EUROPEAN CHEMISTRY
THEMATIC NETWORK (ECTN)

Excellence in Education
Non-profit association

ECTN, Label Committee
c/o SEFI, 39 rue des Deux Eglises, 1000 Brussels, Belgium
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Chemistry EUROBACHELOR® *Label*

Guidelines for Applications

June 2017: replaces all earlier versions

Quality assurance in higher education within the European Higher Education Area is to a large extent based on national accreditation, although subject-based accreditation is also well established. Mobility among students and graduates has increased significantly during the lifetime of the Bologna Process. Mutual recognition of diplomas, certificates, and other evidence of formal qualification is hoever stiil often difficult because of varying national requirements. Chemistry EUROLABELS® are international top-ups to national accreditation. Institutions awarded Chemistry EUROLABELS® commit themselfes to mutually recognise the relevant qualifications. This commitment supports mobile students and graduates in pursuing their professional careers and, at the same time, enables institutions to attract students and graduates with high-quality education and appropriate experience.

Procedure

The Chemistry EUROBACHELOR® Label is awarded for a period of five academic years and can be renewed for further periods of normally five years. Depending upon national legislation the renewal period may extend up to seven years. Applications for renewal will require a much less detailed self-evaluation report.
The first step in the application process is the preparation of a Self-Evaluation Report according to the Guidelines outlined below. This report is to be submitted on paper to ECTN at the following address:

ECTN Label Committee
c/o EuCheMS Office
Rue du Trône 62
1050 Brussels
Belgium

The electronic version of the Self-Evaluation Report is to be submitted to

LC-Submission@ectn-assoc.org .

Before preparing the Self-Evaluation Report, please read the **EUROBACHELOR®** document in its latest form and keep it to hand, as questions in the Guidelines will refer directly to points in the paper, see:

http://www.chemistry-eurolabels.eu .

The report will be considered by the ECTN Label Committee responsible for making decisions on the award of the Label and its receipt will be acknowledged. Further correspondence will take place between the person responsible on the ECTN Label Committee and the person responsible for preparing the Self-Evaluation Report.

The cover page of the Self-Evaluation Report should contain the following information:

1. Name, full address and VAT number of the University
2. Name of the Faculty, Department etc. responsible for the Bachelor study programme
3. Name (*in the original language*) of the qualification which is the subject of this application (e.g. BSc in Chemistry) and its translation into English
4. Name and full address (with fax and e-mail) of the person responsible for producing the Self-Evaluation Report
5. Number of ECTS credits which the degree programme carries
6. Number of credits (including the Bachelor Thesis) derived from modules/course units in chemistry, physics, biology or mathematics. The **EUROBACHELOR®** requires at least 150.
7. Number of ECTS credits assigned to the Bachelor Thesis. The recommendation for the **EUROBACHELOR®** is 15. A minimum of 10 ECTS credits is acceptable if national regulations require this. A concise explanation is required in case the Bachelor Thesis carries less than 15 ECTS credits (see §3 of the Self-Evaluation Report).
8. The academic year in which this degree programme was or will be introduced.
9. Entry qualifications for this degree programme.

The Self-Evaluation Report should be accompanied by the following documentation:

- Outline of the study programme[1], using Table 1, arranged according to semesters/trimesters of study, containing the designations of the modules/course units which the student is expected to study in that semester/trimester[2]. These should be designated as compulsory, semi-optional or elective. Explanatory footnotes should be provided giving information on the range and manner of choice for the student in selecting the semi-optional or elective modules.
- Module/course unit descriptions according to the ECTS specification (see Appendix 1). Each description should not exceed one page in length.
- Numbers of the academic staff (teaching staff) involved in delivering the study programme of student enrolment.
- Official institutional regulations defining the study programme which is the subject of the application.
- An example of the Diploma Supplement issued by the institution.

Please submit ***one*** hardcopy of the Self-Evaluation Report, including the documentation listed above, to the address given above and in addition an ***electronic version in the form of a Windows-compatible CD*** **(preferably as one single file, e.g. PDF).** Text should be prepared using a Microsoft Word-compatible programme with a 12-point font and a line separation of not more than 1.5.

