



## General syllabus for third-cycle subject

Subject	Adopted	Registration number	Ks-kod
<b>History of Science, Technology and Environment</b>	<b>10 May 2017</b> <i>Revised</i> <i>26 September</i> <i>2018</i>	<b>V-2019-0260</b>	<b>3.2.3</b>

## General syllabus

**Established by the Faculty Council/Education Committee: 10/05/2017**

Revised: 26/09/2018

### **The name of the subject in Swedish and translated into English**

*Also indicated whether the subject has any specialisations.*

Historiska studier av teknik, vetenskap och miljö (History of Science, Technology and Environment)

### **Subject description. Main content of the programme**

The third-cycle subject History of Science, Technology and Environment studies technical, scientific and environmental change processes from a historical perspective. One focal point is investigating the social and conceptual driving forces behind such change processes. Another is studying the social and cultural consequences of the same processes. The subject belongs to both the humanities and social sciences.

The third-cycle education in History of Science, Technology and Environment is intended to give the student a good overview of current research and older knowledge traditions within the field along with sound theoretical and methodological training.

The main aim of the programme is to provide a basis for continued independent research within the field.

### **Programme objectives based on the Higher Education Ordinance, Annex 2, Qualifications Ordinance.**

*Each doctoral student's individual study plan shall be designed to guarantee the possibility of attaining the qualitative targets in the Higher Education Ordinance and KTH's objectives. Attainment shall be evaluated for each individual doctoral student. This shall be done annually by monitoring the individual study plan. The latter shall comment on progression vis-à-vis the objectives based on the programme's courses and student's thesis work. Other activities, such as supervision and external activities in line with education and public outreach shall also be factored into this.*

*State the programme elements for promoting goal attainment. Other details are to be given in an appendix to the subject's study plan.*

#### Knowledge and understanding

*For a Degree of Doctor, the doctoral student must*

- demonstrate broad knowledge within and a systematic understanding of the research area as well as deep and up-to-date specialist knowledge within a defined part of the research area, and*
- demonstrate familiarity with scientific methodology in general and with the methods of the specific research area in particular.*

The overarching goals "knowledge and understanding" are attained primarily through participation in courses and one's own supervised research.

#### Skills and abilities, including communication ability

*For a Degree of Doctor, the doctoral student must*

- demonstrate skills in scientific analysis and synthesis and ability to independently and critically consider and assess new and complex phenomena, questions and situations,*

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- *demonstrate ability to critically, independently, creatively and with scientific meticulousness identify and formulate questions as well as plan and conduct research and other qualified tasks using adequate methods within given time frames and review and evaluate such work,*
- *write a thesis to demonstrate their ability to make significant contributions to knowledge development through their own research,*
- *demonstrate ability in both national and international contexts, verbally and in writing, to confidently present and discuss research and research findings in dialogue with the scientific community and society in general.*
- *demonstrate an ability to identify needs for further knowledge, and*
- *demonstrate ability, both in research and education and in other qualified professional contexts, to contribute to society's development and support the learning of others.*

The overarching goals “competence and skills” are attained primarily through thesis work, but with support in the courses. Herein is included training in reading, understanding and criticising scientific texts and in arguing for or against findings and standpoints, both one’s own and those of others. Communicating and discussing findings is trained specifically in the mandatory course 1N5504 Communicating Research and through presentations at conferences.

### *Judgement and approach*

*For a Degree of Doctor, the doctoral student must*

- *demonstrate intellectual independence and scientific integrity as well as the ability to make ethical research assessments, and*
- *demonstrate a profound insight into the possibilities and limitations of the discipline, its societal role and the responsibility people bear for how it is used.*

The overarching goals “judgement and approach” are attained in collegial contexts and in courses and thesis work. Intellectual independence is trained and examined both through article publication and during the thesis work.

