



# GUIDELINES

## FOR CURRICULUM DEVELOPMENT AND QUALITY ASSURANCE OF JOINT MASTER PROGRAMMES



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**Euroleague**

FOR LIFE SCIENCES



# **GUIDELINES**

## **FOR CURRICULUM DEVELOPMENT AND QUALITY ASSURANCE OF JOINT MASTER PROGRAMMES**

**2<sup>nd</sup> Edition**

**QUALITY ASSURANCE SUPPORT TEAM**

**Euroleague**

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## Preface

Dear colleagues,

It is my pleasure to present to you the new edition of the ELLS “Guidelines for Curriculum Development and Quality Assurance of Joint Master Programmes”. Building on our own experiences and on the results of important European projects, these guidelines offer a practicable tool to set up and to deliver joint degree programmes. They also shall help to further develop the quality of our programmes.

This edition of the guidelines also contains a lot of practicable information on how to implement Bologna, e.g. on how to introduce student centred learning or how to implement the concept of learning outcomes. They also contain a lot of useful information on quality development of degree programmes, recommendations for teachers and a series of support materials.



The importance of joint programmes within the European Higher Education Area has repeatedly been documented in the Bologna process and has always been at the core of ELLS activities. It fulfils me with pleasure that the number of joint ELLS Master programmes has been growing consistently.

It is our hope that these guidelines prove as a useful document for our teachers and that they help to prepare students for the demands of society and the European labour market.

I would like to underline the importance of a joint quality assurance within the Euro League and to appreciate the professional work which has been carried out by our Quality Assurance Group.

Yours sincerely,

A handwritten signature in black ink that reads "Martin Gerzabek". The signature is written in a cursive style.

Prof. Dr. Martin H. Gerzabek  
Head of ELLS Board

Vienna, October 2010



## 0. Introduction

This document represents the revised and extended second edition of the *Guidelines for Curriculum Development and Quality Assurance of Joint Master Programmes* issued by the Quality Assurance Support Group (QA Group) of the Euroleague for Life Sciences (ELLS) in 2007. It is based on the outcomes of the project *From Strategy to Implementation: Promoting the Quality of ELLS Programmes within the Bologna Process* funded by the ELLS fund.

These guidelines shall help programme developers, programme co-ordinators, teachers and university staff to design, set up and to deliver a joint Master programme within the ELLS network.

The document is divided into two main sections, the actual guidelines and important supplementary documents. As the Euroleague for Life Sciences defines itself as a quality network, the provision of joint Masters on a very high level has always a high priority. Criteria and recommendations of section one are compliant with international standards and guidelines including the *ENQA report on Standards and Guidelines for Quality Assurance in the European Higher Education Area* (ENQA, 2009) and the *Institutional Guidelines for Quality Enhancement of Joint Programmes* (Hofmann, 2007). They also incorporate European policy decisions and developments, i.e. the introduction of the *European Qualifications Framework for Lifelong Learning* (EQF 2008) and the progress regarding the implementation of the European Higher Education Area (EHEA) within the Bologna Process.

The ELLS QA group has not only considered these important European projects but also accreditation criteria from German and Dutch agencies and findings from leading European universities in the provision of joint programmes.

The guidelines do not only consider the most recent political developments and educational standards, they also help to further implement the Bologna approach. For this, a number of recommendations have been elaborated, e.g. on how to implement learning outcomes at programme and at course level. Additionally, explanatory texts with background information are included, e.g. on the European Qualification Framework.

In the appendix, a number of useful documents facilitating the implementation of the standards and recommendations can be found, e.g. a self-check for teachers in order to find out whether the quality criteria have been met, a format to assess a Master thesis and a glossary.

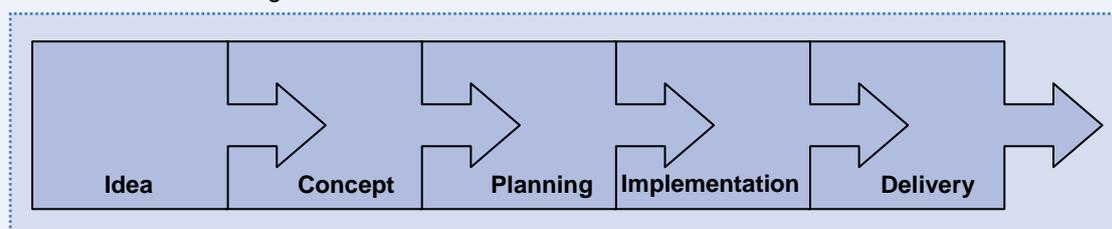
## 1. Guidelines for curriculum development

Designing a joint Master programme implies the creation of a new and innovative curriculum on the one hand as well as the design of a programme requiring students to move between different locations, on the other.

### **Guiding principles of setting up a new programme**

The setting up and implementation of a joint Master programme can be modelled in five steps (see graph 1). Quality aspects shall be underlying the whole planning process (see section 1.8). These steps comprise:

- **Idea:** The idea of setting up a new programme is explored in a creative process. Early and thorough planning is recommended
- **Concept (outline):** Based on the results of the previous step, the outline of a concept with basic structural and organisational information on the joint degree programme can be developed.
- **Planning (in detail):** Following the basic outline, the planned contributions and institutional arrangement of the participating universities should be specified and analysed at network level.
- **Implementation:** The programme concept should be agreed upon by all partners involved – both the programme providers on the subject level as well as the institutional bodies (e.g. senate). This step is also referred to as “Agreement”.
- **Delivery:** This step indicates the actual running of the programme and is frequently labelled “Doing”.



Graph 1 – Setting up a joint Master programme in five steps adapted to ELLS criteria (after Hofmann et al. 2007)

The QA-group has elaborated a number of criteria for the design of ELLS degree programmes and summarized them in a short checklist. They have been grouped in eight topics, as follows:

- Need
- Degree profile
- Degree programme, structure and mobility
- Learning, teaching and assessment methods
- Admission
- Master thesis and degree
- Management and resources
- Quality assurance and evaluation

### 1.1. Need of the programme and link to institutional mission

- I. It is crucial to demonstrate the need for a joint Master programme. A broad consultation including the academic community, professionals, employers and other stakeholders has to be carried out. The international dimension of the programme must be addressed (see also chapter 1.2).
- II. The added value of having a jointly delivered Master programme needs to be proven. This includes the reason for the choice of the participating universities and the expertise they bring. The partners contribute to different parts of the programme and to the achievement of the joint learning outcomes. Each institution brings in the

expertise, where it is best. This constitutes *the* added value of a joint Master programme<sup>1</sup>.

