Chemistry Doctorate Eurolabel®

European Chemistry Thematic Network Association

Label Award Guidance

Chemistry Doctorate Eurolabel®

European Chemistry Thematic Network Association

Label Award Guidance

October 2011

with the support of the

TABLE OF CONTENTS

DESIGNING EUROPEAN THIRD CYCLE PROGRAMMES IN CHEMISTRY

1. Preamble

At the Berlin conference in 2003 it was decided to include doctoral study as the "third cycle" of the Bologna process.

Two years later, in Bergen, important statements on the nature of this third cycle were made:

> "The core component of doctoral training is the advancement of knowledge through original research".
>
> "We urge universities to ensure that their doctoral programmes promote interdisciplinary training and the development of transferable skills, thus meeting the needs of the wider employment market".
>
> "We consider participants in third cycle programmes both as students and as early stage researchers".

Following on from our work on the first (Eurobachelor®) and second (Euromaster®) cycles, we think it useful to provide

institutions with guidelines on designing doctoral pro-grammes in chemistry.

2. Outcomes: The Descriptor

2

The goals of a third cycle study programme can be described by the Budapest Descriptor developed in May 2005 by the Chemistry Subject Area Group working in the project "Tuning Educational Structures in Europe". It is as follows:

Third cycle (doctoral) degrees in chemistry are awarded to students who:

- Have demonstrated a systematic understanding of an aspect of the science of chemistry and mastery of those skills and methods of research associated with the topic of this research;

- Have demonstrated the ability to conceive, design, implement and develop a substantial process of re-search in chemical sciences with rigor and integri-ty;

- Have made a contribution through original research that extends the frontier of knowledge in chemical science by developing a substantial body of work, some of which merits national or international ref-ereed publication;

- Have competences which fit them for employment as professional chemists in senior positions in chemical and related industries, in public service, or for a progression to a career in academic re-search.

Such graduates:

- 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 both academic and professional context, scientific and technological advancement in a knowledge based society;
- Are able to develop and apply methodology to the solution of novel problems, defining a strategy and an action plan to solve that problem.

The Descriptors is based on the "Dublin descriptors" which form the basis of the Qualifications Framework for the European Higher Education Area adopted in May 2005 (http://www.ehea.info/Uploads/Documents/QF-EHEA-May2005.pdf).

3. Guidelines for Designing Programmes

These guidelines deal with doctoral degrees in general; in many cases the doctoral candidate is taking a degree in a certain faculty/department at a particular institution and dealing with a research topic in a single discipline.

Should the research topic be interdisciplinary in nature, some modifications to these guidelines are necessary. The same is true if the candidate is enrolled for a joint degree, for instance in the case of an interdisciplinary transnational doctorate school. These modifications are made in the Descriptors and Guidelines for joint interface third-cycle degrees in chemistry.

3.1 Entry to Doctoral Programmes

The normal entry qualification for doctoral programmes is a Master's degree from an institution within the European Higher Education Area EHEA (such as a Euromaster® degree).

National and/or institutional regulations can also define entry procedures for

- Non-EHEA Master graduates
- Bachelor graduates with extensive work experience
- Bachelor graduates of exceptionally high standard

Such regulations must document the way in which decisions are taken as to whether such graduates have reached or how they will be enabled to reach EHEA Master's level.

For graduates with Master's degrees, the admission criteria should not be too narrowly defined with respect to the Master's degree syllabus as documented in the graduate's Diploma Supplement.

3.2 The Length of Doctoral Studies

The average European doctoral candidate should spend 3 to 4 years of full-time study working towards his/her degree.

The Qualification Framework for the European Higher Education Area does not quantify the length of the third cycle, either in ECTS credits or in years of study. However, the Bergen Communiqué of 2005 makes the following statement:

"Considering the need for structured doctoral programmes and the need for transparent supervision and assessment, we note that the normal workload of the third cycle in most countries would correspond to 3-4 years full time".

