to simplify the reference level descriptors
- to work on the link with the Bologna process. The main debate is that vocational education does not want to be limited to level 5, vocational training and professional qualifications must be recognised at levels 6,7, 8. but EHEA has decided that the levels 6, 7 and 8 are for bachelors, masters and doctorates;
- to work on NQF
- to examine how to link sectoral qualifications emerging at international level with EQF and NQF
- to launch tests granted by a new call of proposals under Leonardo da Vinci programme

On the basis of the results of this discussion and of reflections of a second Expert Working Group (which worked more specifically on a revised set of descriptors), the Commission presented in September 2006 a draft Recommendation on the establishment of a European Qualification Framework for lifelong learning

This Recommendation was followed in October 2006 by a Proposal for a Recommendation of the European Parliament and of the Council of the European Union on the establishment of the EQF.

Finally: adoption of the Recommendation by the European Parliament on 23 April 2008.

An Implementation Conference was organised in June 2008 in Brussels providing an opportunity for stakeholders to discuss the issues involved in implementing the EQF and to develop practical solutions to these issues.

Five workshops were organised:

- WS1: linking national qualifications levels to the EQF: how can quality assurance and criteria for self-certification promote mutual trust?
- WS2: how can the EQF –and national Qualifications Frameworks (NQFs) – facilitate the validation of non formal and informal learning?
- WS3: how can the EQF be used as a reference point for all qualifications – including those developed by industry sectors, enterprises and professions?
- WS4: what is the role of National qualifications frameworks in implementing the EQF?
- WS5: how can the EQF be used to build links between different sub-systems of education including adult, vocational education and training and higher education?

The following website give access to the preliminary documents, the presentations during the conference and the conclusions of workshops:
http://ec.europa.eu/education/policies/educ/eqf/conf_en.html

The workshop 5 is particularly interesting for the problematic developed by our EQF Pro project.

3 THE PROCESSES DEVELOPED BY SECTORS

The issue concerning "sectoral qualifications frameworks" has risen in some sectors (and also in big European companies) in the recent years. The objective was first to make visible and understandable qualifications awarded by sectors, to create a mutual trust with national and European authorities and second to relate these qualifications to the EQF and to NQFs.

Some European projects managed by sectors have been developed or are in development in the three last calls of proposals concerning the implementation of EQF: in 2006 Sports and active leisure sector, Tourism sector, Automotive sector, Chemistry Industry; in 2007 ICT sector, Construction Industry, Metal and electrical Industry.

Clearly this process is at its early stage. Some sectors (the traditional ones) are already well organised at European level and are likely to come to adopt a qualification framework rather rapidly. Some are discovering the opportunities offered by a common framework or by a "tool" making possible readability of existing qualifications and have starting a reflexion on this. But the majority of sectors has no clear positions on this issue or is not ready to work on this issue.

We can classify the approaches currently developed in three categories:

- inventories of qualifications awarded by sectors at national or rarely at European level, the main objective is to make them visible and understandable for companies in a country or in Europe to facilitate the mobility of workforce
- transversal analyses of competences demonstrated by workforce in companies acting in a field of activity in different countries in Europe and classification of these competences by levels preparing the construction of an European Sectoral framework likely to function as a translation device with EQF. For instance the project "SQR für du Metall und Electroindustrie in Europa" sates that this project will "provide the opportunity to determine the value of sector-specific qualifications at different levels, and compare these in work situations and in relation to education and further education and training as well as in larger social contexts". In some cases it give the opportunity for sectors to organise themselves as professional sector, to structure their activities (for instance the sports and active leisure sector).
- Identification, at European level, of qualifications awarded by educational institutions building the competences needed by the sector and negotiation with States or institutions the construction of qualifications on activities not covered or on new activities.

On the basis of the analysis done by projects on these first approaches, three types of problems seem to emerge.

- these existing or in process sectoral frameworks cover only a part of the EQF corresponding to the levels of competences
- they are explicitly "competences frameworks", this means that they are covering only a part of the descriptors used by EQF (knowledge, skills and competences) or by national qualifications frameworks (often more than three descriptors) and the promoters of these frameworks recognise that it is sometimes difficult to establish an articulation with "academic" qualifications which structure the EQF and NQFs.
- they are not considered as qualifications in some countries by national authorities and cannot by consequence refer to one of the levels defined by the NQF.

