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Decision maker	**Amended on**	**Responsibility for review and questions**
President	10 May 2017	School of Engineering Sciences in Chemistry, Biotechnology and Health.

General syllabus for third-cycle studies in Chemistry

This governance document has been approved by the President (registration number V-2022-0362) pursuant to Chapter 6, Sections 26–27 of the Higher Education Ordinance. The governance document is valid from 27 October 2022 and was last amended on 10 May 2017 (registration number V-2017-0548). The governance document regulates the main content of the programme, the specific prerequisites and other regulations required. The School of Engineering Sciences in Chemistry, Biotechnology and Health is responsible for the review of and questions about the governance document.

1 Content of the programme

1.1 Name of the subject in Swedish and translation into English

Kemi (Chemistry)

1.2 Subject description

Chemistry is a fundamental science subject. At the third-cycle level, a mathematical and engineering approach is applied to the study of chemical engineering, physics, materials science, medical science and biotechnology, etc. The subject of chemistry encompasses both traditional and new disciplines such as analytical, physical, organic and inorganic chemistry, nuclear chemistry, glycoscience, and theoretical chemistry, as well as surface and corrosion science. Research within the subject is dominated by a molecular approach applied in the synthesis and characterisation of functional molecules, materials and surfaces, the development of green chemistry, and associated method and technology development. The research has a clear interdisciplinary nature and strives for a good balance between fundamental and applied research questions with a focus on finding solutions to industrial and societal problems in health, energy, and the environment. Examples of research activities include the development of solar cells and solar fuels, studies on chemical processes on surfaces, biomolecules and biomaterials, nanotechnology and sensors, as well as experimental and theoretical methods for analysing molecular properties and interactions.

1.3 Specialisation/specialisations

There are no specialisations in the subject.

1.4 Structure of the programme

1.4.1 Activities to achieve the programme learning outcomes in accordance with the Higher Education Ordinance (HEO)

Listed below are descriptions of activities that can allow the doctoral student to achieve the learning outcomes for third-cycle studies in accordance with the Higher Education Ordinance (HEO) and KTH's objectives. The individual study plan defines the activities of each individual doctoral student.

Learning outcome: Knowledge and understanding

For *a Degree of Doctor*, the doctoral student shall:

- demonstrate broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialised knowledge in a limited area of this field

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: plan and carry out their own research; acquire both broad and specialised knowledge based on scientific literature relevant to the field of research; actively present their own research results in the form of academic publications and at national and international conferences, seminars or workshops; complete courses that build on knowledge from previous studies and provide both broad and in-depth understanding of the field of research, including seminar courses in which the research of other doctoral students and researchers is critically reviewed, analysed and discussed; write and defend a doctoral thesis. It is compulsory for the doctoral student to successfully complete at least one specific third-cycle seminar course in the subject of chemistry.

- demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: identify, justify, and analyse relevant methodological issues and selection of appropriate methods; acquire knowledge and critically and comprehensively examine academic work in the field of research; use different practical methods in their research; complete courses and participate in workshops and academic seminars with a methodological focus of relevance to the subject and the field of research; complete courses in, for example, science and research methodology.

For *a Degree of Licentiate*, the doctoral student shall:

- demonstrate knowledge and understanding in the field of research including current specialist knowledge in a limited area of this field as well as specialised knowledge of research methodology in general and the methods of the specific field of research in particular

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: plan and carry out their own research; acquire both broad and specialised knowledge based on scientific literature relevant to the field of research; actively present their own research results in the form of academic publications and at national and international conferences, seminars or workshops; complete courses that build on knowledge from previous studies and provide both broad and in-depth understanding of the field of research, including seminar courses in which the research of other doctoral students and researchers is critically reviewed, analysed and discussed; write and defend a licentiate thesis.

Learning outcome: Competence and skills

For *a Degree of Doctor,* the doctoral student shall:

- demonstrate the capacity for scholarly analysis and synthesis as well as to review and assess new and complex phenomena, issues and situations autonomously and critically

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: independently interpret, analyse, discuss and compile research results; actively reflect on possible sources of error and alternative approaches to handle complex issues; carry out interdisciplinary activities and reasoning; independently evaluate the causes for experiments not having the expected results and, based on this insight, suggest new ways to advance the research or address the problem; test scientific hypotheses.

- demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake research and other qualified tasks within predetermined time frames and to review and evaluate such work

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: independently plan and carry out relevant studies and experiments with clear objectives in a sound manner and within appropriate time frames; formulate new research questions, hypotheses and approaches to be answered and tested, based on existing literature, personal experience and reflection on their results; compile their results and compare these to the published results of others.

- demonstrate through a thesis the ability to make a significant contribution to the formation of knowledge through their own research

The doctoral student can achieve this learning outcome by: independently planning and conducting experimental or theoretical studies on a sound and proven scientific basis, using scientific research methodology relevant to the field of research; analysing and critically examining their own results and compiling them in writing in the form of articles published in peer-reviewed international scientific journals or in the form of manuscripts of sufficiently high quality to be published in peer-reviewed international scientific journals; compiling their own research results in a doctoral thesis and placing these in the context of existing knowledge in the field of research; defending and discussing the results in a public defence.

- demonstrate the ability in both national and international contexts to present and discuss research and research findings authoritatively in speech and writing and in dialogue with the academic community and society in general

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: assume individual responsibility for writing scientific papers; present their research results to both experts in the field and to a wider audience; relate their own research results to the current state of knowledge in the field of research and the industry in which the results can be applied; present their own research results with authority and in an educational manner to other researchers and students at academic seminars and complete courses in which the presentation and discussion of their own research results are compulsory components.

- demonstrate the ability to identify the need for further knowledge

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: stay informed and up-to-date on national and international developments in the field of research and related areas; critically reflect on how their own theoretical and methodological approaches relate to the overall knowledge base and the research front and whether their own knowledge and methodologies are adequate or require further development; identify and formulate issues that are worthy of investigation in order to further develop their own research project from a

basic or applied research perspective, and which methods are suitable for the purpose; adapt their own views based on the acquisition of new knowledge.

- demonstrate the capacity to contribute to social development and support the learning of others both through research and education and in some other qualified professional capacity

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: identify issues that may benefit wider society; communicate their own research results in writing, present it to and discuss it with other researchers at academic seminars and seminar courses; collaborate with other researchers and interact with stakeholders within and outside academia; teach and supervise students at first and second -cycle levels in an educational manner following the completion of compulsory training in teaching and learning in higher education; present their own research results to the surrounding society, for example in industry magazines, in meetings with industry stakeholders, in popular science journals, or to pupils at primary or secondary level.

For *a Degree of Licentiate*, the doctoral student shall:

- demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake a limited piece of research and other qualified tasks within predetermined time frames in order to contribute to the formation of knowledge as well as to evaluate this work

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: independently plan and carry out limited research tasks with clear objectives within appropriate time frames; formulate new research questions, hypotheses and approaches to be answered or tested based on existing literature, personal experience and reflection on their own results; compile their results and relate these to the published results of others.

- demonstrate the ability in both national and international contexts to present and discuss research and research findings in speech and writing and in dialogue with the academic community and society in general

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: assume individual responsibility for writing scientific papers; present their research results to experts in the field; relate their own research results to the current state of knowledge in the field of research and the industry in which the results can be applied; present their own research results in an educational manner to other researchers and students at academic seminars and complete courses in which the presentation and discussion of their own research results are compulsory components.

- demonstrate the skills required to participate autonomously in research and development work and to work autonomously in some other qualified capacity

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: communicate their own research results in writing in the form of scientific publications and a licentiate thesis; present to and have scholarly discussions with other researchers within or outside academia; discuss and critically review their own research results and those of others within the framework of compulsory seminar courses; complete compulsory courses in teaching and learning in higher education at the third-cycle level.