Students doing first and second cycle degree courses often work part-time and thus extend the time required to complete their courses. At the doctoral level, however, it is extremely important that the doctoral candidate should be able to work full-time on his/her studies (apart from any work done as a teaching assistant). National and/or institutional regulations can however permit part-time study for a doctoral degree.

There appears to be no advantage in quantifying a research-based third cycle degree programme in terms of ECTS credits. Indeed, to award ECTS credits to research work seems to be potentially dangerous, now that they are moving from being just a reflection of time spent on studying to being a measure of learning outcomes. The research element of the doctoral study programme should not be awarded ECTS credits, in the way they are understood within the first and second cycle.

3.3 Doctoral Programmes

Structured degree programmes which include coursework (in the widest sense of the term) should become a common feature of European doctoral studies.

Doctoral candidates should spend part of their research time at other institutions, preferably in foreign countries.

Coursework – and here the important point is the phrase "in the widest sense of the term" – does have a vital role to play. The danger inherent in the so-called "master-apprentice" system is that the doctoral candidate spends several years concentrating on a very narrow piece of research and loses skills and competences gained during the first and second cycles.

We must not forget that the research element of the doctorate will in the vast majority of cases be something unique in the career of the young person involved. He or she will almost certainly never again have the chance to work relatively undisturbed on a topic which is (hopefully) found to be fascinating. Later on in life various other elements will prob-

- Work in an interdisciplinary team: thus it is vital that the doctoral candidate continually looks outside the narrow area of the research project.

- Problem-solving: one could perhaps say that the whole purpose of scientific training is to make the researcher capable of problem-solving at ever higher levels.

- Communication and dialogue: communication and defence of results and discussion of their relevance.

ably come to the fore:

The "coursework" on offer should be oriented towards these goals and be output- rather than input-oriented. It should also be oriented towards widening the perspective of the doctoral candidate.

Some examples of the elements which could well be involved are:

- Specialised lectures/courses (not only in the areas of the research projects of doctoral candidates)

- Lectures by visiting scientists

- Research seminars (not only within the doctoral candidate's own research group)

- Workshops

- Participation in intensive schools

- Formulation of research projects and reports on their progress

- Lectures and/or posters presented at national or international conferences

3.4 Coursework and Credits

This document uses the term "credits" rather than "ECTS credits". ECTS credits were devised originally for credit transfer and were based on the idea that an academic year corresponds to a certain total workload (in hours), set equal to 60 credits. The concept of an academic year with a certain number of weeks allocated to teaching, another to examina-

tion preparation, and a third to the examinations themselves, simply does not fit with the way doctoral studies are carried out.

There is no accepted definition of an ECTS credit for the third cycle. Thus at present institutions may allocate credits in any form they wish. However, a definition of credit allocation must be given in the Transcript issued to the graduate. Otherwise the credit process is not transparent.

Coursework must not necessarily count towards the award of a doctoral degree. Credits can be assigned to various items of coursework; successful collection of a prescribed number of credits may be made a prerequisite for the award of the doctoral degree.

Credits should be used to quantify the evaluated coursework component. These credits can however be ungraded; use of the national grading scale is of course possible.

The quantity of coursework (expressed in terms of credits) varies widely throughout Europe, the typical range being 15-30 credits. These should be distributed in such a way that more can be gained in the earlier phase of the programme.

More coursework than this should not normally be needed, although institutions are free to exceed 30 credits. It should however be remembered that award of a large number of credits to coursework may be seen as understating the research component of the degree programme.

Not less than 15 and not more than 30 doctoral credits should normally be required as part of the requirements for a doctoral degree.

In interdisciplinary programmes it may from time to time be necessary for doctoral candidates to take introductory cours-

es at a level below doctoral level. Such courses should be assigned credits and included in transcripts, but should not normally count towards the award of the doctoral degree.

3.5 Further Important Elements of the Doctoral Programme

In general, there are two further important elements of doctoral programmes: teaching (as teaching assistants) and training of key generic competences and skills.