- III. The new degree programme needs to be linked to the institutional mission or profile and existing degree programmes of the partners involved. Links between the joint Master programme and research activities should be identified. The reasons for introducing the joint Master programme at the participating institution (academic, strategic, professional, etc.) need to be indicated.
- IV. Joint ELLS programmes have to be developed and implemented by at least two member universities<sup>2</sup>.

**Recommendation:** Ideally, a new study programme should relate to the outcomes of a needs analysis. However, this may not always be feasible. In this case, a less extensive survey among experts and external stakeholders may be a reasonable option.

## 1.2. Degree profile

- I. The degree profile defines the aims, the intended learning outcomes, the curriculum, the prerequisite knowledge and the target groups of the programme.
  - a. Aims in this context refer to a broad purpose or a general intention.
  - b. Learning outcomes define what students are expected to know, understand and/or be able to demonstrate after completion of a process of learning<sup>3</sup>.
- II. Learning outcomes shall be written in accordance with the European Qualification Framework (EQF) as well as relevant National Qualification Frameworks (NQF), if applicable<sup>4</sup>.
  - a. On programme level, intended learning outcomes describe “knowledge”, skills and competencies – if applicable – which are to be gained by the students.
  - b. The degree profile also addresses academic values, democratic citizenship, social responsibility and the personal development of students and their employability.
- III. The curriculum defines the academic content that will result in the achievement of the learning outcomes.

**Recommendation:** Special attention needs to be paid to non-subject relevant skills, also referred to as Generic Skills<sup>5</sup> and their assessment. Also the question of progression needs to be addressed during the design of the curriculum (see also chapter 1.4).

### **Qualifications Frameworks and Learning Outcomes**

Qualifications frameworks are important instruments for achieving comparability and transparency within the EHEA. They should also support the development of modules and study programmes based on learning outcomes and credits. This is expected to lead to improved recognition of qualifications and of all forms of prior learning<sup>6</sup>.

The EQF is fully compatible with the QF-EHEA, also referred to as “*Dublin Descriptors*”. Each level of qualification is defined by a set of descriptors, for the EQF they have been formulated as learning outcomes. For Joint Master programmes, descriptors of EQF level 7 apply.

Programme learning outcomes describe the essential knowledge, skills and attitudes that graduates of the programme should be able to demonstrate. The rules for writing learning outcomes for

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<sup>1</sup> Often the term *jointness* is used in this context.

<sup>2</sup> See ELLS Board decision from April 2009 in Brussels.

<sup>3</sup> Compare with *Teaching for Quality Learning at University* (Biggs, 2007) and *Writing and Using Learning Outcomes: A practical Guide* (Kennedy, 2007).

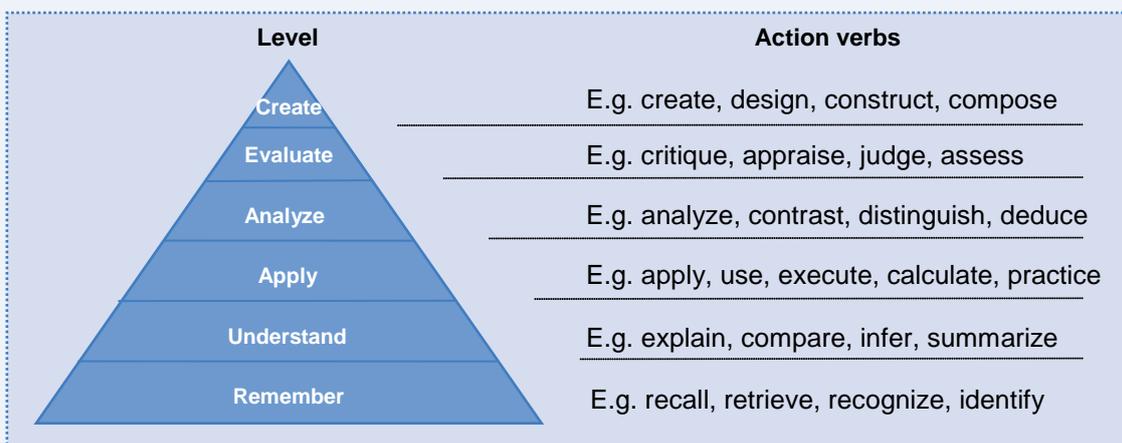
<sup>4</sup> See Annex for descriptors defining EQF level 7.

<sup>5</sup> See Glossary for an extensive list of Generic Skills.

<sup>6</sup> Compare with *London Communiqué 2007*.

programmes are the same as those for writing learning outcomes for modules. Normally, there should be about 10 learning outcomes for a programme<sup>7</sup>. Only the minimum number of outcomes considered to be essential should be included.

Contemporary and updated versions of *Bloom's Taxonomy* provide a ready made structure for writing learning outcomes and are frequently recommended. It consists of a hierarchy of increasingly complex processes students should acquire and corresponding verbs characterizing students' ability to demonstrate these processes. These verbs are the key to writing learning outcomes. For the purpose of this document, the updated and extended edition by Anderson has been selected as an example.



Graph 2 – Example for Bloom's Taxonomy after Anderson et al. 2001 (after Steen 2009)

Learning Outcomes usually comprise of

- a starting phrase, such as “Upon completion of the course/module/programme the student should be able to...”
- followed by a **verb** and
- the **object** of the verb and the **context**.

E.g. Upon completion of the course the student should be able to integrate concepts of genetic processes in plants and animals<sup>8</sup>.

### 1.3. ECTS, structure and mobility

- I. ECTS Credits must be allocated to the joint Master programme as well as to all components of the programme, such as courses, modules, Master thesis etc.
  - a. The Master programme normally lasts for 2 years and comprises 120 ECTS.
  - b. ECTS credits are allocated based on the expected workload for students. For the estimation of workload all learning activities required to achieve the expected learning outcomes, including the time spent on independent work, compulsory work placements, preparation for assessment and the time necessary for the assessment must be taken into account.
  - c. Workload shall be monitored and refined through student feedback on a regular basis.
- II. The degree programme has to be structured in such a way that students' mobility is guaranteed so that they can complete the programme within the given timeframe. Periods spent abroad have to be specified and structured.

<sup>7</sup> Compare with *Guideline for writing and using learning outcomes for degree programmes at Wageningen University* (Steen, 2009)

<sup>8</sup> Example taken from Kennedy, 2009

- III. The curriculum is structured in such a way that coherence is assured within the total programme so that continuous progression is made with respect to learning outcomes.
- IV. All courses are held in English. Additionally, courses may be offered in another language of instruction to foster second language acquisition. If required by a programme framework (i.e. Erasmus Mundus Programme), language acquisition of the host country is obligatory.