### *Sustainable development*

*For a Degree of Doctor, the doctoral student must*

- *demonstrate knowledge of, and an ability to make relevant environmental and ethical assessments in order to be able to contribute to sustainable societal development.*

The sustainable development objectives are primarily attained through the supervised thesis project, in which sustainability-related research questions connected to the thesis subject are identified and discussed, and through completion of the compulsory third-cycle courses F1N5503 and AK3101, which include sustainable development as one of several themes. Objectives are also attained through participation in seminars and other activities within the scope of environmental humanities.

## **Specific entry requirements**

*Subject knowledge requirements and any language requirements are specified here*

To be admitted to the third-cycle programme within History of Science, Technology and Environment, the applicant must have passed courses resulting in at least 60 higher education credits at minimum second-cycle level within history subjects or other subjects within the humanities or social sciences deemed relevant. These entry requirements can also be considered fulfilled by an applicant who has acquired the equivalent knowledge in a different order.

Doctoral Students are expected to be able to read and write scientific English, be able to speak English fluently and have documented skills in writing a longer scientific dissertation within the subject area.

## **Selection rules**

Selection for third-cycle education is based on assessed ability to assimilate such education. The ability assessment is primarily based on having passed courses and programmes that satisfy the entry requirements. Particular consideration is given to the following:

1. Knowledge and skills relevant for thesis work and the subject. These can be demonstrated via attached documents and, potentially, an interview.
2. Assessed ability to work independently
  - 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 independently

The assessment may be based, for example, on degree projects and discussion of these at a possible interview.

3. Other experience relevant for third-cycle education, e.g. professional experience.

## **Contents and examination of course element**

Third-cycle courses must include a written knowledge test. In some cases, this can be replaced by an oral examination. The examination must be designed so that the examiner can be convinced in each individual case that the student has absorbed the full course content.

The Degree of Licentiate comprises a course element of 45 HE credits and a dissertation component of 75 HE credits which make up a combined total of 120 HE credits. The Degree of Doctor comprises a course element of 90 HE credits and a thesis component of 150 HE credits, which make up a combined total of 240 HE credits.

The course elements for both the licentiate and doctorate degree consists of compulsory and elective courses. The elective courses must be chosen in consultation with the principal supervisor and be included in the individual study plan. They are intended to provide broad knowledge, primarily in conjunction to the work with the student's dissertation/thesis. The courses are to be taken in the order agreed by the student and their principal supervisor in the individual study plan.

### **Compulsory courses**

Compulsory courses corresponding to 30 HE credits for a Degree of Licentiate and 45 HE credits for a Degree of Doctor. The compulsory courses and credits are listed below.

- AK3103 Theory and Method in History, Part 1 7.5 HE credits. For a Degree of Licentiate
- AK3104 Theory and Method in History, Part 2 7.5 HE credits
- 1N5504 Research Communication 7.5 HE credits
- 1N5503 The Research Process, Introductory course 7.5 HE credits For a Degree of Licentiate

- AK3101 Perspectives on Science, Technology and Landscape in Time and Space 15.0  
HE credits For a Degree of Licentiate

If the doctoral student intends to teach during their third-cycle studies, a higher education teaching course comprising at least 3 HE credits is required. The course is also recommended for doctoral students who do not teach.

### **Elective courses**

In addition to the compulsory courses, the doctoral student must also take elective third-cycle courses at the division or at another university, or individual study courses developed in collaboration with the supervisor.

Courses within the following fields of knowledge are recommended for doctoral students in History of Science, Technology and Environment: anthropology, eco-criticism, ethnology, economic history, research policy, gender studies, history of ideas, industrial heritage research, environmental history, environmental humanities, political ecology, history of technology, science and technology studies, history of science and theory of science.

Following an agreement with the principal supervisor and approval by the departments admissions board, the individual study plan may include a maximum of 15 credits for completed first-cycle and second-cycle courses (no more than 10 HE credits may be for first-cycle courses). The first-cycle courses may only be counted if they relate to a field of knowledge relevant to the third-cycle programme and their completion does not constitute an entry requirement. More information can be found in KTH's local system of qualifications.