3.5.1 Teaching

Work as teaching assistants, which is a normal feature of the time spent on doctoral research throughout Europe (though the financial background varies enormously), has a very positive effect on the development of doctoral candidates.

Doctoral programmes should be flexible enough to include a component of teaching in the accumulation of 'coursework' credits. The usual form of teaching is in the teaching laboratories, but graduates are also used to give tutorials, look after problem classes, and to check student exercises.

Initially, responsibility as a teaching assistant in a laboratory puts doctoral candidates in a somehow difficult situation, as they undergo an instantaneous transformation from learner to teacher status. Thus it is vital that there be an induction phase before work as teaching assistants starts.

3.5.2 Generic Competences

According to the Budapest Descriptor, third cycle degrees in chemistry are awarded to graduates who in addition to their scientific competences:

- are capable of critical analysis, evaluation and synthesis of new and complex ideas;

- can efficiently communicate with their peers, the larger scholarly community and with society in general about their areas of expertise;

- are able to develop and apply methodology to the solution of novel problems, defining a strategy and an action plan to solve that problem.

Generic competences for the third cycle are necessary for entering the labour market; and are addressing environments the candidate is likely to meet during any forthcoming career connected to his/her qualifications.

They presume original, independent and critical thinking. In addition to scientific competence, they include the ability to effectively develop in an industrial or government environment, to act self-dependent and to have leadership capabilities. The future doctor in chemical sciences therefore would be open to future development in the following issues:

- 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 (including presentation techniques, language skills, writing of project proposals and reports), tutoring and training skills, ability for knowledge transfer and interaction with peers, audiences & panels, the scholarly community & society in general under multilingual conditions.

- 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.

Institutions must take the acquisition of generic competences into account when planning their programmes. Many of them can be acquired during the work on the research project, while others require specialised workshops or relevant course units/modules.

3.6 Transcripts

Institutions should issue transcripts containing information on all the coursework carried out, and on work done as a teaching assistant.

Such transcripts will however probably not use the standard European Diploma Supplement format.

The European Diploma Supplement (DS) is not ideal for describing a doctoral programme; it is composed of eight sections (information identifying the holder of the qualification, information identifying the qualification, information on the level of the qualification, information on the contents and results gained, information on the function of the qualification, additional information, certification of the Supplement, information on the national higher education system).

The European DS should be taken as a model and modified to fit the necessities of doctoral programmes.

The key component of the DS which makes it so valuable for the first and second cycles is section 4, information on the contents and results gained.

This information will be much less detailed for a doctoral programme, the main contents of which are a thesis containing the results of the research. Nevertheless, it is important

that the graduate be supplied with a transcript detailing coursework, as well as details of the activities in teaching, if any.

3.7 Graduate Schools

Institutions are encouraged to develop "Graduate School"[*] structures at departmental, interdepartmental or regional level in order to increase their national and international visibility, to increase their research potential and to foster cooperation both between staff and between doctoral candidates.

The traditional "master-apprentice" system of doctoral training can keep doctoral candidates within the limits of the research group in which they are working, which can of course sometimes be very large, but may also be very small. The idea of "Graduate School" structures in which the individual doctoral candidate is integrated into a departmental, interdepartmental, regional or even international structure will be a great help in putting the research project into perspective as well as for offering possibilities for advancing generic skills. It fits particularly well to interdisciplinary studies.

Ensuring critical mass and critical diversity in the research environment is central to successful doctoral education. In fact, achieving the critical mass for an inspiring research environment, and supporting it by transparent procedures, is the main challenge for structured programmes. Therefore,

---

[*] The term „graduate school" is used in a general sense. Other terms often used are "research school" or "doctoral school".

doctoral programmes should seek to achieve critical mass and should draw on different types of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries.

While institutional graduate schools can readily become viable in major universities, international, national and regional collaboration between universities and also between universities and external research institutions can be used to form wider graduate school networks.