Please keep all answers brief and do not exceed the requested page lengths!

All documentation must be in English, which is the working language of ECTN. A translation of official regulations is however not required.

[1] The term "study programme" refers to the complete degree programme.

[2] The term "course unit" refers to defined subunits of the study programme. These may be for example an individual lecture course or a lecture course in combination with a practical course. The term "module" is usually, though not always, used to refer to subunits involving a combination of two or more individual units.

Structure of the Self-Evaluation Report

The Self-Evaluation Report is structured according to the following points in the **EUROBACHELOR®** paper:

1. Learning Outcomes: Subject Knowledge
2. Learning Outcomes: Abilities and Skills
3. Content
4. Distribution of Credits
5. ECTS and Student Workload
6. Modules (or Course Units) and Mobility
7. Methods of Teaching and Learning
8. Assessment Procedures and Performance Criteria
9. Grading
10. The Diploma Supplement
11. Quality Assurance

1. Learning Outcomes: Subject Knowledge

The **EUROBACHELOR®** paper contains a list of Learning Outcomes which, it is suggested, all study programmes should cover. It can be expected that these will be referred to in the module/course unit descriptions.

Table 1, which is divided according to years 1-3 (corresponding to 180-credit programmes), will provide an outline of the structure of the study programme. If the programme which you are submitting for consideration has more than 180 credits, please add a further page.

Please also complete Tables 2 and 3. Table 2 indicates which modules/course units will deal with the main aspects of chemistry as listed in the **EUROBACHELOR®** document. *You may find it easier to do this if your modules/course units are given numbers (e.g. 1/1 etc., 2/1 etc., 3/1 etc.) in Table 1 which can be referred to in Table 2.*

Table 3 deals with generic competences and provides information on how they are dealt with in the **EUROBACHELOR®** degree course.

TABLE 1

a) YEAR 1

Number of hours of study corresponding to 1 ECTS credit:

Module/course unit title	**Credits (ECTS)**	**Compulsory (C), Semi-optional (S) or Elective (E)**	**Total Teaching Hours**			**Pre-requisites**
			Lecture	Practical	Other	

Nature and Extent of other Learning Activities, e.g. guided study, team exercises:

b) YEAR 2

Module/course unit title	Credits (ECTS)	Compulsory (C), Semi-optional (S) or Elective (E)	Total Teaching Hours			Pre-requisites
			Lecture	Practical	Other	

Nature and Extent of other Learning Activities, e.g. guided study, team exercises:

c) YEAR 3

Module/course unit title	Credits (ECTS)	Compulsory (C), Semi-optional (S) or Elective (E)	Total Teaching Hours			Pre-requisites
			Lecture	Practical	Other	

Nature and Extent of other Learning Activities, e.g. guided study, team exercises:

TABLE 2

Learning Outcomes: Subject Knowledge

Aspect of chemistry	Treated in module / course unit
a) Major aspects of chemical terminology, nomenclature, conventions and units	
b) The major types of chemical reaction and the main characteristics associated with them	
c) The principles and procedures used in chemical analysis and the characterisation of chemical compounds	
d) The principal techniques of structural investigations, including spectroscopy	
e) The characteristics of the different states of matter and the theories used to describe them.	
f) The principles of thermodynamics and their applications to chemistry	
g) The principles of quantum mechanics and their application to the description of the structure and properties of atoms and molecules	
h) The kinetics of chemical change, including catalysis; the mechanistic interpretation of chemical reactions	
i) The characteristic properties of elements and their compounds, including group relationships and trends within the Periodic Table	
j) The structural features of chemical elements and their compounds, including stereochemistry	
k) The properties of aliphatic, aromatic, heterocyclic and organometallic compounds	
l) The nature and behaviour of functional groups in organic molecules	
m) Major synthetic pathways in organic chemistry, involving functional group interconversions and carbon-carbon and carbon-heteroatom bond formation	
n) The relation between bulk properties and the properties of individual atoms and molecules, including macromolecules (both natural and man-made), polymers and other related materials	
o) The structure and reactivity of important classes of biomolecules and the chemistry of important biological processes	

TABLE 3.