### **Qualification requirements**

#### **Degree of Doctor**

*A Degree of Doctor comprises 240 credits. At least 120 credits must consist of the doctoral thesis.*

#### **Thesis**

*Quality requirements and possible other requirements for the thesis.*

The aim of the thesis is for the student to develop the ability to make independent contributions to research and an ability for scientific cooperation, inside and outside their own subject.

The thesis must thus be based on independent research. The doctoral student's contribution to the texts with multiple authors included in the thesis must be distinguishable.

A doctoral thesis can either be written as a compilation of scientific articles or as a monograph. In case of the former, there must be a separately written summary. Irrespective of whether the thesis is intended as a monograph or a compilation thesis, international publication of achieved results must be sought throughout the programme. The thesis is normally written in English.

Regardless of whether the doctoral thesis is presented as a monograph or as a compilation thesis, it must be of such quality that it is deemed a suitable basis for at least four regular articles that can be published in internationally recognised, peer-reviewed journals.

#### **Courses**

A Degree of Doctor requires 90 credits obtained through courses.

## **Degree of Licentiate**

*A Degree of Licentiate comprises at least 120 credits. At least 60 credits must consist of the dissertation.*

### **Licentiate thesis**

*Quality requirements and possible other requirements for the thesis.*

The aim of the licentiate thesis is for the student to develop the ability to make independent contributions to research and an ability for scientific cooperation, inside and outside their own subject.

The thesis must thus be based on independent research. The doctoral student's contribution to the texts with multiple authors included in the thesis must be distinguishable.

The thesis can either be written as a compilation of scientific articles or as a monograph. In case of the former, there must be a separately written summary. Irrespective of whether the thesis is intended as a monograph or a compilation thesis, international publication of achieved results must be sought throughout the programme. The thesis is normally written in English.

Regardless of whether the dissertation is presented as a monograph or as a compilation of scientific papers, it must be of such quality that it is deemed a suitable basis for at least two regular articles that can be published in internationally recognised, peer-reviewed journals.

### **Courses**

A Degree of Licentiate requires 45 credits obtained through courses.

Appendix

Qualitative targets, including KTH's objectives, as per the Higher Education Ordinance (Appendix 2 – Qualifications Ordinance) for concretising the subject and information on how the programme has been structured to help the doctoral student reach the targets.