Strategies for achieving critical mass will thus include creation of institutional interdisciplinary doctoral programmes, creation of local/regional or national doctoral programmes or networks within specific disciplines, and finally creation of hybrid doctoral programmes combining on-line and in-campus lecturing and tutoring.

3.8 Supervision of Doctoral Candidates

It is obvious that in respect of individual doctoral candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities between doctoral candidates, supervisors and the institution (and where appropriate including other partners). Supervision should be tailored to meet the requirements of the individual doctoral candidate and his/her development. In any case, the main supervisor should be a recognised, active researcher with academic credentials and affiliation to a university. Each doctoral candidate should have at least one co-supervisor, with explicit responsibilities, while joint programmes should envisage multiple supervi-

sion, with perhaps three tutors originating from different countries.

Thus, strategies for transparent supervision include individually adapted supervision, multiple supervision, and a training and supervision scheme/agreement specifying the extent, mode and frequency of supervision.

Training for supervisors of doctoral candidates is something that is to be encouraged.

The academic community should seek to ensure that doctoral candidates get the best possible supervision, or at least guarantee a minimum standard.

In the situation of a dispute between doctoral candidate and supervisor there should be a mechanism in place to bring about rapid resolution.

Specifying a member of staff, at least as senior as the doctoral candidate's supervisor (senior professor, or Head of Department) as arbitrator is the usual approach. It must be someone who is prepared to listen to the doctoral candidate as well as to the staff member. Most disputes arise over misunderstandings and can readily be sorted out or endured. A change of supervisor should be allowable, but in practice this is rare, as it usually means a change of research topic part way through the programme.

3.9 Final Doctoral Examinations

In doctoral examinations, institutions should consider the widespread involvement of external examiners. Examinations should be open.

There are many different ways in which doctoral examinations are organised across Europe. One extreme is a system involving only the doctoral candidate and two examiners (neither of whom, however, is the PhD supervisor). The other extreme is the completely open examination, with a "jury" of professors (including external examiners) or even participation by any professor in the department.

Whenever possible, international external examiners should be present and actively involved in the examination process. Systems in which the doctoral supervisor dominates the examination proceedings are outdated.

Examinations which are open to a wider audience (academics, doctoral candidates, students, even the public) are in a majority in Europe, and should be made possible without the possibility of a veto by the doctoral candidate.

3.10 Assessment of Doctoral Candidates

In some countries the preferred term is 'defence' of a thesis rather than an examination. The supervisor is not usually involved in this final process, except as an observer; but in almost every country one or more external experts (sometimes from other countries, not just other universities) participate.

In most countries the principal (or only) criterion for awarding a doctorate is the quality and quantity of the research and its accurate, effective presentation in the thesis. Doctoral candidates are expected to produce a reasonable quantity of high-grade research, understand what they have done, and appreciate the wider context into which it fits.

Institutions should formulate guidelines on how doctoral assessment is carried out as part of their internal Quality Assurance mechanisms.

3.11 Quality Assurance

Institutions as well as faculties/departments must have defined quality assurance procedures.

Quality assurance must encompass both the quality of doctoral training and the quality of research. Institutions must commit themselves to develop indicators based on institutional priorities.

3.12 Joint Degrees

A research project may involve research groups from more than one institution. In such cases, the award of a joint degree should be considered. Such a degree will naturally require that the doctoral candidate studies for six months or more at a second institution, with appropriate regulations regarding joint supervision, examination and assessment.

CHEMISTRY DOCTORATE EUROLABEL®: GUIDELINES FOR APPLICANTS

1. Who can apply for the Chemistry Doctorate Eurolabel®?

The Chemistry Doctorate Eurolabel® can be applied for by both institutions which are introducing new doctoral programmes in the chemical sciences and institutions which have already introduced doctoral programmes in chemical sciences.

The Chemistry Doctorate Eurolabel® is awarded for a period of five academic years and can be renewed for further periods of five years. Applications for renewal will require a much less detailed self-evaluation report.