**Recommendation:** The ECTS Course Catalogue<sup>9</sup> proposed by the European Commission covers all the main items described in this chapter and much more. The identification of semester packages worth 30 ECTS each may facilitate an equal and balanced distribution of workload for all semesters of the programme.

### **Internationalization**

ELLS joint Master programmes contribute to a European, international, and even global dimension in education and practices in the field. Curriculum, teaching and learning practices, and the management of resources therefore, should reflect the added value of this multinational, multilingual, cross-border context and consider global learning a key feature of the programme. According to the Association for European Life Science Universities (ICA), an international curriculum is a curriculum which “addresses subject specific knowledge appropriate to the international student audience, and develops subject specific skills and generic skills aimed at preparing students for performing in an international and multicultural context”<sup>10</sup>.

Criteria which apply to international Master programme have been identified on various levels. With regard to subject content, modules need to address:

- Internationally applicable subjects (e.g. biotechnology)
- Global issues, such as global change or sustainability
- Comparative studies comparing systems established in various regions
- Regional studies with outcomes applicable on global scale

Regarding students social abilities and attitudes, the following aspects have to be addressed:

- Students' need to communicate in a language other than their native tongue, this may also apply to the language of instruction
- The training of cross-cultural skills
- Working together in international groups
- Provision for second language training (optional)<sup>11</sup>

Teaching practices should be varied, use students' background and previous experiences as an asset and exploit the richness of a multicultural, multilingual classroom. Teachers should be competent in leading and taking advantage of a diverse classroom. Therefore, capacity training of instructors and administrators regarding their intercultural competencies and language skills is essential to develop the full potential of the international Master programme's added value.

## **1.4. Learning, teaching and assessment**

- I. Teaching and learning activities<sup>12</sup> must be designed in order to achieve the identified learning outcomes, considering the student group and the context of the joint Master programme.
  - a. There should be a focus on student centred learning approaches.

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<sup>9</sup> See the *ECTS User's Guide* (European Commission, 2009)

<sup>10</sup> *AMEU Project Quality Assurance Workshop Outcomes. Comparative Quality Assurance of Master Degree Programmes*. 28 April 2008 (Heath, 2008)

<sup>11</sup> *Ibid.*

<sup>12</sup> In this document, the terms “activity” and “activities” are used synonymously with “method” and “methods”, respectively.

- b. The applied teaching and learning activities are innovative, the added value and benefit of the joint Master programme must effectively come into operation.
    - c. The dimension of teaching and learning in an international classroom has to be addressed.
  - II. All intended learning outcomes shall be assessed in an explicit, valid and reliable way. Assessment criteria have to be transparent.
    - a. The assessment methods should enable students to demonstrate that they have achieved the intended learning outcomes.
    - b. Students should be assessed using published criteria, regulations and procedures which are applied consistently<sup>13</sup>.
  - III. If the assessment is done according to national examination rules and grading systems the grades have to be translated into the ECTS grading scheme.

**Recommendation:** Teachers and administration need to be made aware of the cross-cultural implications of the joint Master programme. This may entail formal or informal preparation and information packages on intercultural management and teaching international classrooms (see also chapter 1.3).

### **Constructive alignment**

As elaborated in the previous chapter, intended learning outcomes are statements indicating the level of understanding and performance students are expected to achieve upon. They are formulated from the students' perspective, and thus guarantee a student centred approach to teaching and learning.

Progression in education allows students to build upon the knowledge, skills, and competencies they have acquired before. Therefore, an integrated and sequential approach will increase educational progression within a programme.

The theory of constructive alignment is based on the twin principles of constructivism in learning and alignment in the design of teaching and assessment<sup>14</sup>. Constructive alignment increases transparency and consistency by intrinsically aligning three ingredients:

- Intended learning outcomes: what the student is expected to learn/to do upon completion of the course/programme.
- Teaching and learning activities: activities in which the student is engaged in during the course/programme.
- Assessment task: Assessment of the intended outcome in order to evaluate the student.

Teaching and learning activities should address intended learning outcomes. Also the assessment task should mirror these intended learning outcomes allowing students to learn, test, and train the knowledge, skills, competencies or attitudes which will be examined further on.

## **1.5. Admission**

- I. For the admission to the joint Master programme, the candidates have to meet the pre-requisite knowledge, skills and competencies that have to be laid down in the degree profile.
  - a. An admission commission (or other appropriate body) with representatives from all participating universities assesses whether a student meets the entry requirements taking into consideration the academic content (curriculum), the intended learning outcomes and the grades obtained during the entrance degree programme; also and his or her motivation is taken into consideration.

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<sup>13</sup> For further details, refer to Chapter 1.8 and to the *European Standards and Guidelines* (ENQA, 2009)

<sup>14</sup> Compare with Biggs, 2007.

- b. If the student's mother tongue is not English, language skills have to be proven according to TOEFL (paper-based 550, computer-based 213) or to IELTS (6.0). An equivalent language test can also be accepted by an ELLS university.
- II. Information on the application process is easily publicly available; this includes administrative, legal, academic and financial issues<sup>15</sup>.
- III. The selection process of the candidates has to be transparent.

#### **1.6. Master thesis and degree**

- I. The Master thesis meets the basis requirements of an ELLS joint Master thesis.
  - a. The Master thesis normally covers 30 ECTS.
  - b. Supervisors have to meet the requirements of the university at which the thesis is undertaken. They have to fill in the Supervisor's Report.<sup>16</sup>
  - c. A thesis proposal and a preliminary report of the thesis are presented in a seminar.
  - d. The thesis is written in English.
  - e. The European Charter for Researchers<sup>17</sup> has to be followed.
  - f. The written thesis is an independent work which has to cover the following aspects
    - i. Relevant, clearly formulated and testable problem definition
    - ii. Theoretical framework and research methodology
    - iii. Description of the research project
    - iv. Analysis and interpretation of the results, conclusions
    - v. Responsible and transparent use of relevant references
- II. An examiner independent of the supervisor examines the thesis.
- III. The candidate must defend his/her thesis in a public defence. The evaluation of the thesis and of the thesis defence is carried out on the basis of the *Thesis Evaluation Form* and the *Thesis Defence Evaluation Form*.
- IV. The student participating in a double degree programme will be awarded a diploma by the universities which had been attended by the student. For a joint degree programme, the student will be awarded a diploma signed by all universities which had been attended by the student.
- V. A diploma supplement in English is issued together with the diploma.

#### **1.7. Management and resources**

- I. The administrative structure and organisation of the joint programme, the roles and responsibilities of the participating partners are clearly defined and documented. The structure must be flexible and allow for changes.
- II. There shall be a steering committee/board, which is also responsible for decision making as well as for quality assurance and enhancement of the joint Master.

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<sup>15</sup> See also *Manual for Planning and Implementing Joint MSc Programmes* (ELLS IRO Group, 2007).