Learning Outcomes: Generic Competences

Please give brief details of how (for example in which course units/modules) these generic competences are dealt with in the degree programme.

1.1 The capacity to apply knowledge in practice, in particular problem-solving competences, relating to both qualitative and quantitative information.

1.2 Numeracy and calculation skills, including such aspects as error analysis, order-of-magnitude estimations, and correct use of units.

1.3 Information-management competences, in relation to primary and secondary information sources, including information retrieval through on-line computer searches.

1.4 Ability to analyse material and synthesise concepts.

1.5 The capacity to adapt to new situations and to make decisions.

1.6 Information-technology skills such as word-processing and spreadsheet use, data-logging and storage, subject-related use of the Internet.

1.7 Skills in planning and time management.

1.8 Interpersonal skills, relating to the ability to interact with other people and to engage in team-working.

1.9 Communication competences, covering both written and oral communication, in one of the major European languages (English, German, Italian, French, Spanish) as well as in the language of the home country.

1.10 Study competences needed for continuing professional development. These will include in particular the ability to work autonomously.

1.11 Ethical commitment

2. Learning Outcomes: Chemistry-based Practical Skills

Please state how many credits out of the total number of credits for the programme are allocated to practical courses. Please give brief details of the type of instruction given in the practical courses (e.g. group instruction, hands-on laboratory work). Please describe the special arrangements to meet the requirements of laboratory safety.

The answers to this point should not exceed one page of text!

3. Content

Please supply the following information:

3.1 The total number of modules/assessed course units which the study programme comprises.

3.2 The minimum and maximum size of modules (if applicable).

3.3 A list of elective modules/course units typically taken by students (title and number of credits only).

3.4 The total number of credits carried by modules/course units (including the Bachelor Thesis if applicable) which deal with chemistry, physics, biology or mathematics.

3.5 The total number of ECTS credits assigned to the Bachelor Thesis. The recommendation for the **EUROBACHELOR®** is 15. This includes literature work, preparatory experiments and the defence. A minimum of 10 ECTS credits is acceptable if national regulations require this. A consice explanation is required in case the Bachelor Thesis carries less than a totel number of 15 ECTS credits

Please keep your answer as brief as possible!

4. Distribution of Credits

The following information is required:

4.1 The number of credits forming the "core" as defined in the **EUROBACHELOR®** document.

4.2 How many additional sub-disciplines[3] are available and how many credits are allocated to each.

4.3 How many of these sub-disciplines the student is required to study.

4.4 Which language modules/course units are on offer and whether these are compulsory, semi-optional or elective ("the **EUROBACHELOR®** should be proficient in a second (major) European language as well as the language of his/her home country")

4.5 To which extent the institution offers individually-negotiated study programmes.

5. ECTS and Student Workload

Please provide the following information:

5.1 How many weeks per year do you expect your students to spend on academic study?

5.2 How many hours per week is the average student expected to spend on academic study?

5.3 How student workload was *estimated* when assigning credits to modules/course units.

5.4 Mechanisms used for continuous student feedback on *actual* workload and for the use of this feedback to correct the structure of programmes where necessary

The answers to this point should not exceed half a page of text!

[3] Subdisciplines of chemistry are: organic, inorganic, physical, analytical, biological, theoretical, computational etc.

6. Modules/Course Units and Mobility

Please provide the following information:

6.1 Is mobility possible in:

- Year 1?
- Year 2?
- Year 3?

6.2 Are certain modules/course units (apart from those assigned to year 1) defined as being "non-transferable", i.e. they must be taken at the home institution? If so, please list these modules/course units.

7. Methods of Teaching and Learning

Please briefly describe your methods of teaching and learning. You may wish to include information on the following points:

7.1 Tutorial system

7.2 Teaching in small groups:

- a) in practical courses
- b) in theoretical courses

7.3 Problem-solving classes

7.4 Are electronic media for teaching, learning and/or assessment like the EChemTest officially used in the **EUROLABEL®** programme?

7.5 Teamwork as an element of teaching.

7.6 Bachelor Thesis (Dissertation, project)

7.7 Industrial placement which carries credits.

7.8 Committees with student participation

Answers to this point should not exceed one page of text!

