



022

European Quality Labels in Chemistry

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Conference Topic: Quality Assurance and Accreditation

Keywords: Quality labels, chemistry, tertiary education

The European Chemistry Thematic Network Association [1] is a non-profit making body registered in Belgium, and is the outcome of fifteen years of networking activities focused on enhancing the quality and harmonising the features of chemical education and training all over the European Higher Education Area. Academic institutions, national chemical societies, and stakeholders comprise the over 130 members coming from thirty European countries, and with associate members worldwide.

The European Chemistry Thematic Network Association developed the European Quality Labels in Chemistry as qualifications frameworks primarily aimed at providing degrees, which will be automatically recognised by other institutions within the countries implicated in the Bologna Process, promoting thus mobility and employability prospects for new graduates. The European Quality Labels Eurobachelor[®], Euomaster[®] and Chemistry Doctorate Eurolabel[®] are awarded to programmes on chemistry or related disciplines, as well as to studies at the interface of chemistry and other subjects; and are particularly important for assuring the quality of trans-national consortia of universities. They are adopted by the European Association for Chemistry and Molecular Sciences.

The European Quality Labels are based on the Budapest Descriptors [2], a detailed adaptation of the Dublin Descriptors in the area of chemical sciences, authored by the European Chemistry Thematic Network Association in the context of the project Tuning Educational Structures in Europe.

All degree programmes holding the Eurobachelor[®] Quality Label [3] are outcome-based. Each institution is free to decide on the length of studies within the frame of 180-240 ECTS credits; as well as on the content, nature and organisation of courses, provided that students become conversant with the main aspects of chemistry, and develop a wide range of competences. At least 150 ECTS credits should deal with chemistry, physics, biology or mathematics, a thesis or industrial placement equivalent to 15 ECTS credits incorporated. In addition, at least 90 ECTS credits should be allocated to compulsory modules on organic chemistry, inorganic chemistry, physical chemistry, and analytical chemistry. Further modules should be of three types – compulsory, semi-optional, and elective.



The Euromaster[®] Quality Label [4] is awarded to programmes involving 90 to 120 ECTS credits, at least 60 of which must be at master's level. Since second cycle studies are much more flexible than first cycle ones, it is neither necessary nor advisable to list areas of subject knowledge which the programme should cover. According to the needs of the institution, such programmes will be either broadly-based or specialised. The master's thesis, however, should carry at least 30 ECTS credits.

As a framework for a third cycle qualification, the Chemistry Doctorate Eurolabel[®] [5] interests institutions, which have introduced structured doctoral programmes in chemical sciences or interdisciplinary topics based on chemistry. It is fostering quality assurance for doctoral degrees in chemistry, is promoting mobility at a global level, and is guaranteeing harmonisation and transparency towards the research community and the labour market.

The means used for acquiring key competences are given an important place in the frame of the Quality Label, since they are crucial for entering the labour market; and are addressing environments candidates are likely to meet during any forthcoming career connected to their qualifications. They presume original, independent and critical thinking, and read as follows:

- The planning process – objectives, strategies, policies, decision making;
- The structure and process of organising – authority vs. self-contained work, organisational flexibility, adaptability to novel situations, time management;
- The management of human resources – qualifications vs. requirements, orienting new team members, team building, organising individual tasks and duties, formulating motivation strategies;
- The management of information – analysis, evaluation, synthesis and selection of complex concepts and facts;
- The communication process – communication skills; tutoring and training skills; ability for knowledge transfer and interaction under multilingual conditions with peers, audiences & panels, the scholarly community and society in general;
- The development process – internal and external training, handling innovation;
- The management of financial issues – facing budgetary and market-oriented questions, dealing with budgetary restrictions;
- The process of controlling and assessing quality;
- Social responsibility and ethics.

By May 2012, 68 Eurobachelor[®] and 31 Euromaster[®] Labels, along with 2 Chemistry Doctorate Eurolabels[®], have been awarded to 56 institutions and 4 consortia coming from eighteen European and two non-European countries. ■

REFERENCES

- [1] <http://www.ectn.net>
- [2] http://www.unideusto.org/tuningeu/images/stories/Publications/CHEMISTRY_FOR_WEBSITE.pdf
- [3] http://ectn-assoc.cpe.fr/chemistry-eurolabels/cel/3_ceb01_Introduction.htm
- [4] http://ectn-assoc.cpe.fr/chemistry-eurolabels/cel/5_cem01_Introduction.htm
- [5] <http://www.phdchem.eu>