<sup>16</sup> See annex for a model Supervisor's Report

<sup>17</sup> European Commission, 2005

- III. The necessary resources for delivery must be available. These include academic and non-academic staff, facilities for teaching and specific resources for the joint Master programme.
- IV. Teaching staff shall be highly qualified to deliver the programme (e.g. academic qualification, English language skills, international experience).
- V. The financial aspects of the joint programme should be clearly described, e.g. cost of mobility for students, teachers and external examiners.
- VI. Communication must be efficient and enable the exchange of all relevant information.
- VII. Sufficient information on tuition fees, waiving of tuition fees and grants at each of the participating universities must be available for the students.

### 1.8. Quality assurance

- I. For the initial curriculum development, the ELLS “*Guidelines for Curriculum Development and Quality Assurance of Joint Master Programmes*” have to be followed and the quality criteria have to be met.
- II. For the delivery of the degree programme, a quality management cycle should be developed by the steering committee. After a first delivery of the Master programme, it has to be evaluated internally by the steering committee (See 1.7). The steering committee has to report to the QA Group on the outcomes of the evaluation and the measures for the enhancement of the programme.
- III. After a second delivery of the Master programme it has to be evaluated externally by the ELLS Quality Assurance Support Group. The evaluation process should meet the requirements of an accreditation process.
- IV. The institutional support to implement measures for quality enhancement has to be assured. This refers to decisions which are not within the competence of the coordinating committee (e.g. changes of a curriculum which have to be approved by the senate, resources, internal coordination).

Recommendation: ELLS partner universities may consider applying for the ECTS label issued by the European Commission<sup>18</sup>.

#### **Quality assurance of joint Master programmes - definitions and standards**

A vast number of quality related questions help us to assess essential elements of a joint Master degree programme, e.g. the degree profile, the learning outcomes or the thesis internally or externally. In this document, the focus is on self-assessment in order to enhance the quality of the degree programme according to the quality management cycle (see graph 3).

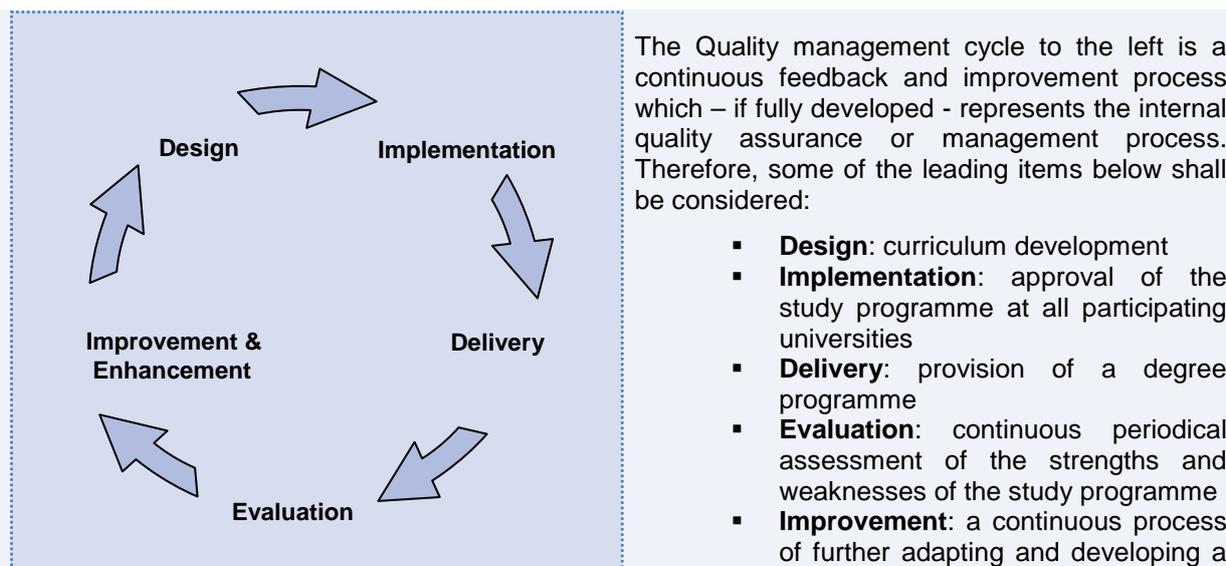
The following quality definitions taken from the EUA Quality Culture Project 2002 - 2006<sup>19</sup> lay the basis for the below criteria.

- **Quality as compliance with standards:** Defined quality criteria/benchmarks have to be met.
- **Quality as fitness of purpose:** Determines whether the aims of the programme are appropriate or not
- **Quality as fitness for purpose:** In education, fitness for purpose is usually based on the ability of a degree programme to fulfil its aims.
- **Quality as customer satisfaction:** Customer satisfaction contributes to quality improvement, e.g. through continuous student feedback loops.
- **Quality as continuous enhancement:** Quality cycles have to be set up, which require follow up measures and feed back into planning<sup>20</sup>.

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<sup>18</sup> European Commission, 2009