Learning outcome: Judgement and approach

For *a Degree of Doctor,* the doctoral student shall:

- demonstrate intellectual autonomy and disciplinary rectitude as well as the ability to make assessments of research ethics

To achieve the learning outcome, the doctoral student must successfully complete a core course in research ethics. In addition to a compulsory course in research ethics, other courses with individual intended learning outcomes in ethics can further contribute to achieving the learning outcome. The doctoral student's progress towards the learning outcome is also achieved through continuous training and development of the ability to: independently formulate and critically review their own research and that of others; carry out research tasks appropriately and in accordance with research ethics; carry out assessments of research ethics by reflecting on and dealing with any ethical dilemmas that may arise in their field of research and in research in general; demonstrate intellectual integrity by critically justifying and defending their position based on proven experience and scientific basis. In addition, the doctoral student is to successfully complete the compulsory elements of the course component, which comprise a course or module that includes intended learning outcomes in research ethics.

- demonstrate specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: deeply reflect on both expected and unexpected results and on the appropriate handling of these results; reflect on the possibilities and limitations of their own research project; reflect on the possibilities and limitations of their own research from a broader social science perspective.

For *a Degree of Licentiate*, the doctoral student shall:

- demonstrate the ability to make assessments of ethical aspects of their own research

To achieve the learning outcome, the doctoral student must successfully complete a course in research ethics. In addition to a compulsory course in research ethics, other courses with individual intended learning outcomes related to ethics can further contribute to achieving the learning outcome. The doctoral student's progress towards the learning outcome is also achieved through continuous training and development of the ability to: independently formulate and critically review their own research results; carry out research tasks appropriately and in accordance with research ethics; make ethical assessments of the research by reflecting on and handling any issues that arise in their research and its execution.

- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: reflect on both expected and unexpected results and on the appropriate handling of these results; reflect on the possibilities and limitations of their own research project; reflect on the possibilities and limitations of their own research from a broader social science perspective.

- demonstrate the ability to identify the personal need for further knowledge and take responsibility for their ongoing learning

The doctoral student can achieve this learning outcome by continuously training and developing their ability to: stay informed and up-to-date on national and international developments in their field of research and related fields; critically reflect on how their own theoretical and methodological approaches relate to the overall knowledge base and research front and whether their own knowledge and methodologies are adequate or require further development; identify issues and formulate problems that are worthy of investigation in order to further develop their own research project from a basic or applied perspective, and identify which methods are suitable for the purpose; adapt their own views based on the acquisition of new knowledge.

KTH's sustainable development objectives

For *a Degree of Licentiate or a Degree of Doctor*, the doctoral student shall:

- demonstrate the ability to contribute, with knowledge and expertise, to sustainable development toward an equal, inclusive and climate-neutral society

To achieve this objective, the student must successfully complete a course in sustainable development. In addition to a compulsory course in sustainable development, other courses with individual intended learning outcomes related to sustainable development can further contribute to achieving the objective. The objective also encompasses education on gender equality, diversity, and equal conditions as well as climate-neutral and climate-improving social development. To further progress towards the goal, the doctoral student should continuously train and develop the ability to: explain how their own research, actions, and approach take into account aspects of sustainable development; critically assess and reflect on how their own research can be conducted in a sustainable manner, taking into account its direct or indirect economic, social, or environmental consequences and impact on the immediate and broader context; take the initiative to acquire knowledge and reflect on sustainable development from a broader global perspective.

1.4.2 Compulsory courses

In order to meet the qualitative targets, there are compulsory components for doctoral students undertaking both doctoral and licentiate degrees.

The current range of courses offered is continuously evolving and may therefore vary over time. The school undertakes to compile and provide up-to-date information on courses and other course activities organised at the school, and when needed to provide information on appropriate courses and course activities outside the school and the University.

1. Third-cycle seminar courses for doctoral and licentiate degrees

   It is compulsory for doctoral students to complete at least one specific third-cycle seminar course in the subject of chemistry. For a Degree of Doctor, it is recommended that the doctoral student study at least one additional course in the subject of chemistry with a different specialisation for broadened knowledge. Seminar courses offered in the programme are important tools to support progression towards the qualitative targets in the Higher Education Ordinance as they provide both broad and specialised knowledge in the student's topic and the general subject area, and provide skills in oral and visual communication of research results in the field of research and subject area, as well as in the critical review of their own research results and those of others. The seminar course sessions are held regularly during the semester and are led by experienced and active research staff with a good knowledge of the field of research, the research premises, academic authorship, peer review, and publication strategies of relevance to the research topic.