Degree of Doctor

<p><b>Objectives based on the Higher Education Ordinance, Annex 2 – Qualifications Ordinance</b></p> <p><i>For a Degree of Doctor, the doctoral student must</i></p>	<p><b>Concretisation and adaptation of targets to the third-cycle subject area</b></p>	<p><b>Programme elements that promote goal attainment</b></p>
<p><i>demonstrate broad knowledge in and a systematic understanding of the field of research and deep and up-to-date specialist knowledge in a delimited part of the field of research</i></p>	<p><i>Broad knowledge</i> in and a systematic understanding of <b>the field</b> History of Science, Technology and Environment may for example involve the doctoral student being able to relate their own thesis work to the field of research and the delimited field of research.</p> <p>Demonstrate deep and up-to-date specialist knowledge in the delimited field of research that concerns the thesis work can for example involve reading and discussing relevant literature that specifically concerns their own research.</p>	<p><b>This goal can be attained for example by:</b></p> <p>Carrying out independent research in the field of research.</p> <p>Reading scientific articles and books, attending courses and participating actively in conferences, seminars and workshops in the field of research.</p>
<p><i>demonstrate familiarity with scientific methodology in general and with the methods of the specific research area in particular.</i></p>	<p><i>Familiarity with scientific method in general</i> may for example concern the doctoral student understanding and being able to describe what characterises a humanistic method, the importance of meticulousness, a systematic approach and scientific integrity.</p> <p>Familiarity with methods within <i>History of Science, Technology and Environment in particular</i> may for example concern the doctoral student understanding and being able to describe different research approaches and several qualitative methods that are normally used in the field of History of Science, Technology and Environment.</p>	<p><b>This goal can be attained for example by:</b></p> <p>Learning to identify and formulate relevant questions in the research field and discussing how collection of material and analysis should be done to answer these questions.</p> <p>Reading scientific literature in the field and related fields, discussing and reflecting on selected scientific methods and research approaches.</p> <p>Actively participating in seminars and conferences and in discussions where theory and methodology are discussed.</p> <p>Completing the compulsory courses AK3103 Theory and Method in History, Part 1 7.5 HE credits AK3104 Theory and Method in History, Part 2 7.5 HE credits</p>
<p><i>demonstrate skills in scientific analysis and synthesis and ability to independently and critically consider and assess new and complex phenomena, questions and situations,</i></p>	<p><i>An ability to conduct scientific analysis and synthesis</i> may for example involve the doctoral student being able to independently analyse collected data and interpret their findings in relation to earlier research.</p> <p><i>Ability to independently critically review and assess new and complex phenomena, questions and situations</i> may for example involve the doctoral student being able to review others' scientific works and discussing different ways to explore complex phenomena and suggest how these insights can be used in their own research.</p>	<p><b>This goal can be attained for example by:</b></p> <p>Practising analysing/interpreting and compiling various kinds of information into a context relevant to the question.</p> <p>Practise thinking in an interdisciplinary manner.</p> <p>Review, discuss and give constructive feedback on other doctoral students' texts.</p> <p>Practise independently evaluating reasons why empirical studies have not produced the expected results and</p>

<p><b>Objectives based on the Higher Education Ordinance, Annex 2 – Qualifications Ordinance</b></p> <p><i>For a Degree of Doctor, the doctoral student must</i></p>	<p><b>Concretisation and adaptation of targets to the third-cycle subject area</b></p>	<p><b>Programme elements that promote goal attainment</b></p>
		<p>discussing how these insights can be used to carry the project/question forward and/or give ideas for new questions.</p>
<p><i>demonstrate an ability to critically, independently, creatively and with scientific meticulousness identify and formulate questions as well as plan and conduct research and other qualified tasks using adequate methods within given time frames and review and evaluate such work</i></p>	<p>This may for example relate to the doctoral student independently planning the implementation of a substudy, including the formulation of questions, and suggesting methods of data collection and analysis.</p>	<p><b>This goal can be attained for example by:</b></p> <p>Practise independently planning and executing studies/investigations in a reliable manner, including a review of existing literature to be able to formulate a relevant scientific question that is to be answered, plan appropriate empirical investigations.</p> <p>Participate actively in research seminars where others' studies/investigations are analysed and discussed.</p> <p>Read courses in scientific method, such as AK3103 and AK3104. <a href="#">Click here to enter text.</a></p>
<p><i>write a thesis to demonstrate their ability to make significant contributions to knowledge development through their own research</i></p>	<p>This goal is attained by writing and defending a thesis in the subject of history, which can be a monograph or an aggregation of articles in either Swedish or English.</p>	<p>As the thesis plays such a central role in the third-cycle education, there are several activities that promote the attainment of this goal. Supervisor session are used to plan and discuss the research included in the thesis. Chapters or articles are presented in seminars and conferences. Texts for the entire topic are presented at three control stations: PM presentation, half-time seminar and final seminar.</p>
<p><i>demonstrate ability in both national and international contexts, verbally and in writing, to confidently present and discuss research and research findings in dialogue with the scientific community and society in general.</i></p>	<p>This may for example relate to the doctoral student presenting their own research results at seminars in the department, at national and international conferences, and to the doctoral student presenting research results by writing conference contributions, thesis chapters and scientific articles.</p>	<p>Participate in, and successively to an increasing degree be independently responsible for, the writing of scientific works/articles based on their own research findings.</p> <p>Participate actively in research seminars and scientific conferences/meetings by presenting their own research findings and their own scientific works/articles.</p> <p>Take the course 1N5504 Research Communication 7.5 HE credits.</p>
<p><i>demonstrate ability to identify needs for further knowledge</i></p>	<p>An <i>ability to identify needs for further knowledge</i> may for example involve the doctoral student suggesting literature/courses/conferences that are considered necessary to advance</p>	<p>Participate in and being increasingly responsible for, the writing of scientific articles/works, primarily by independently searching for and reading scientific literature that relates to their own research.</p> <p>Stay informed about current research related to the thesis work and on the</p>

