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# Allmän studieplan för utbildning på forskarnivå i ämnet Filosofi

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# 1 Content of the education

# 1.1 The name of the subjects in Swedish and in English translation Filosofi/Philosophy

## 1.2 Ämnesbeskrivning

The specialisation of philosophical research and third-cycle courses and programmes conducted at KTH Royal Institute of Technology is technological sciences. This implies that the purpose of these activities is to gain new philosophical insights into fields and issues of relevance to technology, technological development and technological sciences. Among other things, this encompasses epistemological, logical and scientific philosophical dilemmas within the field of technological and associated basic sciences. It also covers decision theory and the moral and social philosophical aspects of the use of technology, including risk, security, sustainable development, gender equality, diversity, equal opportunities and other forms of justice. Particularly emphasis is placed on interdisciplinary collaboration with other subject areas represented at KTH.

## 1.3 Specialisations

The subject has no specialisations.

## 1.4 Organisation of the education

The outcomes for *knowledge* and *understanding* are largely achieved by taking courses and conducting your own research under supervision.

The outcomes for *competence* and *skills* are above all achieved through a degree project supported by courses and seminars. This includes training in reading, understanding and critiquing scientific texts and arguing for or against results and opinions, whether one's own or other people's. The ability to communicate and discuss results is dealt with specifically in the course *Essay in Popular Science*, which is compulsory for doctoral students with teaching duties, and is also trained during presentations and conferences.

The outcomes for *judgement and approach* are achieved in a collegial context, as well as through courses and a degree project. The ability to make assessments concerning research ethics is trained through supervised work on their doctoral thesis and the compulsory courses *Theory of Science and Research Method, Philosophy of Risk, Introduction to Research Ethics for PhD Students* and *Introduction to Gender Equality, Diversity and Equal Opportunities (JML) for PhD Students*. Intellectual autonomy is trained and tested though both a degree project and the publication of articles.

Supervision plays a key role in organising the programme and motivating and providing feedback to the student both in general and specifically in completing their doctoral thesis. Supervision must ensure that the doctoral student has the opportunity to develop their skills so that they can achieve the intended learning outcomes of their courses and the objectives of the programme, including literature synthesis, research questions, applying for research grants and communication in diverse forms and contexts.

The objective for sustainable development is achieved through a supervised degree project, during which research questions related to sustainability and the subject of the thesis are identified and discussed, and by completing the compulsory third-cycle courses *Theory of Science and Research Method, Philosophy of the Technological Sciences, Philosophy of Risk, Introduction to Research Ethics for PhD Students* and *Introduction to Gender Equality, Diversity and Equal Opportunities (JML) for PhD Students*, in which sustainable development is one of many themes. The student is also trained to consider and discuss environmental and sustainability issues at compulsory seminars.

With regard to gender equality, equal opportunities and other aspects of justice (linked to ethics as well as sustainable development), all doctoral students are required to attend the course *Introduction to Gender Equality, Diversity and Equal Opportunities (JML) for PhD Students*. In addition to the course itself, aspects of gender equality, diversity and equal opportunities are discussed and problematised in several other compulsory third-cycle courses and seminars, including JML workshops.

1.4.1 Activities for fulfilment of outcomes for the education according to the Higher Education Ordinance (HF)

Below are described activities for the doctoral student's fulfilment of the learning outcomes for third-cycle education according to the Higher Education Ordinance (HF) and KTH's goals. The individual study plan specifies the activities for each individual doctoral student.

Learning outcomes: Knowledge and understanding

For the Degree of Doctor the doctoral student shall:

• Demonstrate broad knowledge and a systematic understanding of the research field as well as advanced and up-to-date specialist knowledge in a limited area of this field.

Broad knowledge and a systematic understanding of the research field of philosophy can be demonstrated by, for example, the doctoral student's ability to relate their own degree project to the field of research and adjacent fields. Advanced and up-to-date specialised knowledge in a limited area of this field can be demonstrated by, for example, reading and discussing relevant literature as it relates to their own degree project and research.

The doctoral student's general and systematic understanding of the subject is developed through the compulsory courses *Theory of Science and Research Method*, *Philosophy of the Technological Sciences*, *Philosophy of Risk*, *Introduction to Research Ethics for PhD Students* and *Introduction to Gender Equality*, *Diversity and Equal Opportunities (JML) for PhD Students*, and the elective course *Decision Theory*. It is also trained through supervision and participation in seminars. The student demonstrates their skill through the examination of the aforementioned courses, presentations at seminars and by writing the background section of the introductory chapter of their doctoral thesis.