2. Procedure

The application process involves:

1. The **submission** of

- A **synopsis** as a paper version.

- A **self-evaluation report** in electronic form.

- **Accompanying documentation** in electronic form.

2. The **site visit**

It is expected that the Institution and the Faculty / Department will adhere to the European Charter for Researchers published by the European Commission (http://ec.europa.eu/eracareers/pdf/am509774CEE_EN_E4.pdf).

Before preparing the self-evaluation report, please read the paper "Designing European Third Cycle Programmes in Chemistry" in its latest form and keep it to hand, as questions in the Guidelines will refer directly to points in the proposal.

The report will be considered by the ECTNA 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 ECTNA Label Committee and the person responsible for preparing the self-evaluation report.

3. Documents to be submitted

3.1 Synopsis

The synopsis consists of the following elements:

1. Name of the Faculty, Department etc. responsible for the doctoral study programme

2. Name (in the original language) of the qualification which is the subject of this application (e.g. PhD in Chemistry)

3. Name and full address (with fax and e-mail) of the person responsible for producing the self-evaluation report

4. Number of credits which the degree programme carries

5. The academic year in which this degree programme was or will be introduced

6. Entry qualifications for this degree programme.

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

In the case of joint degree programmes, this statement must be made by the coordinating institution on behalf of all members of the consortium.

3.1.1 Self-evaluation report

The report must be submitted as an electronic version in a portable document format (PDF file).

The 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.

The cover page of the electronic version of the self-evaluation report should contain the following information:

1. Name and full address of the University

2. Name of the Faculty, Department etc. responsible for the Doctoral study programme

3. Name (in the original language) of the qualification which is the subject of this application (e.g. PhD in Chemistry)

4. Name and full address (with fax and e-mail) of the person responsible for producing the self-evaluation report

5. Number of doctoral credits which the degree programme carries

6. The academic year in which this degree programme was or will be introduced

7. Entry qualifications for this degree programme.

The self-evaluation report is structured according to the following points:

1. Judging the Quality of European Chemistry Doctoral Programmes: "Fitness for Purpose"

2. Entry to the Programme

3. Length of Studies

4. Study Programme Structure: Coursework and Credits

5. Further Important Elements of the Programme

6. Transcripts

7. Graduate Schools

8. Supervision

9. Examinations

10. Assessment

11. Quality Assurance

12. Joint Degree Programmes

Further information on the above mentioned points is to be found under: **3. Structure of the self-evaluation report**.

3.1.2 Accompanying documentation

1. Outline of the doctoral programme

2. A brief statement on resources available for the programme: laboratories, libraries, ICT, other resources.

3. Numbers of academic staff (teaching staff) involved in delivering the doctoral programme. For each member of the academic staff involved in delivering the study programme: a short Curriculum Vitae (one page) and a publications list covering the last three years.

4. Official institutional regulations relevant to the doctoral programme which is the subject of the application.

5. An example of the Transcript issued by the institution.

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

This report is to be submitted to the Executive Secretary of the ECTN Association Label Committee:

Prof. Evangelia Varella

Executive Secretary, ECTN Association Label Committee

Department of Chemistry

Aristotle University of Thessaloniki

GR-54124 Thessaloniki, Greece

e-mail: varella@chem.auth.gr

3.2 The site visit

24

The one day site visit is performed by a team of two international and one national experts. The international experts are selected from the **Register of Experts - Chemistry Doctorate Eurolabel®**. The national expert is selected after discussion with the applicant institution.

4. Structure of the self-evaluation report

4.1 Judging the Quality of European Chemistry Doctoral Programmes: "Fitness for Purpose"

The Budapest Descriptor describes the goals of a doctoral programme in the chemical sciences, and applicants are asked to provide a statement which defines the aims and the profile of the programme. Such a statement will describe the elements of the programme with reference to the above Descriptor and show how the terms of the Descriptor are met. It will also describe the skills and competences which the graduate will have developed at the end of the programme.