<sup>19</sup> See also the Quality Culture Project website

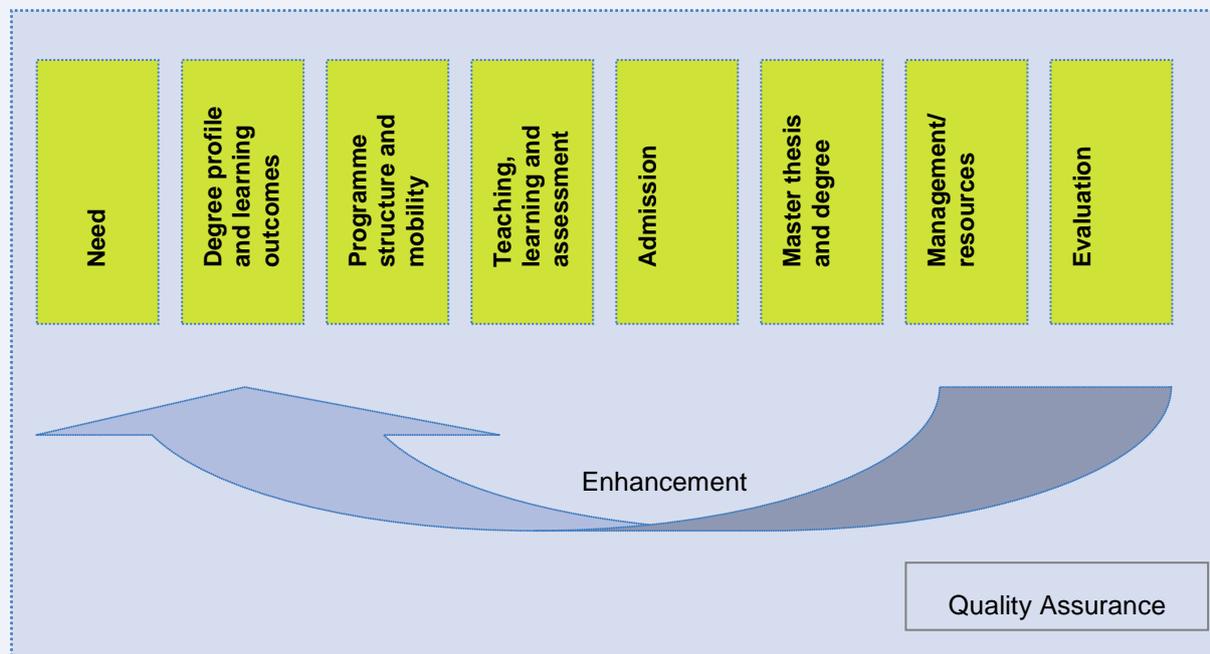


**Graph 3 – Quality Management Cycle of a degree programme**

In reference to the definitions above, the following guiding principles should be followed:

- Transparency and openness
- Evaluation as a learning and development opportunity, as well as a reflection process for all concerned
- Participation of students, teachers and staff in quality assurance procedures.
- The assurance of the implementation of proposed measures.

For the ELLS joint Master programmes complying with the guidelines presented in this document the underlying concept is based on various steps which can be summarised in graph 4.



**Graph 4 – Quality Assurance of Joint ELLS Master Programmes**

<sup>20</sup> For detailed descriptions, see *Defining Quality* (Harvey, 1993)

## 2. Annex

In this section, you can find a number of supporting documents, as follows:

- Checklist for programme developers
- Glossary
- EQF and QF-EHEA
- Setting up a joint Master programme in five steps
- Template of a Diploma Supplement
- Supervisor' s Report
- Thesis Evaluation Form
- Thesis Defence Evaluation Form

### 2.1. Checklist for programme developers

This checklist is aimed at programme developers and co-ordinators who are responsible for the design and implementation of a joint Master programme. Its purpose is to serve as a reminder of all necessary requirements and criteria listed in section 1 (p. 7-14).

#### ***Need of the programme and link to institutional mission***

The need for the new degree programme has to be demonstrated fully and clearly.

- What was the reason for developing the programme? How did you identify it?
- What is the benefit of offering this Master programme as a joint Master?
- Which stakeholders, e.g. members of the academic community, professionals, employers and others have been involved in the development of the joint Master?
- How does the joint Master fit into the research areas and into the fields of study of the involved universities?

#### ***Degree profile***

Designing a complete degree profile is inevitable for any Master programme. Aims should be based on the identified need for the programme.

- Which of the following features are contained in the programme description?
  - Overall aim of the programme
  - Structure and content of the courses
  - Prerequisite knowledge of the students
  - Target groups
- Are the aims of the programme formulated in terms of learning outcomes?
- In which framework (NQF, EQF, QF-EHEA, Dublin Descriptors or other) are the learning outcomes of the programme embedded?
- How do you ensure that the degree profile leads to appropriate employment of the graduates?

#### ***ECTS, structure and mobility***

The following items are mainly formal requirements.

- How many ECTS does the programme comprise?
- Have ECTS credits been allocated to all courses?
- Is an appropriate and well-balanced student workload during each learning period/module/package assured?
- How long does the programme last?  
Is the programme structured in coherent blocks/packages/modules, which allow continuous students` mobility?

The official working language of ELLS is English. In certain programmes however, it is necessary to offer courses in a language other than English.

- Are all courses held in English?
- If not all, how many courses (out of the total) are held in English?

### ***Learning, teaching and assessment***

- Have the intended learning outcomes been identified for each course of the curriculum?
- Do teaching methods correspond with the intended learning outcomes?
- Have the innovative character and the implications of teaching and learning in an international environment been addressed?
- Are the assessment methods explicit, valid and reliable?
- Has an ECTS grading conversion table been developed for all participating universities?

### ***Admission***

There should be a common admission procedure for the joint Master programme valid for all partners.

- Is there a joint commission of the participating universities for admission?
- Are the applications assessed according to following criteria?
  - Curriculum (academic content) of entrance degree programme
  - Intended learning outcomes of entrance degree programme
  - Grades of entrance degree programme
  - Motivation
  - Language level
- Which are the minimum language skills for admission, for non-native speakers of English?
- Is the information on admission criteria and the application procedure publicly available? Where?

### ***Master thesis and degree***

- How many ECTS have been allocated to the Master thesis?
- Does the Master thesis have to be written in English? If no, in which language(s) other than English can the thesis be submitted?
- Is the thesis assessed by...
  - the supervisor?
  - an internal examiner?
  - an external examiner?
- Do students have to present their thesis proposal?
- Are the following elements included into thesis assessment?
  - Public defence of the thesis
  - Evaluation of the thesis according to the "Thesis evaluation form" (see annex)
  - Evaluation of the public defence according to the "Thesis defence evaluation form" (see annex)
- The students are awarded...
  - diplomas issued by each university participating in the programme the student has attended (double degree).
  - a joint diploma signed by all universities the student has attended (joint degree).
- Is a Diploma Supplement issued? In which language(s) is it provided?

### ***Management and resources***

- Are roles and responsibilities of the partner institutions in the programme clearly defined and documented?
- Is there a steering committee responsible for decision making and quality assurance and enhancement on network level?
- How is it ensured, that sufficient resources (staff, facilities, equipment, finances etc.) are available to meet the objectives of the joint Master?
- Has a financial agreement been set up between the partners?
- For how many years is the funding of the programme guaranteed?
- How is an efficient communication between the partner universities ensured?
- Where is information on costs and grants available for students?

### ***Quality assurance***

- Have the “Guidelines for Curriculum Development and Quality Assurance of Joint Master programmes” been followed during curriculum development? Have all criteria been met?
- Is there a quality management cycle being implemented?
- Was there an internal evaluation of the joint programme by the steering committee after a first provision of the programme?
- Was there an external evaluation of the joint Master programme by the ELLS QA Group after a second provision of the programme?
- What are further instruments/elements which assure the quality of the programme?
- Was there appropriate institutional support for the implementation of measures related to quality enhancement?

## 2.2. Glossary

### **Admission yield**

The application to admission ratio is described by the admission yield. An admission yield of 10:1 shows that the number of applicants for a place at university is ten times higher than the number of available places within the programme.

### **Accreditation**

A process whereby a degree programme (programme accreditation) or an institution (institutional accreditation) is recognized by an external body as meeting certain predetermined standards or benchmarks.