Specialist knowledge is developed through individual reading courses based on suggestions and instructions from the supervisor, and discussion with the supervisor and others. The results are largely reported in the articles included in the doctoral thesis.

• Demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular.

Familiarity with research methodology in general can be demonstrated by, for example, the doctoral student understanding and explaining the characteristics of philosophical methodology and the importance of accuracy, systematism, reliability and disciplinary rectitude. Familiarity with the methods of the specific field of research, philosophy, can be demonstrated by, for example, the doctoral student understanding and applying concept analysis, argumentation theory and formal methods.

General knowledge of research methodology is acquired through the compulsory third-cycle courses *Theory of Science and Research Method, Philosophy of Risk, Introduction to Research Ethics for PhD Students* and *Introduction to Gender Equality, Diversity and Equal Opportunities (JML) for PhD Students*. It is also acquired through supervision and participation in seminars and conferences.

For a Degree in 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 in particular.

This may, for example, be a matter of the doctoral student being able to relate their own degree project to the research field and adjacent fields and understanding and explaining the characteristics of philosophical methodology and the importance of accuracy, systematism, reliability and disciplinary rectitude.

The doctoral student's general and systematic understanding of the subject is developed through the compulsory courses *Introduction to Research Ethics for PhD Students*, *Introduction to Gender Equality, Diversity and Equal Opportunities (JML) for PhD Students*, *Theory of Science and Research Method* and *Philosophy of Risk*, and the elective course *Decision Theory*. It is also trained through supervision and participation in seminars. The student demonstrates their skill through the examination of the aforementioned courses, presentations at seminars and by writing the background section of the introductory chapter of their licentiate thesis.

Specialist knowledge is developed through individual reading courses based on suggestions and instructions from the supervisor, and discussion with the supervisor and others. The results are largely reported in the articles included in the licentiate thesis.

Learning outcome: Competence and skills

For the 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

The capacity for scholarly analysis and synthesis can be demonstrated by, for example, the doctoral student autonomously analysing philosophical theories and arguments, placing them in relation to previous research and building on them in their own research. The capacity to review and assess new and complex phenomena, issues and situations autonomously and critically may, for example, be a matter of the doctoral student being able to review other people's research and discuss different ways to explore complex phenomena and propose how these insights can be applied to their own research.

Supervision is designed to allow the doctoral student to gradually and with increasing autonomy analyse the data generated by their own research. The ability to critically review other researchers' results and observations is trained at both departmental seminars and on courses, including the courses *Seminar Participation in Philosophy*, *Part 1* and *Seminar Participation in Philosophy*, *Part 2*.

• 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.

This may be a matter of, for example, the doctoral student autonomously planning the implementation of a sub-study, including formulating the research questions and proposing data collection/analytical methods.

This is mainly trained through supervision and the doctoral student's own research activities. We also strive to ensure that doctoral students participate in discussions in which research problems are identified and future research planned, both at internal meetings and at meetings with colleagues from other universities and significant users of the results of our research.

• Demonstrate through a dissertation the ability to make a significant contribution to the formation of knowledge through his or her own research.

This outcome is achieved by the doctoral student writing and defending a thesis.

In addition to established individual study plans, doctoral students' research is also planned at supervisory meetings. We also use seminars to follow up and discuss the work of doctoral students on an ongoing basis. The progress of doctoral students is discussed at meetings with supervisors, where supervisory and other measures to further assist them in achieving the qualitative target of their third-cycle programme are identified.

• 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.

This may involve the doctoral student presenting their research results at departmental seminars and national and international conferences, or by writing articles and conference papers.

We consider it extremely important that doctoral students present their research to both the scientific community and other stakeholders. Our guiding principle is that a doctoral student must give at least one external presentation each year at, for example, an international conference.

• Demonstrate the ability to identify the need for further knowledge.

The ability to identify the need for further knowledge can be demonstrated by, for example, the doctoral student themselves proposing literature, courses or conferences they consider necessary to progress with their degree project.

In conjunction with the annual revision of their individual study plan, doctoral students are encouraged to present their own proposals for the planning of ongoing research. These proposals are then discussed with the principal supervisor as part of the revision process. Great importance is attached to doctoral students themselves identifying the necessary measures to drive research forward.

• 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 capacity to contribute to social development and support the learning of others both through research and education and in some other qualified professional capacity can be demonstrated by, for example, the doctoral student teaching in the first and second cycle or presenting the results of their research to the public. This may also involve the doctoral student identifying aspects of their research that have the potential to improve society.