2. Third-cycle course in teaching and learning in higher education of at least 3.0 credits for a doctoral or licentiate degree

   This refers to a third-cycle course in teaching and learning in higher education at a Swedish university that includes both theory and practical teaching and/or supervision components. For doctoral students with teaching duties, it is recommended that the course is completed and approved before the teaching begins. Examples of courses in teaching and learning in higher education offered at KTH are listed in Appendix 2. Suitable courses for doctoral students in the subject include: *FLH3000 Basic Communication and Teaching 3.0 credits* and *FKA3020 Supervision Methodology for Undergraduate Projects 6.0 credits*. Doctoral students undertaking a Degree of Doctor are recommended to complete both of these courses.

3. A third-cycle course in research ethics of at least 2.0 credits for a doctoral or licentiate degree

   This refers to a third-cycle course in research ethics/research integrity at a Swedish university. Examples of courses in research ethics offered at KTH are listed in Appendix 2. *FCK3310 Research Integrity 2.0 credits* is a suitable course for doctoral students in the subject.

4. A third-cycle course in sustainable development of at least 3.0 credits for a doctoral or licentiate degree

   This refers to a third-cycle course in sustainable development at a Swedish university with intended learning outcomes specified in an official course syllabus for the assessment of knowledge and skills in sustainable development, for which the grade of Pass is awarded. KTH's sustainable development objectives also include the assessment of knowledge and expertise in the areas of gender equality, diversity and equal conditions, and in society's climate transition and development towards climate neutrality. Examples of courses in sustainable development offered at KTH are listed in Appendix 2. *FCK3503 Engineering for a Sustainable Society 3.0 credits* is a suitable course for doctoral students in the subject.

1.4.3 Recommended courses

Recommended courses include established third-cycle courses within the subject with a research specialisation of relevance, courses in research methodology, presentation techniques, academic writing and communication, as well as literature surveys. Examples of current courses are listed in Appendix 2. Doctoral students should also actively seek and propose suitable learning activities which, in addition to the compulsory courses, promote further progression towards the qualitative targets and additional required knowledge, as well as consultation with supervisors and the Director of Third-Cycle Education or Programme Director with regard to the suitability of the proposed course activities.

1.4.4 Conditionally elective courses

The general syllabus for the research subject does not specify any conditionally elective courses. For courses that are not established or offered at KTH, the following conditions apply: Non-established courses may be included in a doctoral degree. However, all courses and course activities not established by a Swedish university must be validated by the Director of Third-Cycle Education or the Programme Director before they can be included as an assessed course component in the individual study plan.

Within the framework of an individual course load, credits can be awarded for completed and documented conference contributions. These include oral presentations, poster presentations, and pitch presentations. For each individual presentation type, credits may only be awarded once, and it must also be listed as a course component in the individual study plan.

Web-based distance learning may be included in the individual study plan provided that the quality is assured by the doctoral student and supervisor with the necessary documentation for validation. The scope, level and assessment are to be in accordance with the general and local regulatory frameworks. Credit transfers are decided on by the Director of Third-Cycle Education/Programme Director.

A course that has already been established at the first or second-cycle level cannot be credited as a third-cycle course.

1.4.5 Qualification requirements

Degree of Doctor

The Degree of Doctor comprises 240 credits. The doctoral thesis shall comprise at least 120 credits.

Normally, a doctoral thesis in the Chemistry subject comprises 180 credits.

Doctoral thesis

Quality requirements and any other thesis requirements.

Compilation thesis

The thesis should be based on research results of such quality that they are, or are expected to be, published in peer-reviewed scientific journals. Normally, a doctoral thesis in the subject comprises 180 credits (three years of full-time studies) and has a scope corresponding to four scientific articles, for which the doctoral student is the main author of at least two, of which at least one is accepted for publication in a peer-reviewed journal. However, the number of articles may vary depending on the scope, scientific level, and quality, as well as the doctoral student's contribution to each article.

According to the KTH Guideline on Third-Cycle Studies, a doctoral thesis must be reviewed by a formally appointed advance reviewer, in addition to the principal supervisor.