This statement defines the purpose of the programme, and the accreditation process will then be designed to find out whether the programme as set out in detail in the application is fit for the purpose for which it is designed.

4.2 Entry to the Programme

Please summarize admission criteria and the way in which entry to the doctoral programme is regulated, and provide answers to the following questions:

> 1. How are doctoral students funded in this programme?
>
> 2. Are there contracts between the doctoral candidate and the faculty/department or the institution?

> 3. If so, which points do they regulate (length of studies, funding, supervision etc.)

If there are departmental, faculty or institutional regulations which deal with entry procedures please provide a copy of them in the national language and describe their contents briefly in English.

4.3 Length of Studies

Please supply the following information:

> 1. The defined length (in years) of the doctoral programme for full-time doctoral candidates, and whether there is a minimum or maximum
>
> 2. The circumstances under which the defined maximum can be extended
>
> 3. Whether part-time doctoral studies are possible and if so what period is envisaged for their completion

Please keep your answers as brief as possible

4.4 Study Programme Structure: Coursework and Credits

The term "coursework" is used here in the widest possible sense. It does <u>NOT</u> refer only to course units/modules offered by the department/faculty or the institution (which will normally carry ECTS credits), but also to elements such as those under 4.5 to 4.10 which may be awarded credits.

Please give a brief description of the structure of the doctoral programme which is the subject of this application.

This description should contain information on the following points:

1. Use of credits a) for the degree programme as a whole, b) for coursework and c) for the thesis work

2. Total amount of coursework required (expressed in credits)

3. Definition of credits and their allocation[†]

4. Course units/modules (carrying ECTS credits) offered by the department/faculty or institution

5. Specialised lectures, lectures by visiting scientists

6. Research seminars

7. Workshops, intensive schools

8. Intermediate reports on the research project

9. Participation in national and/or international conferences

10. Publications

11. Assessment and (if applicable) grading of coursework

12. Whether coursework counts towards the award of the degree

---

[†] Institutions can allocate credits in any way they wish. A definition of credit allocation MUST be provided in the Transcript issued to the graduate.

It is NOT sufficient to refer to the credits as "ECTS credits", since there is at present no accepted definition of ECTS credits for the third cycle.

13. Periods to be spent abroad, in other institutions or in industry

14. Additional relevant information

Please do not exceed two pages of text

4.5 Further Important Elements of the Programme

4.5.1 Teaching

Please supply the following information:

1. Can doctoral candidates be asked to carry out teaching duties?

2. If so, which kinds of teaching are involved?

3. How are doctoral candidates selected for teaching duties?

4. How are they trained?

5. What is the maximum load of teaching per candidate?

6. Do doctoral candidates who teach receive (extra) payment for this work?

7. Are credits awarded for teaching?

8. Is the teaching assessed? If so, how?

Please keep your answers as brief as possible

4.5.2 Generic Competences

Please describe briefly how the acquisition and assessment of generic competences are dealt with in the programme. Answers should be structured according to the points below.

The generic competences listed can be developed while performing the research project, and/ or in the context of specialised workshops or relevant course units/modules.

Please specify which of the generic competences under consideration are developed while performing the research project, and which in the frame of specialised workshops or relevant course units/modules.

1. The planning process – objectives, strategies, policies, decision making.

2. The structure and process of organising – authority vs. self-contained work, organisational flexibility, adaptability to novel situations, time management.

3. The management of human resources – qualifications *vs.* requirements, orienting new team members, team building, organising individual tasks and duties, formulating motivation strategies.

4. The management of information – analysis, evaluation, synthesis and selection of complex concepts and facts.

5. The communication process – communication skills (including presentation techniques, language skills, writing of project proposals and reports), tutoring and training skills, ability for knowledge transfer and interaction with peers, audiences & panels, the scholarly

community & society in general under multilingual conditions.