Doctoral students are offered opportunities to participate in both scientific conferences and our own meetings with external stakeholders. Where possible, they are also given the opportunity to acquire teaching experience. As part of their programme, doctoral students are also offered the course *Basic Communication and Teaching*, 3.0 credits.

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.

This may be a matter of, for example, the doctoral student being able to: autonomously plan the implement a sub-study, including formulating research questions and proposing analytical methods; autonomously analyse concepts and arguments and interpret their results in relation to previous research; and review other people's research and discuss different ways to explore complex phenomena, and propose how these insights can be applied to their own research.

This is mainly trained through supervision and the doctoral student's own research activities. We also strive to ensure that doctoral students participate in discussions in which research problems are identified an future research planned, both at internal meetings and at meetings with colleagues from other universities and significant stakeholders in our research.

• Demonstrate ability in both national and international contexts to present, discuss research, and research findings in speech and writing and in dialogue with the academic community and society in general.

This may involve the doctoral student presenting their research results in seminars at the school and at national and international conferences, or by summarising research results in articles and conference papers.

We consider it extremely important that doctoral students present their research to both the scientific community and other stakeholders. Our guiding principle is that a third-cycle student must give at least two external presentations – at an international conference, for example – during the time they are studying for a Degree of Licentiate.

• Demonstrate the skills required to participate autonomously in research and development work and to work autonomously in some other qualified capacity.

This may, for example, be a matter of the doctoral student formulating tasks and projects in more detail and reflecting on how they can contribute in some other qualified capacity.

Doctoral students are offered opportunities to participate in third stream activities involving contact with other professions. Where possible, they are also given the opportunity to acquire teaching experience.

Learning outcomes: Judgement and approach

For the Degree of Doctor the doctoral student shall:

• Demonstrate intellectual autonomy and disciplinary rectitude as well as the ability to make assessments of research ethics.

The doctoral student can demonstrate intellectual autonomy, disciplinary rectitude and the ability to assess the ethics of research by, for example, being able to discuss ethical aspects of research in general and their own research in particular. It may also be a matter of the doctoral student conducting research activities thoroughly and systematically, defending their own scientific ideas and complying with ethical guidelines.

Both supervision and research seminars deal with matters of disciplinary rectitude and research ethics. Knowledge in this area is also acquired through the compulsory third-cycle courses *Philosophy of Risk, Introduction to Research Ethics for PhD Students* and *Introduction to Gender Equality* and *Diversity and Equal Opportunities (JML) for PhD Students*, as well as *Theory of Science and Research Method*, all of which include components on 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 demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used by, for example, reflecting on and discussing those possibilities and limitations both in general and in relation to their own research, and discussing how their results can and should be used.

Matters related to the possibilities and limitations of research are regularly addressed during supervision and seminars. Doctoral students are expected to address societal relevance in the introductory chapter to their thesis. Knowledge within the field is also acquired through the compulsory third-cycle courses *Philosophy of Risk*, *Introduction to Research Ethics for PhD Students*, *Introduction to Gender Equality*, *Diversity and Equal Opportunities (JML) for PhD Students* and *Theory of Science and Research Method*, as well as the elective course *Introduction to Research Ethics*.

For a Degree of Licentiate, the doctoral student shall:

• Demonstrate the ability to make assessments of ethical aspects of his or her own research.

This can, for example, be demonstrated by the doctoral student being able to discuss ethical aspects of research in general and their own research in particular. It may also be a matter of the doctoral student conducting research activities thoroughly and systematically, defending their own scientific ideas and complying with ethical guidelines.

Both supervision and research seminars deal with matters of research ethics. The compulsory third-cycle courses *Introduction to Research Ethics for PhD Students*, *Introduction to Gender Equality and Diversity and Equal Opportunities (JML) for PhD Students* and *Theory of Science and Research Method* include components on research ethics.

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

This may, for example, be a matter of the doctoral student reflecting on and discussing the possibilities and limitations of research both in general and in relation to their own research, and discussing how their results can and should be used.

Matters related to the possibilities and limitations of research are regularly addressed during supervision and seminars. Doctoral students are expected to address societal relevance in the introductory chapter to their thesis. These issues are also dealt with in the compulsory third-cycle courses *Introduction to Research Ethics for PhD Students*, *Introduction to Gender Equality*, *Diversity and Equal Opportunities (JML) for PhD Students* and *Theory of Science and Research Method*, as well as the elective course *Introduction to Research Ethics*.

• Demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

This can be demonstrated by, for example, the doctoral student themselves proposing literature, courses or conferences they believe to be necessary to the progress of their degree project.