8. Assessment procedures and performance criteria

Please summarise the assessment procedure involved in this study programme. You may wish to include information on the following points:

8.1 Is assessment carried out with examinations at the end of each term or semester?

8.2 Are "comprehensive examinations" at the end of the study programme used? If so, how are they organised and how many credits do they carry (individually and in total)

8.3 Is more use made of written or of oral examinations?

8.4 For written examinations: is the marking checked by a second examiner?

8.5 For oral examinations: how many persons are involved as examiners or note-takers in each examination?

8.6 What is the minimum and maximum time allowed for written examinations?

8.7 Are examination papers marked anonymously?

8.8 Is the student provided with feedback, for example in the form of "model answers"?

8.9 Is there an examination board which approves written examinations or is this the individual responsibility of the teacher(s) concerned?

The answers to this point should not exceed one page of text!

9. Grading

Please supply the following information:

9.1 Are Grade Distribution Tables according to the ECTS grading system used for a) mobile and b) home students?

9.2 Are Grade Distribution Tables provided in the Transcript of Records of mobile students and reported in the Diploma Supplement?

9.3 If Grade Distribution Tables are not used, how are ECTS grades assigned and by whom?

10. The Diploma Supplement

Please supply the following information:

10.1 Is each graduate issued with a European Diploma Supplement (http://europass.cedefop.europa.eu/documents/european-skills-passport/diploma-supplement/examples) automatically? If not, describe the method of issue.

10.2 In which language(s) is the Diploma Supplement issued?

11. Quality Assurance

The chemistry **EUROBACHELOR®** designation is a quality label and involves the formation of one of the first trans-national European quality assurance networks in the European Higher Education Area.

Quality assurance (or quality enhancement) is also an internal matter, and thus the applicant is asked to describe briefly the internal quality assurance procedures of the faculty/department and (if these have a direct impact on the faculty/department) of the institution.

Please provide brief details about efforts during this application period for modernisation the programme content with respect to the scientific development in the discipline.

The answer to this point should not exceed half a page of text!

12. Employability

Please provide brief answers to the following questions:

12.1 What forms of employment do students with this qualification to enter?

12.2 What percentage of your graduates continue their studies to a Master or doctoral programme in your or other institutions?

Please supply evidence if available.

The answer to this point should not exceed half a page of text!

13. Ethical concern

Please provide a short description how your institution takes care about “ethics in chemistry” (plagiarism, proper citations, originality and trustworthy results, EuCheMS Code of Conduct, etc.)

The answer to this point should not exceed half a page of text!

14. Any other comments / information

Please summarise any relevant information you wish to communicate to ECTN.

Which months is the most appropriate for you to start of the validity term of the awarded label? You may best use the validity term if it starts exactly with the registration months in your university.

The answer to this point should not exceed half a page of text!

15. Student Mobility Database

Please use the form further below in order to register your study programme in the Student Mobility Database. The database can be freely accessed via http://transparency.inp-toulouse.fr/ . It helps selecting appropriate study programmes or courses for mobile students.

Statement of Applicant

As stated in the **EUROBACHELOR®** paper:

" A primary aim of the **EUROBACHELOR®** *qualification is to provide a degree which will be recognised by other European institutions as being of a standard which will provide automatic right of access (though not right of admission, which is the prerogative of the receiving institution) to chemistry Master programmes."*

The Self-Evaluation Report must therefore end with the following declaration:

I (*full name, position as head of the institution/department/faculty responsible for the study programme****) hereby agree that this (****institution/department/faculty****) will, if awarded the* **EUROBACHELOR®** *label, recognise Bachelor degrees in chemistry awarded by other institutions holding the* **EUROBACHELOR®** *label as providing automatic right of access (but not of admission) to chemistry Master programmes offered by this (****institution / department / faculty****).*

I hereby agree that this (*institution/department/faculty****) will, if awarded the* **EUROBACHELOR®** *label, display the official* **EUROBACHELOR®** *logo on the website of this (****institution / department / faculty****) and remove this label from the website as soon as the validity term of the awarded* **EUROBACHELOR®** *label expired.*

I hereby authorise ECTN to archive the information provided as well as to use it (without giving the source) to further scientific, statistical, publicity, and educational use.