<p><b>Objectives based on the Higher Education Ordinance, Annex 2 – Qualifications Ordinance</b></p> <p><i>For a Degree of Doctor, the doctoral student must</i></p>	<p><b>Concretisation and adaptation of targets to the third-cycle subject area</b></p>	<p><b>Programme elements that promote goal attainment</b></p>
	<p>their research work.</p>	<p>basis of this information practise identifying and formulating questions that it would be motivated to investigate.</p> <p>Participate actively in project planning, both as regards continuation of ongoing projects/studies and planning new projects/studies, and learn to identify needs for new knowledge before the project can be planned and implemented.</p>
<p><i>demonstrate ability, both in research and education and in other qualified professional contexts, to contribute to society’s development and support the learning of others.</i></p>	<p>Demonstrating prerequisites, both in research and education and in other qualified professional contexts, to contribute to society’s development and support others’ learning may for example involve the doctoral student being involved in teaching on foundation courses or presenting research findings for the general public. It may also involve the doctoral student identifying aspects of the research that can contribute to a better society.</p>	<p>Develop their pedagogical abilities, for example through courses in higher education teaching.</p> <p>Participate actively in teaching and supervising students.</p> <p>Participate in “the third task”, i.e. present and in different ways disseminate information on science and his/her own research to society.</p> <p>Identify questions in their own research field that can contribute to a better society.</p> <p>Present their research in different contexts, for example at conferences or workshops directed at different target groups (researchers, practitioners, representatives of industry/school/other authorities) or in popular science contexts.</p> <p>Take the course 1N5504 Research Communication 7.5 HE credits.</p>
<p><i>demonstrate intellectual independence and scientific integrity as well as the ability to make ethical research assessments</i></p>	<p>Demonstrating intellectual independence and scientific integrity and an ability to make research-ethical assessments may for example involve the doctoral student discussing ethical aspects that concern scientific activities in general and their own research in particular. It may also involve the doctoral student carrying out research tasks meticulously and systematically, arguing for their own research ideas and acting in accordance with ethical guidelines.</p>	<p>Discuss research-ethical aspects of their own research and the meaning and importance of scientific integrity.</p> <p>Practise formulating and identifying new executable research ideas, suggest scientific methodology to investigate these ideas.</p> <p>Taking the course F1N5503, which includes ethics as an element.</p>
<p><i>demonstrate a profound insight into the possibilities and limitations of the discipline, its societal role and the responsibility people bear for how it is used</i></p>	<p>Demonstrating a profound insight into science’s possibilities and limitations, its role in society and people’s responsibility for how it is used may for example involve the doctoral student reflecting on and discussing science’s possibilities and</p>	<p>Reflect on and discuss science’s possibilities and limitations both in general and in their own research.</p>