Doctoral students are encouraged to present their own proposals for the planning of ongoing research during annual revisions of their individual study plan. These proposals are then discussed with the principal supervisor as part of the revision process. Great importance is attached to doctoral students themselves identifying the necessary measures to drive their research forward.

KTH's outcome in sustainable development

For both the Degree of Licentiate and the Degree of Doctor, the doctoral student shall:

• Demonstrate with knowledge and skills the ability to be able to contribute to sustainable societal development towards an equal, inclusive and climate-neutral society.

Knowledge of and the ability to assess environmental and ethical issues so that, after graduating, they can contribute to sustainable societal development, can be demonstrated by the doctoral student through, for example, the ability to reflect on and discuss the environmental, sustainability and ethical aspects of their own research and specialisation. If possible, it may also be a matter of the doctoral student reducing the environmental impact of their own research in terms of travel, meetings, materials and energy consumption.

Sustainable development is always a matter of concern in the research area and is regularly brought up in supervision, seminars and third-cycle courses, including in the compulsory third-cycle courses *Philosophy of Risk*, *Introduction to Research Ethics for PhD Students*, *Introduction to Gender Equality and Diversity and Equal Opportunities (JML) for PhD Students*, *Theory of Science and Research Method* and *Philosophy of the Technological Sciences*.

Doctoral students are encouraged to participate in environmental work at their school/division during annual performance reviews.

# 1.4.2 Compulsory courses

All third-cycle courses include oral and/or written examinations. These examinations are designed so that the examiner can assure themselves that the student has assimilated the entire content of the course.

The course component of programmes leading to the award of a Degree of Licentiate and/or Degree of Doctor consists of both compulsory and elective courses. Elective courses are chosen in consultation with the principal supervisor and stated in the individual study plan. They are intended to broaden the student's knowledge, primarily with regard to their licentiate/doctoral thesis. Courses are taken in accordance with the agreement between the student and principal supervisor as documented in the individual study plan.

On completing the programme, the doctoral student should have acquired good knowledge within the fields of philosophy of science, logic and/or other formal methods, and moral philosophy, either through third-cycle courses or in some other way.

# Compulsory courses

Compulsory courses must be completed for 32 credits for the award of a Degree of Licentiate and 52.5 credits for the award of a Degree of Doctor. Compulsory courses for the award of a Degree of Doctor are:

Essay in Popular Science 3.0 credits

Original Texts in Philosophy, Part 1, 5.0 credits

Original Texts in Philosophy, Part 2, 5.0 credits

Theory of Science and Research Method, Technological and Natural Sciences, 7.5 credits

Seminar Participation in Philosophy, Part 1, 7.5 credits

Seminar Participation in Philosophy, Part 2, 7.5 credits

Philosophy of Risk, 7.5 credits

Philosophy of the Technological Sciences, 7.5 credits

Introduction to Research Ethics for PhD Students, 1.5 credits

Introduction to Gender Equality and Diversity and Equal Opportunities (JML) for PhD Students, 0.5 credits

Compulsory courses for the award of a Degree of Licentiate are: Seminar Participation in Philosophy, Part 1, 7.5 credits; Theory of Science and Research Method, Technological and Natural Sciences, 7.5 credits; Introduction to Research Ethics for PhD Students, 1.5 credits; Introduction to Gender Equality and Diversity and Equal Opportunities (JML) for PhD Students, 0.5 credits; plus 7.5 credits from any of the above courses that are compulsory for the award of a Degree of Doctor. The remaining 7.5 credits are to be awarded for general third-cycle philosophy courses.

# 1.4.3 Recommended courses

Training in higher education pedagogy

A doctoral student teaching in the first or second cycle must have undergone basic training in higher education pedagogy for at least 3 credits. Even doctoral students with no teaching duties are recommended to take a course in higher education pedagogy.

# 1.4.4 Conditional elective courses

Other course requirements are made up of general third-cycle philosophy courses for 37.5 credits, of which no more than 15 credits may be awarded for courses in other subjects of relevance to the doctoral student's thesis.

General philosophy courses

General philosophy courses may be offered as reading courses in philosophy A–E (the number of credits varies from 3 to 10.5). Subject areas that may be covered in general philosophy courses

include: theory of knowledge, philosophy of science, logic, moral philosophy, philosophy of mathematics, philosophy of data and information technology, decision theory, philosophy of language, aesthetics, political philosophy and environmental philosophy.

Literature courses within the field of the licentiate/doctoral thesis

The choice of literature is established in the individual study plan based on a proposal by the principal supervisor in consultation with the doctoral student. This may include courses on other scientific subjects that can help to orient the student in a field of technology/science/mathematics of relevance to their thesis. Literature within the field of the thesis may be replaced entirely or in part with philosophical literature that contributes to the general philosophical orientation of and methodological competence of the student.