I agree that the Self-Evaluation Report together with the Site Visit Report will be published on the ECTN website in case the label is awarded.

It must also be signed, stamped and dated by the person making the declaration.

Student Mobility Database

Table to be filled in on each programme that is submitted to **EUROLABEL®** application. Data contained in the table will be used by ECTN and published on http://transparency.inp-toulouse.fr/. By submitting the data the responsible authorities of the respective university agree with data basing and publication.

Institution (& ERASMUS Code)	*English name of the institution*	*ERASMUS Code*
	Name of the institution in the original language	
Faculty/Department	*Name of the faculty or department*	
Qualification awarded (& ERASMUS Subject Area Code)	*Title of the qualification awarded*	*ERASMUS Subject Area Code*
Level of qualification (Bologna & EQF)	*Level of Qualification (Bologna)*	*Number of EQF (ex: 6 for EQF6)*
Name of qualification (programme)	*In English*	
	In Original language	
Person in charge of this programme	*First name, last name, position, postal address, phone, e-mail address*	
Specific admission requirements	*Specific admission requirements (Entry qualifications)*	
Language of instruction	*Main language*	
Website of the programme	*Address of the institution Web site*	
Short description of the programme (500 characters)	*Key-words for scientific content*	
Mode of study	*Full time or part time*	
Duration	*Number of semesters in the program (ex: 4)*	
Number of ECTS credits	*Number of ECTS in the whole program*	
Academic year in which this degree was, or will be, introduced (valid for 5 years)	*e.g. 2012 (5 entry years written as followed 2012-2016)*	
Beginning of the program (month):		
Academic calendar:		
Application deadline (if any):		
Hyperlink to course guide: ECTS Catalogue	*Link where the ECTS catalogue is available*	
Hyperlink to further documents	*Link to further documents*	
EUROLABEL® awarded?	*Date of award by (Agency or ECTN), Certificate N° of the* **EUROLABEL®** *awarded (***EUROBACHELOR®** */* **EUROMASTER®** */* **DOCTORATE EUROLABEL®***)*	
Person to be contacted for information about this programme	*First name, last name, position, postal address, e-mail address*	
Last modification of this programme	*Year of last modification*	

Note

ECTS Specification for the Module/Course Unit Descriptions (from the "Key Features")

- Course title
- Course code
- Type of course
- Level of course
- Year of study
- Semester/trimester
- Number of credits allocated (student workload based)
- Name of lecturer
- Objective of the course (expected learning Learning Outcomes and competences to be acquired)
- Prerequisites
- Course contents
- Recommended reading
- Teaching methods
- Assessment methods
- Language of instruction

The ECTS Users Guide 2015 can be downloaded from

http://europass.cedefop.europa.eu/sites/default/files/ects-users-guide_en.pdf .

Suggested Schedule for Site Visit

Evening prior to visit: Arrival of experts and internal discussion in preparation for visit

Visit

09:00 **Discussion with those responsible for the programme, together with one or more representatives of the institution's leadership**

Topics: Position of the chemistry department within the institution; profile and development of the department from the point of view of the institution's leadership; research profile of the department; personnel development; equipment situation; quality assurance in the department and the institution.

09:30 Break, internal discussion

09:45 **Discussion with those responsible for the programme**

Topics: Degree profile; curriculum; teaching and learning methods; student advisors; examinations; student success (dropout rate etc.); employability.

10:30 Break, internal discussion

10:45 **Discussion with members of the teaching staff**

Topics: Curriculum; teaching and learning methods; student advisors; staff development.

11.30 **Discussion with students**

Topics: Degree profile; curriculum; content, organisation and delivery of the programme; possibilities for obtaining advice; examinations; working conditions; studies abroad.

12.15 Break, internal discussion

12.30 **Tour of the institution**

Dependent on the wishes of the experts

13.15 Lunch break with snack, internal discussion

14.15 **Final discussion with those responsible for the programme**

Topics: Results of the day's discussions, recommendations on possible modifications to the programme.

15.00 End of visit