<p><b>Objectives based on the Higher Education Ordinance, Annex 2 – Qualifications Ordinance</b></p> <p><i>For a Degree of Doctor, the doctoral student must</i></p>	<p><b>Concretisation and adaptation of targets to the third-cycle subject area</b></p>	<p><b>Programme elements that promote goal attainment</b></p>
	<p>limitations, both in general and in relation to their own research, and discussing how their findings can/should be used.</p>	
<p><i>(KTH's objectives for MHU) demonstrate knowledge of, and an ability to make relevant environmental and ethical assessments in order to be able to contribute to sustainable societal development.</i></p>	<p><i>Having demonstrated knowledge of and ability to assess for example environmental or ethical questions so that they after the awarding of the degree can contribute to sustainable development of society may for example involve the student being able to reflect on and discuss environmental, sustainability and ethical aspects that concern the implementation of their own research and possibly also its focus.</i></p> <p>It may also involve the doctoral student contributing, where possible, to reducing environmental impact in the implementation of their own research (as regards travelling, meetings and material and energy consumption).</p>	<p>Participate in the school's/department's environmental work.</p> <p>Reflect on and discuss environmental and ethical aspects that concern the carrying out of their own research and possibly also its focus.</p> <p>Take the course in Political Ecology or Green Humanities on sustainable development.</p> <p>Participate in activities within the scope of KTH Environmental Humanities Laboratory.</p>

**Degree of Licentiate**

<p><b>Objectives based on the Higher Education Ordinance, Annex 2 – Qualifications Ordinance</b></p> <p><i>For a Degree of Licentiate, the doctoral student must</i></p>	<p><b>Concretisation and adaptation of targets to the third-cycle subject area</b></p>	<p><b>Programme elements that promote goal attainment</b></p>
<p><i>demonstrate knowledge and understanding within the research field, including current specialist knowledge within a part thereof, as well as advanced knowledge of general scientific methods and the methods of the specific research field in particular</i></p>	<p>This may for example concern the doctoral student being able to relate their own thesis work to the field of research and adjacent fields, and understanding and being able to describe what characterises a humanistic method, the importance of meticulousness, a systematic approach and scientific integrity.</p>	<p>Discuss and formulate relevant questions, plan and conduct collection of material and analysis to answer these questions.</p> <p>Participate in a leading role in the writing of scientific text based on their own research findings.</p> <p>Participate actively in seminars that focus specifically on the scientific method.</p> <p>Read scientific literature in the field and discuss selected approaches and methods, implementation of studies, reliability of obtained results and conclusions.</p> <p>Take the course AK3103 Theory and Method in History, Part 1 7.5 HE credits to obtain an overview of different methods and research approaches and familiarity with scientific method.</p>
<p><i>demonstrate ability to critically, independently, creatively and with scientific meticulousness identify and formulate questions as well as plan and conduct limited research and other qualified tasks using adequate methods within given time frames, thereby contributing to knowledge development, and review and evaluate such work.</i></p>	<p>This may for example relate to the doctoral student independently planning the implementation of a substudy, including formulation of questions, suggesting methods of data collection and analysis; the doctoral student being able to independently analyse collected data and interpret their own results in relation to previous research; and the doctoral student being able to review the scientific works of others and discuss different ways of exploring complex phenomena and suggest how such insights could be applied in their own research.</p>	<p>Participate in, and successively to an increasing degree be independently responsible for, planning of new studies, including formulation of questions to be answered and selection of appropriate scientific methodology.</p> <p>Practise independently and critically analysing and evaluating various kinds of information, for example findings from their own empirical studies, literature, presentations at conferences, etc., and on the basis of these suggest how these insights can be used in their own research.</p> <p>Practise critically analysing and interpreting complex findings from different studies, including those that have given unexpected results, and on the basis of this identify new opportunities for new knowledge and new questions.</p> <p>Participate actively in research seminars where others' texts/studies are analysed and discussed.</p>
<p><i>demonstrate ability in both national and international contexts, verbally and in writing, to clearly present and discuss research and research findings in dialogue with the scientific community and</i></p>	<p>This may for example relate to the doctoral student presenting their own research results at seminars in the school, at national and international conferences, and to the doctoral student summarising research results by writing conference contributions</p>	<p>Participate in, and successively to an increasing degree be independently responsible for, the writing of scientific works/articles based on their own research findings.</p> <p>Participate actively in research seminars and scientific conferences/meetings by presenting their own research findings and their</p>