4 THE PROCESS OF RECOGNITION OF PROFESSIONAL QUALIFICATIONS

In 2005 the European Commission (DG Internal Market) published a Directive, adopted by the European Parliament and the Council, the Directive 2005/36/EC on professional qualifications for some professions. These qualifications have been classified according to 5 levels.

Recently the Commission published a document précising what was the effect of the establishment of the European Qualification Framework on this Directive. The document states the Recommendation "is without prejudice to Directive 2005/36/EC… on the recognition of professional qualifications which confers rights and obligations on both the relevant national authority and the migrant. Reference to the EQF levels on qualifications should not affect access to the labour market where professional qualifications have been recognised in accordance with Directive 2005/36/EC".

"When national authorities receive an application for the recognition of a qualification with a view to accessing a regulated profession, the examination of such a qualification must be done

exclusively by referring to the system put in place by Directive 2005/36/EC. This system can be described as follows:

- For professions whose training conditions have been harmonised (<u>doctors, nurses, midwives, veterinary surgeons, dentists, pharmacists</u>) and also for architects, recognition of qualifications is automatic; therefore there is no reason why national authorities would refer to EQF levels for the purpose of comparison given that for these professions, no comparison of qualifications is allowed for the purpose of recognition; this should happen on the basis of the diploma held by the migrant.
- For <u>professions of arts, craft and industry sector</u> mentioned under Annex 4 of Directive 2005/36/EC, recognition is based primarily on professional experience. Once the migrant has professional experience of the duration required under the directive, recognition is automatic; therefore again there is no reason why national authorities would refer to EQF levels for the purpose of comparison given that in these situations no comparison of qualification is allowed for the purpose of recognition.
- For professionals of arts craft and industry sectors without the professional experience required under the directive and for all other professions whose training conditions have not been harmonised, the following regime applies: recognition is in principle automatic; however if substantial differences between training are identified and such differences cannot be compensated by professional experience, lifelong learning, etc., compensatory measures (test or training period) can be imposed on migrants. <u>Under this regime (which is called" the general system") a comparison of qualification is necessary for the purpose of applying the directive</u>. However, under Directive 2005/36/EC, **five levels of qualifications** have been fixed in which to classify qualifications for the purpose of such comparison. Moreover, under the directive, the host Member State's competent authority is obliged not only to recognise qualifications classified under the same level of the directive as the national qualification but also qualifications classified under the immediately lower level of the directive. Therefore, in order to apply the directive correctly it is essential that the host Member State's competent authority knows in which level of the directive the national and the other Member State qualification are classified. <u>Reference to EQF levels would not be helpful; it would rather generate confusion that might lead to misapplication of the directive</u>. For instance, as it is clear that the differences between qualifications levels are much more apparent with eight levels than with five, if host Member States' competent authorities misleadingly refer to the EQF levels when applying the directive, they might, in situations where the directive imposes recognition of a qualification, refuse such recognition on the grounds that the gap between the national qualification and the other Member State's qualification is too wide."[4]

5 POSITIONS

Higher Education institutions consider that all higher education level qualifications (EQF 6,7,8) should be awarded by themselves.

The Council of Europe considers that they are two frameworks for HE in Europe which comparable but distinct.

[4] European Commission, Internal market and Services DG, « Directive 2005/36/EC on the mutual recognition of quamlifications/ the European Qualifications Framework",

5.1. Extract from the Stephen Adam report "based on the analysis of individual country 2007 stocktaking submissions on the implementation of NQFs"

"Framework confusions. There is potential confusion and concern about the relationship between the European Qualifications Framework for Lifelong Learning (EQF) and the Bologna Framework for Qualifications of the EHEA, although, the London Communiqué indicated that: 'We are satisfied that national qualifications frameworks compatible with the overarching Framework for Qualifications of the EHEA will also be compatible with the proposal from the European Commission on a European Qualifications Framework for Lifelong Learning'. There remains an unease that the two frameworks may diverge in their understanding and use of credits as well as to which countries should articulate their national qualifications frameworks. The ministers in London clearly indicated *the Framework for the EHEA is the one to which all higher education in Bologna countries must articulate*. It is evident that several countries in their reports have indicated they will articulate with the EQF and do not mention self-certification with the Bologna framework for the EHEA. The European Commission draft recommendation of the EQF to Parliament dated 7th September 2007 does not detail the mechanism by which NQF will articulate with the EQF. Furthermore, articulation/self-certification to one overarching framework (either Bologna or EQF) cannot necessarily lead to automatic reciprocal recognition in the other. The two frameworks are different in emphasis: one for higher education and one for lifelong learning. These issues will need to be resolved to avoid future confusion."