6. The development process – internal and external training, handling innovation.

7. The management of financial issues – facing budgetary and market-oriented questions, dealing with budgetary restrictions.

8. The process of controlling and assessing quality.

9. Social responsibility and ethics.

10. What are you planning to do in the future?

Please keep your answers as brief as possible

4.6 Transcripts

Please supply the following information:

1. Which format does the transcript use (European Diploma Supplement/other)?

2. What information does it contain regarding the thesis and its accessibility to interested persons?

3. What information does it contain regarding coursework?

4. What information does it contain regarding teaching done by the doctoral candidate?

5. What other relevant information may it contain?

4.7 Graduate Schools[‡]

Please supply the following information:

> 1. Does your institution have "Graduate Schools"[2] of its own?
>
> 2. Is your department/faculty involved in one or more "Graduate Schools"?
>
> 3. If so, please describe this/these briefly
>
> 4. Is your department/faculty involved in any other type of research network or cooperation?

Your answers should not exceed half a page of text

4.8 Supervision

Please give information on the following points:

> 1. How is doctoral supervision organised in your department/faculty?
>
> 2. Is there a contract with respect to supervision, defining rights and responsibilities of both sides, between the doctoral candidate and the department/faculty or institution?
>
> 3. How are conflicts between the candidate and his/her supervisor(s) dealt with if they arise?

[‡] The term "graduate school" is used in a general sense. Other terms often used are "research school" or "doctoral school".

> 4. Is there any kind of training for doctoral supervisors in your institution or department? If so, how this is organized?

> **Please keep your answers as brief as possible**

4.9 Final Examinations

Please give information on the following points:

> 1. In which languages can the thesis be written?
>
> 2. How is the doctoral examination organised?
>
> 3. Are external examiners involved and if so how?
>
> 4. Are examinations open?
>
> 5. If so, who is entitled to attend?
>
> 6. And who is entitled to ask questions?
>
> 7. In which language is the doctoral examination carried out (teaching language of the institution, language of the thesis, other)?

> **Your answers should not exceed half a page of text**

4.10 Assessments

Please provide information on the following points:

> 1. Are there intermediate assessments prior to the final examination?
>
> 2. Is the doctorate graded?
>
> 3. If so, does the grade involve only the thesis? Or is coursework also included in the grading process?

> 4. How is the grade decided on?
>
> 5. Does your institution have guidelines on how doctoral assessment should be carried out?

Please keep your answers as brief as possible

4.11 Quality Assurance

Please give a short account of the quality assurance procedures in

> 1. Your department/faculty
>
> 2. Your institution

Your answers should not exceed half a page of text

4.12 Applications for Accreditation of Degree Programmes Involving Consortia

1. The opening statement must make it clear how the programme which is the subject of the application is organised. Mobility is obviously a vital aspect of any joint programme, so the statement should refer particularly to the possibilities for both student and staff mobility within the programme.

2. The application should be submitted by one institution (the "coordinating institution") on behalf of the members of the consortium.

3. It should give the names of all the departments in the consortium, together with contact details for one responsible person per institution.

4. A short Curriculum Vitae (one page) and a publications list covering the most important of the last three years (not more than 10) is required for each member of the academic staff involved in the study programme.

5. Significant deviations within the consortium with respect to points 2 to 11 above should be described.

6. Details of the diploma(s) to be awarded should be given.

7. A statement is required as to how the preparation of the Transcript is organised.

The application fee will cover one single site visit, normally to the coordinating institution but also as an alternative to the site of a consortium meeting. Consortium members will be asked to send a representative to the site visit. If a member institution cannot be represented, the ECTNA Rapporteur for the application will obtain necessary additional information from the contact person at the institution involved.

Appendix

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

Topic: Self-evaluation report.

10:30 Break, internal discussion

10:45 Discussion with other members of the academic staff

Topic: Programme organisation and delivery

11.30 Discussion with doctoral candidates

Topics: Degree profile; content, organisation and delivery of the programme; supervision; 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, 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