### **Assessment<sup>21</sup>**

The total range of methods used to evaluate the learner's achievement in a course, unit or module. Typically, these methods include written work, oral exams, laboratory work, practical exercises, projects, performances or portfolios.

The evaluations may be used to enable the learners to evaluate their own progress or by the institution to judge whether the learner has achieved the learning outcomes of the course, unit or module.

Assessments have to be carried out in an explicit (precisely and clearly expressed), valid (produces or relates to the intended results or goal), reliable (giving the same result on successive trials), specific and transparent way.

### **Competence (in the context of EQF)**

The proven ability to use knowledge, skills and personal development. Within the EQF competence is described in terms of responsibility and autonomy.

### **Competencies (after TUNING)**

Competencies represent a combination of knowledge, understanding, skills and abilities, which should be obtained by the students during their study period and should be verifiable at the end of the programme. A distinction is made between generic and subject-specific competencies.

### **Course catalogue**

A catalogue listing the courses of a study programme.

### **Culture of “jointness”**

Jointness relates to both the programme and the institution, and has legal implications. Answers cannot be as linear and straightforward as in the case of single institution degree courses but rather must be characterised by coordination and consensus across the network.

The whole is more than the sum of its parts and the quality of the whole rather than simply of the individual parts must be taken into account. The notion of quality culture is therefore not restricted to one institution, but functions across institutional and national borders<sup>22</sup>.

### **Curriculum**

A curriculum is the set of courses, its structure and its academic contents.

### **Degree profile**

The degree profile defines the aims, the intended learning outcomes, the curriculum, the prerequisite knowledge and the target groups of the programme.

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<sup>21</sup> After TUNING Glossary

<sup>22</sup> Compare with Hofmann, 2007.

### **Diploma supplement**

The Diploma Supplement is an annex to the official degree 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.

It is based on the model developed by the European Commission, Council of Europe and UNESCO/CEPES. It improves international transparency and the academic/professional recognition of qualifications<sup>23</sup>.

### **Dublin descriptors<sup>24</sup>**

Dublin Descriptors were developed by the Joint Quality Initiative as cycle descriptors for the *Framework for Qualifications of the European Higher Education Area* offering generic statements of typical expectations of achievements and abilities associated with awards that represent the end of each of a Bologna cycle.

They define the expected competencies of students upon completion of a Bachelor-, Master- or PhD programme.

### **Enhancement**

A process of continuous improvement.

### **ECTS (European Credit Transfer and Accumulation System)<sup>25</sup>**

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 Credits**

ECTS credits are based on the workload students need in order to achieve expected learning outcomes. 60 ECTS credits account for the workload of a fulltime year of formal learning (academic year) and the associated learning outcomes.

Credits are allocated to entire qualifications or study programmes as well as to their educational components (e.g. modules) based on their weight in terms of the workload. Credits are awarded to individual students 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 awarded in one programme may be transferred into another programme, offered by the same or another institution. Credit transfer and accumulation are facilitated by ECTS key documents (Course Catalogue, Student Application Form, Learning Agreement and Transcript of Records) as well as the Diploma Supplement<sup>26</sup>.

**ESG** see *Standards and Guidelines for Quality Assurance in the European Higher Education Area*

### **Evaluation**

Evaluation is the systematic description, analysis and assessment of projects, programmes, processes, organisational units or persons. Evaluation can refer to the context of a degree-programme (preconditions, general framework), the structure as well as to the process or the results.

### **International curriculum**

One that addresses subject specific knowledge appropriate to the international student audience, and develops subject specific skills and generic skills (in particular intercultural competence) aimed at preparing students for performing (professionally, socially and emotionally) in an international and multicultural context.<sup>27</sup>

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<sup>23</sup> TUNING

<sup>24</sup> *Frameworks for Qualifications for the European Higher Education Area* (Bologna Working Group on Qualifications Frameworks, 2005)

<sup>25</sup> European Commission, 2009

<sup>26</sup> Ibid.

<sup>27</sup> Heath, 2008 after Nilsson

### **Generic competencies**

Generic competencies or transferable skills are subject independent competencies which are common to all degrees. The TUNING project distinguishes three types of generic competencies:

- *Instrumental competencies*: cognitive abilities, methodological abilities, technological abilities and linguistic abilities;
- *Interpersonal competencies*: individual abilities like social skills (social interaction and co-operation);
- *Systemic competencies*: abilities and skills concerning whole systems (combination of understanding, sensibility and knowledge; prior acquisition of instrumental and interpersonal competencies required).

Generic competencies comprise the following skills (list not complete):

- Ability to work in an interdisciplinary team
- Appreciation of diversity and multiculturalism
- Basic knowledge of the field of study
- Basic knowledge of the profession
- Capacity for analysis and synthesis
- Capacity for applying knowledge in practice
- Capacity for generating new ideas (creativity)
- Capacity to adapt to new situations
- Capacity to learn
- Critical and self-critical abilities
- Decision-making
- Elementary computing skills (word processing, database, other utilities)
- Ethical commitment
- Interpersonal skills
- Knowledge of a second language
- Oral and written communication in your native language
- Research skills

### **Joint degree<sup>28</sup>**

Currently, there is no common definition of joint degrees, but a number of important characteristics, adapted by ELLS can be summarized as follows:

- The programme is developed by a subject area and approved by the ELLS board
- Students from each participating institution physically take part in the study programme at other institutions, but not necessarily at all cooperating institutions
- The period a student spends at one participating institution constitutes a substantial part of the programme
- Periods of study and examinations passed at the partner institutions are recognized fully and automatically
- Members of a subject area develop the curriculum jointly and cooperate on admission and examination
- Students either obtain the national degree of each participating institution or a degree awarded jointly by the partner institutions the student has visited upon completion of the programme

“**Jointness**” see culture of jointness.

### **Knowledge (in the context of EQF)**

The outcome of the assimilation of information through learning, may be the body of facts, principles, theories and practices related to a field of work or study. In the given context, knowledge may be theoretical and/or factual<sup>29</sup>.

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<sup>28</sup> *Committee on the Convention of the Recognition of qualifications concerning Higher Education, Recommendation on the recognition of joint degrees*, June 2004

<sup>29</sup> *Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning (EQF)*

### **Learning outcomes**

Definition of what students are expected to know, understand and/or be able to demonstrate after completion of a process of learning. They are formulated by the academic staff and can either refer to a specific programme (i.e. programme learning outcomes) or to an individual module (i.e. module learning outcomes). See also Dublin Descriptors<sup>30</sup>.

### **Progression**

Progression in education entails providing students with the opportunity to build upon the knowledge, skills, and competences they have acquired both between the bachelor and master's level and also within a specific level. A deliberate, integrated and sequential approach increases educational progression within a programme.