<p><b>Objectives based on the Higher Education Ordinance, Annex 2 – Qualifications Ordinance</b></p> <p><i>For a Degree of Licentiate, the doctoral student must</i></p>	<p><b>Concretisation and adaptation of targets to the third-cycle subject area</b></p>	<p><b>Programme elements that promote goal attainment</b></p>
<p><i>society in general.</i></p>	<p>and scientific articles.</p>	<p>own scientific works/articles.</p>
<p><i>demonstrate such skills as are required to independently participate in research and development work and to work independently in other qualified activities</i></p>	<p>This may for example relate to the doctoral student formulating assignments and projects to a greater extent, reflecting on how they can contribute to other qualified activities.</p>	<p>Teach at first-cycle and second-cycle level.</p> <p>Perform the third task by participating in activities involving contact with other qualified activities.</p>
<p><i>demonstrate the ability to make research ethical assessments in their own research.</i></p>	<p>This may for example relate to the doctoral student being able to discuss ethical aspects concerning academic activities in general and their own research in particular. It may also involve the doctoral student carrying out research tasks meticulously and systematically, arguing for their own research ideas and acting in accordance with ethical guidelines.</p>	<p>Carry out their research tasks accurately, systematically and with scientific integrity.</p> <p>Discuss research-ethical aspects and scientific integrity at supervision meetings or seminars.</p> <p>Take the course F1N5503.</p>
<p><i>demonstrate an insight into the possibilities and limitations of the discipline, its societal role and the responsibility people bear for how it is used</i></p>	<p>This may for example relate to the doctoral student reflecting on and discussing the possibilities and limitations of science, both in general and in relation to their own research, and discussing how results can and should be used.</p>	<p>Reflect on and discuss science's possibilities and limitations both in general and in their own research.</p>
<p><i>demonstrate the ability to identify their need for further knowledge and to take responsibility for their own knowledge acquisition.</i></p>	<p>This may for example involve the doctoral student suggesting literature/courses/conferences that are considered necessary to advance their research.</p>	<p>Stay informed about current research related to the thesis work and on the basis of this information practise identifying and formulating questions that it would be motivated to investigate.</p> <p>Participate actively in project planning, both as regards continuation of ongoing projects/studies and planning new projects/studies, and learn to identify needs for new knowledge before the project can be planned and executed.</p>
<p><i>(KTH's objectives for MHU) demonstrate knowledge of, and an ability to make relevant environmental and ethical assessments in order to be able</i></p>	<p>Having <i>demonstrated knowledge of and ability to assess for example environmental or ethical questions so that they after the awarding of the degree can contribute to sustainable development</i> of society may for example involve the student being able to reflect</p>	<p>Participate in the school's/department's environmental work.</p> <p>Reflect on and discuss environmental and ethical aspects that concern the carrying out of their own research and</p>

<p><b>Objectives based on the Higher Education Ordinance, Annex 2 – Qualifications Ordinance</b></p> <p><i>For a Degree of Licentiate, the doctoral student must</i></p>	<p><b>Concretisation and adaptation of targets to the third-cycle subject area</b></p>	<p><b>Programme elements that promote goal attainment</b></p>
<p><i>to contribute to sustainable societal development</i></p>	<p>on and discuss environmental, sustainability and ethical aspects that concern the implementation of their own research and possibly also its focus.</p> <p>It may also involve the doctoral student contributing, where possible, to reducing environmental impact in the implementation of their own research (as regards travelling, meetings and material and energy consumption).</p>	<p>possibly also its focus.</p> <p>Take the course in Political Ecology or Green Humanities on sustainable development.</p> <p>Participate in activities within the scope of KTH Environmental Humanities Laboratory.</p>