5.2 Background Paper on National Qualification Frameworks by Mike Coles (QCA)

The EQF has 8 levels, which enable different types of qualification to be compared against a common reference point. The following table presents the levels with overlapping between vocational education and higher education (at this moment degrees in general education are not positioned in the grid).

Level of Qualification	Sector in which Qualification is found		
	General Education	Vocational Education	Higher Education
8			████
7			████
6			████
5		████	████
4		████	████
3		████	████
2		████	
1		████	

5.3. BFUG Working Group on Qualifications Framework (National Qualifications Frameworks, development and certification. Report from Bologna Working Group on Qualifications Frameworks, May 2007)

Page 7 "At present there are two overarching qualifications frameworks processes going on in Europe: One within the Bologna Process for higher education for the 45 Bologna member-

countries and another one proposed by the European Commission for lifelong learning for the 27 EU-member-states. The questions discussed in the Working Group and elsewhere were whether this situation is satisfactory as regards transparency and whether there are complementarities between the two frameworks.

The Bologna frameworks consist of national qualification frameworks embracing higher education qualifications for each member-country linked together by an overarching Framework for Qualifications of the EHEA. The overarching framework was adopted in Bergen in 2005 and at the same time agreed that work on national qualifications frameworks should having started by 2007 to be completed by 2010.

The implementation of the Bologna Framework for Qualifications is going on many member countries and will thus continue as planned and decided in Bergen. Progress in the development of national qualifications frameworks is part of the stocktaking exercise prepared for the London Conference 2007. The preliminary results show that almost all member countries have started developing national qualifications framework but most countries are in the beginning of the process.

The European Commission proposal for a recommendation on the establishment of a European Qualifications Framework for Lifelong Learning issued in September 2006 is based on a European Commission consultation paper that was discussed intensively in the EU-member states and at a conference in Budapest in February 2006. It aims to cover the entire education and training systems of the EU-member-states.

It is the over all opinion of the Working Group that the two frameworks will co-exist. The group takes note that they have different scope and purposes and use a different methodology.

First, the geographical scope of the two overarching frameworks is different. The EQF/LLL encompasses only the 27 EU members where as the Bologna framework embraces all the 45 Bologna members.

Second, that the purposes are different. The EHEA framework aims at embracing higher education qualifications at the national level and facilitate transparency, recognition and mobility among higher education degree holders. The EQF/LLL and its possible national counterparts that are not mandatory aim at connecting the different parts of the education system into a comprehensive framework.

Third, that the sets of level descriptors have different applications. The descriptors in the EQF/LLL are not higher educations descriptors but generic descriptors that can be used to describe all types of learning. They are more general compared to the more specific Bologna cycle-descriptor for higher education, especially in the final proposal from the European Commission compared to the descriptor in the Commission discussion paper that was issued in 2005 for consultation.

Fourth, the two frameworks are linked together: The EQF-descriptors for the upper levels (level 6, 7 and 8) are general for all kinds of qualifications but for HE qualifications there is a reference to the descriptors used in the Bologna framework. These have to be used for as a European reference for higher education qualifications.

The differences in scope and purpose make it clear that the two frameworks can t substitute each other but the group is satisfied that national qualifications frameworks compatible with overarching EHEA-framework will also be compatible with the proposal from the European Commission on a European Qualifications Framework for Lifelong Learning. In order to avoid confusion by the existence of two overarching frameworks *the working group recommends that the promotion of European higher education outside Europe should build on the overarching EHEA-framework, which includes the Dublin descriptors."*

Page 16 "The points for discussion under this item were the number of levels needed in the participating countries. How profiles could or should be reflected in binary systems. Could award types be the building stones in the framework or would you like to go further down to clusters of subject areas? How learning outcome could be described in generic terms. Would a translation of the Dublin Descriptors fulfil the purpose? Should the framework at all levels include credits?

Many of the countries expressed the opinion that they would need more than three levels first and foremost because they had short cycle programmes within their higher education. Those countries with binary systems intended to have different award types but there were exceptions: The binary system of Hungarian higher education was not reflected in the Hungarian framework and this was agreed by universities and professional schools to have the same award types and outcome descriptors. Hungary and Romania experimented with descriptors for clusters of subject areas but most countries stuck or would stick to award types as basic elements of their framework. The Dublin Descriptors was developed as common denominators for award descriptors in the member states of the Joint Quality Initiative. National descriptors could be more detailed and encompass other dimensions than those included in the Dublin Descriptors. Few countries had any experiences on credits integrated in their frameworks"

This reflects the attitude of numerous colleagues and responsible for HE in Europe.