When a doctoral thesis is based solely on work that is yet to be published or accepted for publication in an international peer-reviewed scientific journal, the thesis shall, in addition to the supervisor and the compulsory advance reviewer, also be reviewed by two other independent researchers with good knowledge of the field of research and by the Director of Third-Cycle Education.

Monograph thesis

A doctoral thesis can also be written as a monograph, which is a relatively extensive coherent scientific paper. Previous publications may be attached to a monograph as appendices. Monographs should be avoided, and decisions to accept this form of thesis are made on a case-by-case basis by the Director of Third-Cycle Education. In cases where a monograph is approved, its contents are to be of such scientific level that the contents as a whole, or a majority thereof, are considered to meet the requirements for publication in scientific peer-reviewed journals of high international standard.

A monograph is to be reviewed in advance by the principal supervisor, a formally appointed advance reviewer, two independent researchers with good knowledge of the field of research, and by the Director of Third-Cycle Education.

Courses

Doctoral students must have completed courses of at least 60 credits, of which at least 45 credits must be at third-cycle level, with no more than 10 first-cycle credits.

Normally, a doctoral degree in this subject comprises a course component of 60 credits (one year of full-time studies) of which at least 45 credits are at the third-cycle level, with no more than 15 second-cycle credits.

Degree of Licentiate

The Degree of Licentiate comprises at least 120 credits. The licentiate thesis is to comprise at least 60 credits.

Normally, the thesis for a licentiate degree in this subject comprises 90 credits.

Licentiate thesis

Quality requirements and other thesis requirements

Compilation thesis

The thesis must be based on research results of such quality that they are, or are expected to be, published in scientific peer-reviewed journals. A licentiate thesis in the subject normally comprises 90 credits (18 months of full-time studies) and has a scope corresponding to two scientific articles, of which the doctoral student is the main author for at least one article, and at least one of which is accepted for publication in a peer-reviewed journal. However, the number of articles may vary depending on the scope, scientific level, and quality, as well as the doctoral student's contribution to each article.

According to the KTH Guideline on Third-Cycle Studies, a licentiate thesis must be reviewed by a formally appointed advance reviewer, in addition to the principal supervisor.

When a licentiate thesis is based solely on work that is yet to be published or accepted for publication in an international peer-reviewed scientific journal, the thesis shall, in addition to the supervisor and the compulsory advance reviewer, also be reviewed by one other independent researcher with good knowledge of the field of research and by the Director of Third-Cycle Education.

Monograph thesis

A licentiate thesis can also be written as a monograph, which is a relatively extensive coherent scientific paper. Previous publications may be attached to a monograph as appendices. Monographs should be avoided, and decisions to accept this form of thesis are made on a case-by-case basis by the Director of Third-Cycle Education. In cases where a monograph is approved, its contents are to be of such scientific level that the contents as a whole, or a majority thereof, are considered to meet the requirements for publication in scientific peer-reviewed journals of high international standard.

A monograph is to be reviewed in advance by the principal supervisor, a formally appointed advance reviewer, one independent researcher with good knowledge of the field of research and by the Director of Third-Cycle Education.

Courses

Licentiate students must have completed *courses of at least 30 credits, of which at least 15 credits must be at third-cycle level, with no more than 10* first-cycle credits.

Normally, a licentiate degree in the subject comprises a course component of 30 credits (6 months of full-time studies) of which at least 15 credits are at the third-cycle level, with no more than 15 second-cycle credits.

1.4.6 Other elements of the programme to promote and ensure the learning outcomes

Follow-up of individual study plan. Supervisors and doctoral students must jointly and regularly follow up the individual study plan, at least once per 12 months period. The individual study plan is to be designed in such a way as to ensure that the qualitative targets in the Higher Education Ordinance and the KTH goals can be achieved within the specified timeframe. The general syllabus is to be used as a support tool in the design and follow-up of the individual study plan. Progress towards achieving the learning outcomes is to be evaluated by the supervisor and doctoral student at the compulsory follow-up of the individual study plan. The doctoral student is to reflect on, provide examples for, and justify how completed and ongoing study activities have supported progress towards learning objectives since the last follow-up. Justification of progress is to be done in writing in the appropriate sections of the electronic individual study plan, preferably by the doctoral student. All components of the studies, thesis work, courses, workshops, conferences, outreach activities, etc., are to be taken into account.