## 1.4.5 Requirement for the degree

### **Degree of Doctor**

Degree of Doctor comprises 240 credits. At least 150 credits must consist of the doctoral thesis

#### Thesis

Quality requirements and possible other requirements for the thesis.

A degree project is a compulsory component of all third-cycle programmes. In this regard, the purpose of the programme is to develop the student's ability to make an autonomous contribution to research, as well as the ability to collaborate on research within and outside their own subject.

The thesis must contain new research results developed by the student, either alone or in collaboration with others. The main scientific results must meet the quality criteria for publication in an internationally recognised, peer-reviewed journal. If articles included in the thesis have multiple authors, it must be possible to distinguish the doctoral student's contribution.

Doctoral theses must be written in English. They should normally be in the form of a compilation thesis with a specially written introductory chapter. The content of a doctoral thesis must be sufficient for at least four standard (typically for the subject) articles suitable for publication in internationally recognised, peer-reviewed journals.

A doctoral thesis usually builds on a licentiate thesis.

#### Courses

The doctoral student shall have completed courses of at least 90 credits, of which 45 credits must be at third-cycle level and no more than 10 credits can be at first-cycle level.

#### **Degree of Licentiate**

A Degree of Licentiate comprises at least 120 credits. At least 75 credits must consist of the academic thesis.

## Thesis

Quality requirements and possible other requirements for the licentiate thesis.

A degree project is a compulsory component of all third-cycle programmes. In this regard, the purpose of the programme is to develop the student's ability to make an autonomous contribution to research, as well as the ability to collaborate on research within and outside their own subject. The thesis must contain new research results developed by the student, either alone or in collaboration with others. The main scientific results must meet the quality criteria for publication in an internationally recognised, peer-reviewed journal. If articles included in the thesis have multiple authors, it must be possible to distinguish the doctoral student's contribution.

Licentiate theses must be written in English. They should normally be in the form of a compilation thesis with a specially written introductory chapter. The content of a licentiate thesis must be sufficient for at least two standard articles suitable for publication in internationally recognised, peer-reviewed journals.

A doctoral thesis usually builds on a licentiate thesis.

#### Courses

The doctoral student shall have completed courses between 45 to 60 credits, of which 15 credits must be at third-cycle level and no more than 10 credits can be at first-cycle level

1.4.6 Other elements in the education to promote and ensure goal attainment

We strongly recommend that doctoral students hold a licentiate seminar once they have completed around half of their degree project.

It is compulsory to present your own research at least once a year at the division's philosophical seminar.

Our guiding principle is that a third-cycle student must give at least two external presentations – at an international conference, for example – during the time they are studying for a Degree of Licentiate.

# 2 Admission to education at third-cycle level (qualification etc.)

Admission to education at third-cycle level is regulated in Chapter 7, Section 40 of the Higher Education Ordinance and in the admission regulations at KTH. KTH's regulations on specific prerequisites and such abilities in other respects as are needed to assimilate the education in the relevant subject at the doctoral level are set out below.

## 2.1 Specific prerequisites

To be admitted to the third-cycle education in **Philosophy**, the applicant must have passed courses resulting in at least 60 credits at minimum second-cycle level in philosophy or other subjects deemed directly relevant to the chosen specialisation. These entry requirements can be also be considered fulfilled by an applicant who has acquired essentially equivalent knowledge in arrangement.

In order to be admitted to third-cycle education in **Philosophy**, the applicant must have knowledge of English equivalent to English 6.

## 2.2 Assessment criteria for testing the ability to assimilate the education

The following criteria apply when assessing the ability to assimilate third-cycle education:

Selection for third-cycle courses and programmes is based on an assessment of the applicant's ability to assimilate third-cycle education, primarily based on prerequisite prior education. Particular consideration is given to the following:

- 1. Knowledge and skills of relevance to the degree project and subject. This can be demonstrated by attaching documentation and at any interview.
- 2. Assessed ability to work autonomously
  - a. ability to formulate and tackle scientific problems
  - b. ability to communicate well in speech and writing
  - c. maturity, judgement and ability to analyse critically and autonomously

For example, the assessment may be based on degree projects and discussion of these at an interview.

3. Other experience of relevance to third-cycle studies, such as professional experience.

# 3 Other regulationens needed

# 3.1 Transitional regulations

Doctoral students admitted under an earlier general syllabus may apply to change to the new general syllabus. A request to follow a new general syllabus should be addressed to PA and the Head of Division. The decision rests with the Head of School in consultation with FA.