ANNEX 1

Dublin descriptors as used in The Framework for Qualifications of EHEA compared to the descriptors as used in the EU Commission staff working document "Towards a European Qualifications Framework for Lifelong Learning"

Qualifications that signify completion of the **higher education short cycle (within the first cycle)** are awarded to students who:	EQF – level 5
have demonstrated knowledge and understanding in a field of study that builds upon general secondary education[1] and is typically at a level supported by advanced textbooks; such knowledge provides an underpinning for a field of work or vocation, personal development, and further studies to complete the first cycle; can apply their knowledge and understanding in occupational contexts; have the ability to identify and use data to formulate responses to well-defined concrete and abstract problems; can communicate about their understanding, skills and activities, with peers, supervisors and clients; have the learning skills to undertake further studies with some autonomy.	Use broad theoretical and practical knowledge that is often specialised within a field and show awareness of limits to knowledge base Develop strategic and creative responses in researching solutions to well defined concrete and abstract problems Demonstrate transfer of theoretical and practical knowledge in creating solutions to problems Manage projects independently that require problem solving where there are many factors some of which interact and lead to unpredictable change Show creativity in developing projects Manage people and review performance of self and others. Train others and develop team performance Evaluate own learning and identify learning needs necessary to undertake further learning Convey ideas in a well structured and coherent way to peers, supervisors and clients using qualitative and quantitative information Express a comprehensive internalised personal world view reflecting engagement solidarity with others Formulate responses to abstract and concrete problems Demonstrate experience of operational interaction within a field Make judgements based on knowledge of relevant social and ethical issues

Qualifications that signify completion of **the first cycle** are awarded to students who:	EQF-level 6
have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study;	Use detailed theoretical and practical knowledge of a field. Some knowledge is at the forefront of the field and will involve a critical understanding of theories and principles
	Demonstrate mastery of methods and tools in a complex and specialised field and demonstrate
can apply their knowledge and understanding in a manner that indicates a professional2 approach to their work or vocation, and have competences3 typically demonstrated through devising and sustaining arguments and solving problems within their field of study;	Innovation in terms of methods used
	Devise and sustain arguments to solve problems
	Demonstrate administrative design, resource and team management responsibilities in work and study contexts that are unpredictable and require that complex problems are solved where there are many interacting factors
have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues;	Show creativity in developing projects and show initiative in management processes that includes the training of others to develop team performance
can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences;	Consistently evaluate own learning and identify learning needs
	Communicate, ideas, problems and solutions to both specialist and non-specialist audiences using a range of techniques involving qualitative and quantitative information
have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.	Express a comprehensive internalised personal world view manifesting solidarity with others
	Gather and interpret relevant data in a field to solve problems
	Demonstrate experience of operational interaction within a complex environment
	Make judgements based on social and ethical issues that arise in work or study

2 The word '**professional**' is used in the descriptors in its broadest sense, relating to those attributes relevant to undertaking work or a vocation and that involves the application of some aspects of advanced learning. It is not used with regard to those specific requirements relating to regulated professions. The latter may be identified with the profile / specification.

3 The word '**competence**' is used in the descriptors in its broadest sense, allowing for gradation of abilities or skills. It is not used in the narrower sense identified solely on the basis of a 'yes/no' assessment.

Qualifications that signify completion of **the second cycle** are awarded to students who:	EQF-level 7
have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with the first cycle, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research[4] context;	Use specialised theoretical and practical knowledge some of which is at the forefront of knowledge in the field. This knowledge forms the basis for originality in developing and/or applying ideas
can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study;	Demonstrate critical awareness of knowledge issues in the field and at the interface between different fields
have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements;	Create a research based diagnosis to problems by integrating knowledge from new or inter disciplinary fields and make judgements with incomplete or limited information
can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously;	Develop new skills in response to emerging knowledge and techniques
have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.	Demonstrate leadership and innovation in work and study contexts that are unfamiliar, complex and unpredictable and that require solving problems involving many interacting factors
	Review strategic performance of teams
	Demonstrate autonomy in the direction of learning and a high level understanding of learning processes
	Communicate project outcomes, methods and underpinning rationale to specialist and non specialist audiences using appropriate techniques
	Scrutinise and reflect on social norms and relationships and act to change them
	Solve problems by integrating complex knowledge sources that are sometimes incomplete and in new and unfamiliar contexts
	Demonstrate experience of operational interaction in managing change within a complex environment
	Respond to social, scientific and ethical issues that are encountered in work or study