### **Quality Management Cycle**

A Quality Management Cycle is a model for a continuing feedback and improvement process. It is also referred to as PDCA, Deming or Shewhart cycle and consists of a logical sequence of four repetitive steps:

- PLAN: Design or revise a process
- DO: Implement the plan and measure its performance
- CHECK: Assess the measurements and report the results to decision makers
- ACT: Decide on changes needed to improve the process

### **Skills (in the context of the EQF)**

The ability to apply knowledge and use know-how to complete tasks and solve problems. They are described as cognitive or practical<sup>31</sup>.

### **Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)**

The report on Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) published by ENQA in 2005 comprises a set of proposed standards and corresponding guidelines for quality assurance designed to be applicable to all higher education institutions (HEIs) and quality assurance agencies in Europe. With respect to internal quality assurance of higher education institutions the following standards have been identified:

- Institutions should commit themselves to the development of a culture embracing the importance of quality, and quality assurance, in their work as well as have a policy and corresponding procedures put in place to assure the quality and standards of their programmes and awards. This also entails the implementation of a strategy for the continuous enhancement of quality. This policy, procedures and strategy should take into account the role students and other stakeholders, have a formal status and be publicly available.
- Institutions should have formal mechanisms for the approval, periodic review and monitoring of their programmes and awards.
- Students should be assessed using published criteria, regulations and procedures which are applied consistently.
- Institutions should ensure that staff involved with the teaching of students is qualified and competent to do so. The process should be available for external review, and commented upon in reports.
- Institutions should ensure that the resources available for the support of student learning are adequate and appropriate for each programme offered.
- Institutions should ensure that they collect, analyse and use relevant information for the effective management of their programmes of study and other activities.
- Institutions should regularly publish up to date, impartial and objective information, both quantitative and qualitative, about the programmes and awards they are offering.

Many of these standards have been incorporated into the *Guidelines for Curriculum Development*. Some institutional aspects are policy related and need to be regulated by supplemental agreements and decision<sup>32</sup>.

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<sup>30</sup> as formulated by Declan Kennedy

<sup>31</sup> Compare with the original document (EQF)

### **Subject specific competencies (after TUNING)**

Subject related theoretical, practical and experimental knowledge.

### **Supervisor**

A supervisor is a member of academic staff of the university who guides the thesis work of a Master candidate and provides advice and assistance on the elaboration of a thesis<sup>33</sup>.

### **Student and teacher centred learning approach<sup>34</sup>**

Student centred learning means that the focus is on students learning rather than teachers teaching. Typical questions asked in planning for a student-centred lesson could be the following:

- What is it I want them to learn (be able to do)?
- Why do I want them to learn it?
- What do they already know?
- How will I (and they) know they've learned it?
- What difficulties will they have?
- How do I help them overcome these difficulties?

If a lesson can be evaluated only by examining what the teacher is doing, it is probably a teacher-centred lesson. Typical questions asked in planning for a teacher-centred lesson could be the following:

- What do I need to teach?
- How do I explain it?
- How do I make it interesting?

### **Transcript of records**

The ECTS Transcript of Records is used to document the performance of a student over a certain period of time by listing the course units or modules taken, the credits gained, the local grades awarded and preferably the corresponding ECTS grades. It reflects both the quantity of work and the quality of achievement. The ECTS Transcript of Records is used for mobile students at two separate universities<sup>35</sup>.

### **TUNING**

Tuning Educational Structures in Europe is a project that links the political objectives of the Bologna process to the higher education sector. It is developed by and meant for higher education institutions. It does not focus on educational systems, but on educational structures and content of studies.

### **Workload<sup>36</sup>**

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. Student workload usually ranges from 1,500 to 1,800 hours for an academic year, whereby one credit corresponds to 25 to 30 hours of work.

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<sup>32</sup> For more details, refer to the original document (ENQA, 2009).

<sup>33</sup> after TUNING

<sup>34</sup> Glossary of Science Education Terms [www.esu.edu/master/glossary.html](http://www.esu.edu/master/glossary.html)

<sup>35</sup> Bologna Glossary

<sup>36</sup> European Commission, 2009

### 2.3. The European Qualifications Framework for Lifelong Learning (EQF) and the Framework for Qualifications for the European Higher Education Area (QF-EHEA)

EQF (Level 7) <sup>37</sup>	QF-EHEA (Second Cycle) <sup>38</sup>
<p>Learning outcomes relevant to Level 7 are in terms of</p> <p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>▪ highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research</li> <li>▪ critical awareness of knowledge issues in a field and at the interface between different fields</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>▪ specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields</li> </ul> <p><b>Competence</b></p> <ul style="list-style-type: none"> <li>▪ manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches</li> <li>▪ take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams</li> </ul>	<p>Qualifications that signify completion of the second cycle are awarded to students who</p> <ul style="list-style-type: none"> <li>▪ 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;</li> <li>▪ 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;</li> <li>▪ 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;</li> <li>▪ can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously;</li> <li>▪ have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.</li> </ul>

The European Qualifications Framework is meant to provide a common reference point for institutions operating within different national qualifications systems and not to replace these. The recommendation is compatible with the QF-EHEA and respective cycle descriptors agreed by the ministers responsible for higher education at their meeting in Bergen in May 2005<sup>39</sup>.

<sup>37</sup> Compare with the original document (EQF)

<sup>38</sup> Bologna Working Group on Qualifications Frameworks, 2005

<sup>39</sup> As stated by the EQF

## 2.4. Setting up a joint ELLS Master programme in five steps

This recommendation is a bridging document between the five steps of setting up a Joint Master programme<sup>40</sup> introduced in the beginning of this manual and the project plan suggested by the ELLS IRO group in the *Manual for Planning and Implementing joint MSc Programmes*<sup>41</sup>.

Planning completely new joint ELLS Master programmes	
I D E A & C O N C E P T	Internal discussion within the Subject Area about a new joint Master programme. A few of the aspects to be considered: <ul style="list-style-type: none"> <li>▪ Demand for the new programme</li> <li>▪ Students' perspective</li> <li>▪ Coherence with ELLS criteria</li> <li>▪ European dimensions (internationalisation, employability, recognition...etc.)</li> </ul>
	Information of the Board and of the Task Force
	Recommendation: Apply for funds, e.g. ELLS incentive fund or ERASMUS Curriculum Development fund. Mind the application deadlines
P L A N N I N G	Development of the curriculum involving the IRO group, QA group and ELSA
	Admission procedure <ul style="list-style-type: none"> <li>▪ Consultation with the IRO group due to legal and administrative implications</li> <li>▪ Consider a joint admission procedure, if applicable</li> </ul>
	Examinations regulations (involving the IRO group due to legal and administrative implications)
	Planning of study abroad periods in cooperation with the IRO group due to <ul style="list-style-type: none"> <li>▪ The incoherence of academic calendars</li> <li>▪ Legal, financial and administrative aspects</li> </ul>
	Financial clarification and commitment decisions by ELLS Board
I M P	Formal approval of the joint ELLS Master programme by the responsible bodies at each participating university (internal approval)
	Formal approval by external institutions <ul style="list-style-type: none"> <li>▪ National Accreditation: UHOH, WUR*, CUA, SGGW</li> <li>▪ Approval by ministry: UHOH, WUR*, LIFE*, CUA, SGGW</li> </ul>
D E L	Provision of the new programme (admission, teaching, examination, graduation, evaluation, quality assurance etc.)
	Information & marketing

\* Not for the specialisation of an existing programme.