Course selection and non-compulsory learning activities are to be agreed upon between the doctoral student and the supervisor. Planned courses and learning activities are included in the annual follow-up in the individual study plan for the coming year.

Half time seminar. The seminar is compulsory and is held when the student has completed half of the stipulated study time. Third-cycle studies culminating in a Degree of Doctor comprise 48 months of full-time studies (100% activity) if there are 0% departmental duties, and 60 months of studies (80% activity) if there are 20% departmental duties. Doctoral studies culminating in a Degree of Licentiate comprise 24 months of full-time studies (100% activity) if there are 0% departmental duties, and 30 months of studies (80% activity) if there are 20% departmental duties. The estimated point in time for the half time seminar for doctoral studies culminating in a Degree of Doctor is at the 24 to 30-month mark. The estimated point in time for the half time seminar for doctoral studies culminating in a Degree of Licentiate is at the 12 to 15-month mark. The lower and upper time limits relate to studies with 0% and 20% departmental duties, respectively. Note that 20% is the maximum allowed percentage of departmental duties. In addition to the seminar itself, at which the doctoral student presents both research results and completed courses as well as other activities carried out to achieve the qualitative targets, the doctoral student writes a short report on the results achieved. Two assessors read the report, participate in the seminar and provide feedback to the doctoral student and supervisor. Details on the half time seminar are available on the school's Intranet.

Scientific exchange and communication. Active participation in scientific exchange through the presentation of the doctoral student's own research results can take place at international conferences, major national conferences, workshops, summer schools, or industry events. Here, active participation refers to a scientific lecture, a pitch-format oral research presentation, or a poster presentation for a scientific audience.

Progress seminars. It is recommended that doctoral students culminating with a Degree of Doctor also present their research results and achieved learning outcomes at progress seminars. Progress seminars are seminars scheduled halfway between the start and the half time seminar, as well as halfway between the half time seminar and the completion of the third-cycle studies. The format for the progress seminar is to be determined in consultation between the doctoral student and supervisor but should include the checking of progress towards the qualitative targets, be open to at least the student's own department and conclude with a brief written report in accordance with a template describing the progress with regard to the achieved learning outcomes to be sent to the third-cycle administrator for archiving.

2 Admission to third-cycle studies (eligibility requirements, etc.)

Admission to third-cycle studies is regulated by Chapter 7, Section 40 of the Higher Education Ordinance and the KTH admission regulations. KTH's regulations on specific prerequisites and other abilities required to benefit from the studies at third-cycle level are listed below.

2.1 Specific entry requirements

To be admitted to third-cycle studies in Chemistry, the applicant must have successfully completed courses of at least 60 credits at the second-cycle level or above in Chemistry or other subjects deemed to be directly relevant to the specialisation. These prerequisites are also considered to be met by those who have acquired substantially equivalent knowledge in some other way.

To be admitted to third-cycle studies in Chemistry, the applicant must have knowledge of English equivalent to the Swedish upper secondary school course English 6.

2.2 Criteria for the assessment of the candidate's ability to benefit from the studies

The criteria for the assessment of the candidate's ability to benefit from the studies are as follows:

Selection for third-cycle studies is based on the assessed ability to benefit from such studies. The assessment of this ability is primarily based on academic qualifications. In particular, the following is taken into account:

1. Knowledge and skills of relevance to the thesis work and the subject.
   These can be demonstrated via attached documents and an interview if necessary.

2. An assessed ability to work independently.

   a. ability to formulate and tackle scientific problems

   b. ability to communicate in speech and in writing

   c. maturity, judgement and ability for independent critical analysis

   For example, the assessment can be based on the student's degree project and a discussion about this at a potential interview.

3. Other experiences of relevance to third-cycle studies, e.g. professional experience.

3 Other required regulations

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3.1 Transitional regulations

Doctoral students who were admitted with a previous syllabus have the right to transfer to the most recently approved and valid general syllabus. A request to transfer to a more recent syllabus is made in writing to the Director of Third-Cycle Education. A transfer of general syllabus, however, presupposes that the requirements for the new syllabus can be met within the specified timeframe.