[4] The word '**research**' is used to cover a wide variety of activities, with the context often related to a field of study; the term is used here to represent a careful study or investigation based on a systematic understanding and critical awareness of knowledge. The word is used in an inclusive way to accommodate the range of activities that support original and innovative work in the whole range of academic, professional and technological fields, including the humanities, and traditional, performing, and other creative arts. It is not used in any limited or restricted sense, or relating solely to a traditional 'scientific method'.

Qualifications that signify completion of **the third cycle** are awarded to students who:	EQF-level 8
have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field;	Use specialised knowledge to critically analyse, evaluate and synthesise new and complex ideas that are at the most advanced frontier of a field
have demonstrated the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity;	Extend or redefine existing knowledge and/or professional practice within a field or at the interface between fields
have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international refereed publication;	Research, conceive, design, implement and adapt projects that lead to new knowledge and new procedural solutions
	Demonstrate substantial leadership, innovation and autonomy in work and study contexts that are novel and require the solving of problems that involve many interacting factors
are capable of critical analysis, evaluation and synthesis of new and complex ideas;	Demonstrate capacity for sustained commitment to development of new ideas or processes and a high level understanding of learning processes
can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise;	Communicate with authority through engaging in critical dialogue with peers in a specialist community
can be expected to be able to promote, within academic and professional contexts, technological, social or cultural advancement in a knowledge based society.	Scrutinise and reflect on social norms and relationships and lead action to change them
	Critical analysis, evaluation and synthesis of new and complex ideas and strategic decision making based on these processes
	Demonstrate experience of operational interaction with strategic decision-making capacity within a complex environment
	Promote social, <scientific>and ethical advancement through actions

ANNEX 2

ECTS KEY FEATURES
21 December 2007 (final)

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.

ECTS credits

ECTS credits are based on the workload students need in order to achieve expected learning outcomes. Learning outcomes describe what a learner is expected to know, understand and be able to do after successful completion of a process of learning. They relate to level descriptors in national and European qualifications frameworks.

Workload indicates the time students typically need to complete all learning activities (such as lectures, seminars, projects, practical work, self-study and examinations) required to achieve the expected learning outcomes.

60 ECTS credits are attached to the workload of a full-time year of formal learning (academic year) and the associated learning outcomes. In most cases, student workload ranges from 1,500 to 1,800 hours for an academic year, whereby one credit corresponds to 25 to 30 hours of work.

Use of ECTS credits

Credits are allocated to entire qualifications or study programmes as well as to their educational components (such as modules, course units, dissertation work, work placements and laboratory work). The number of credits ascribed to each component is based on its weight in terms of the workload students need in order to achieve the learning outcomes in a formal context.

Credits are awarded to individual students (full-time or part-time) after completion of the learning activities required by a formal programme of study or by a single educational component and the successful assessment of the achieved learning outcomes. Credits may be accumulated with a view to obtaining qualifications, as decided by the degree-awarding institution. If students have achieved learning outcomes in other learning contexts or timeframes (formal, non-formal or informal), the associated credits may be awarded after successful assessment, validation or recognition of these learning outcomes.

Credits awarded in one programme may be transferred into another programme, offered by the same or another institution. This transfer can only take place if the degree-awarding

institution recognises the credits and the associated learning outcomes. Partner institutions should agree in advance on the recognition of periods of study abroad.

Credit transfer and accumulation are facilitated by the use of the ECTS key documents (Course Catalogue, Student Application Form, Learning Agreement and Transcript of Records) as well as the Diploma Supplement.

Bologna Process
E.H.E.A.
European Higher Education Area
45 countries
3+1 levels (BMD)
Convergence / integration
Dublin descriptors
ECTS

Labour Market
Professional branches
Entreprises

Levels of activity

Intermediate qualifications
Niv 5
within HE institutions

Intermediate qualifications
Niv 5 HE qualifications by
polytechnics

Intermediate qualifications
Awarded by other HE institutions

NQF

Sectoral European
Qualifications
Framework

Car industry
Airbus
ICT sector
Chemistry …

Copenhagen-Process (VET)
European Qualifications Framework
27 Member States
5+3 levels
Translation tool / transparency
EQF descriptors
ECVET