IMP: Implementation, DEL: Delivery

<sup>40</sup> Setting up a joint Master after Hofmann et al., 2007 adapted to ELLS requirements

<sup>41</sup> ELLS IRO Group, 2007

## 2.5. Template Diploma supplement<sup>42</sup>

<b>1. Information identifying the holder of the qualification</b>	
1.1 / 1.2	Family name / first name:
1.3	Date, place, country of birth:
1.4	Student number or code:
<b>2. Information identifying the qualification</b>	
2.1	Name of qualification (full, abbreviated):
	Name of title (full, abbreviated):
2.2	Main field(s) of study for the qualification:
2.3	Name of institution awarding qualification: Status (type /control)
2.4	Name of institution administering studies: Status (type / control):
2.5	Language(s) of instruction/examination:
<b>3. Information on the level of the qualification</b>	
3.1	Level of qualification:
3.2	Official length of programme:
3.3	Access requirement(s):
<b>4. Information of the contents and results gained</b>	
4.1	Mode of study:
4.2	Programme requirements:
4.3	Programme details:
4.4	Grading scheme, grade distribution guidance
4.5	Overall classification of the qualification
<b>5. Information on the function of the qualification</b>	
5.1	Access to further study:
5.2	Professional status:
<b>6. Additional information</b>	
6.1	Additional information:
6.2	Additional information sources:
<b>7. Certification of the supplement</b>	
<b>This Diploma Supplement refers to the following original Documents:</b>	
<b>8. Information on the national higher education system<sup>43</sup>:</b>	
8.1	Types of institutions an institutional control
8.2	Types of programmes and degrees awarded
8.3	Approval/accreditation of programmes and degrees
8.4	Organization studies
8.4.1	Integrated "long" (one-tier-) programmes: (diploma degrees, Magister Artium, Staatsprüfung)
8.4..2	First/Second Degree Programmes (Two-tier): (Bakkalaureat/Bachelor - Magister/Master degrees)
8.5	Specialized graduate studies
8.6	Doctorate
8.8	Grading scheme
8.9	Access to higher education
8.10	National sources of information

<sup>42</sup> Compare with the European Commission, 2009

<sup>43</sup> Information on the different education systems is available on the ENIC/NARIC Homepage

**2.6. Supervisor' s Report**

Name of student: \_\_\_\_\_

University: \_\_\_\_\_

Title of thesis: \_\_\_\_\_

Number of pages: \_\_\_\_\_

Starting Date: \_\_\_\_\_

Finishing Date: \_\_\_\_\_

Evaluation Criteria	Comments	Scores/ Grades
Personal and professional development		
Capability to work independently		
Capability for project management		
Creativity of problem solving		
Unforeseen obstacles		
Cooperation with supervisor		
Participation at seminars and meetings		
Special circumstances		
Further comments		

\_\_\_\_\_

Date

\_\_\_\_\_

Name and signature of supervisor

## 2.7. Thesis Evaluation Form<sup>44</sup>

Name of student: \_\_\_\_\_

University: \_\_\_\_\_

Title of thesis: \_\_\_\_\_

Number of pages: \_\_\_\_\_

Starting Date: \_\_\_\_\_

Finishing Date: \_\_\_\_\_

Evaluation Criteria	Comments	Scores/ Grades
<b>Problem definition</b> <ul style="list-style-type: none"> <li>▪ relevant</li> <li>▪ clearly phrased</li> <li>▪ testable</li> </ul>		
<b>Research design</b> <ul style="list-style-type: none"> <li>▪ theoretical framework</li> <li>▪ research methods</li> </ul>		
<b>Execution</b> <ul style="list-style-type: none"> <li>▪ scholarly level</li> <li>▪ level of innovation</li> </ul>		
<b>Research results</b> <ul style="list-style-type: none"> <li>▪ description</li> <li>▪ analysis</li> </ul>		
<b>Analysis, interpretation, conclusions</b> <ul style="list-style-type: none"> <li>▪ clear</li> <li>▪ defensible</li> </ul>		
<b>Justification of the sources and literature used</b>		
<b>Clearly phrased reporting</b>		
<b>Structure of the thesis</b>		
<b>Further comments</b>		
<b>Grade<sup>45</sup></b>		

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name and signature of examiner

<sup>44</sup> Criteria developed by the University of Utrecht [www.uu.nl](http://www.uu.nl) and modified by ELLS.

<sup>45</sup> According to national grading systems or adoption of the ECTS-System

## 2.8. Thesis Defence Evaluation Form

Name of student: \_\_\_\_\_

University: \_\_\_\_\_

Title of thesis: \_\_\_\_\_

Number of pages: \_\_\_\_\_

Starting Date: \_\_\_\_\_

Finishing Date: \_\_\_\_\_

Evaluation Criteria	Comments	Scores/ Grades
<b>Defence of content</b> <ul style="list-style-type: none"> <li>▪ Ability to explain his/her work</li> <li>▪ Knowledge of his/her subject area and related fields</li> </ul>		
<b>Flexibility of the student to</b> <ul style="list-style-type: none"> <li>▪ answer questions</li> <li>▪ make a point in discussion</li> <li>▪ transfer his/her results</li> </ul>		
<b>Presentation skills</b> <ul style="list-style-type: none"> <li>▪ Ability to outline a topic</li> <li>▪ Language skills</li> <li>▪ Use of media</li> </ul>		
<b>Further comments</b>		
<b>Grade<sup>46</sup></b>		

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name and signature of examiner

<sup>46</sup> According to national grading systems or adoption of the ECTS-System

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Association for European Life Science Universities (ICA) <http://www.ica-europe.info>

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ENIC/NARC Home <http://www.enic-naric.net>

ENQA Trans-national European Evaluation Project 2005 (TEEP 2):

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<sup>47</sup> Last visit on March 21, 2010; years in brackets are given for discontinued websites.





