HL103X Degree Project in Medical Engineering, First Cycle 15.0 credits

Examensarbete inom medicinsk teknik, grundnivå

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for HL103X valid from Spring 2019

Grading scale

P, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

To start a degree project is required that the courses that are considered relevant for the degree project are passed and that at least 120 credits from the programme syllabus of the programme (consisting of completely completed courses) is clear. The student's eligibility, to

carry out and complete the degree project, are assessed and accepted by an examiner before course registration.

Course registration and starting the degree project can at the earliest take place during the final semester in the degree programme.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

The student should in the degree project in an independent way apply and develop knowledge, understanding, abilities and approaches in the field of the education. The degree project should lie at the end of the education and implies a specialisation and synthesis of earlier acquired knowledge. In the degree project is emphasised both technically/scientific contents and method knowledge.

After completed degree project, the student should show such skills that is required to work in the field that the education intends according to KTH's local aim for Degree of Bachelor based on the aims in the Higher Education Ordinance. These include to:

- show knowledge and understanding within the main area of study, including knowledge of the disciplinary foundation of the field, knowledge of applicable methods in the area, specialisation within some part of the field and orientation about current research and development
- demonstrate the ability to search, collect, evaluate and interpret relevant information critically in a problem
- demonstrate the ability independently to identify, formulate and solve problems as well as to analyse and evaluate different technical solutions
- demonstrate the ability to integrate and use knowledge
- demonstrate the ability to plan and carry out assignments within given framework
- demonstrate the ability to discuss phenomena, issues and situations critically as well as model developments based on relevant information
- demonstrate the ability to describe and develop simple proposals for products, processes and systems considering the preconditions of people and needs and the aim of the society for economic, social and ecologically sustainable development
- demonstrate the ability to in cooperation plan, carry out and present given assignments
- demonstrate the ability to in Swedish or in English orally and in writing account for and discuss information, problems and solutions in dialogue with different groups
- demonstrate the ability to (in the main field of study for the education) make assessments considering relevant scientific, social and ethical aspects
- demonstrate an understanding of the role of the knowledge and the technology in the society and the people's responsibility of how these are used

- demonstrate the ability to identify his need of additional knowledge and to develop his skills

Course contents

Learning activities

The degree project is an individual assignment that is carried out of one or two students.

The student formulates a project proposal that has been presented to examiner for approval. The project proposal concerns specific background, aim, aim and method. It should give possibility to a natural progression of the knowledge and skills that have been acquired in the education.

Examiner controls, that the student satisfies the general and specific entry requirements for degree project and that the suggested degree project can satisfy the intended learning outcomes for degree project. Examiner also controls that the degree project falls in the degree programme/even subject area as well as that the issues show on appropriate progression in the education.

Examiner appoints supervisor at KTH and accepts possible other supervisor

The degree project can be registered after the examiner has accepted the assignment.

The student writes a plan for the degree project in which the problem/assignment and the preconditions for the implementation of the work be specified. The plan describes background including problem description and scientific aspects, purpose, aim, demarcations, the relevance of the project, methods and time plan for the implementation of the degree project. In the plan, a brief self-reflection where the student accounts for his preconditions to carry out the assignment is also inserted, as well as plan for how possible remaining courses should be completed. The plan for the degree project should be accepted of examiner.

The student carries out an advanced literature and pilot study with discussion of methods and theories that are presented in a preliminary version of the degree project report

The student carries out an independent degree project, where knowledge and methods from the education are applied. The student documents continuous his work.

The student plans and carries out an oral presentation and defence of the own degree project.

The student carries out an oral and a written critical review on another degree project on the same level.

The student presents the degree project in a written report; where are accounted for and be discussed conclusions in the degree project and the knowledge and the arguments that underlie these.

The examiner is responsible for checking plagiarism of the degree project report. The student supplements when necessary report after the assessment of examiner before publication.

The student carries out a self-assessment of the degree project according to the model for "Assessment of quality of degree project for engineer and Degree of Bachelor". The self-assessment is enclosed to the degree project report

KTH's policy for public attendance applies to the implementation of the degree project as well as for publication of the report. The degree project report is published electronically in DiVA according to the rules that apply to electronic publication of degree projects at KTH.

Examination

- XUPP - Examination Question, 15.0 credits, grading scale: P, F

Based on recommendation from KTH’s coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Other requirements for final grade

- Individual plan for degree project
- Active attendance at oral presentations of degree project
- Pre-study, discussion of method choice and literature study
- Self-assessment report
- Oral presentation
- Written and oral critical review on other student's degree project
- Written report with summary/abstract both in Swedish and English

Time limit

Requirements according to KTH's regulatory framework for degree projects and all examination parts as mentioned above shall be approved within a year from the starting date of the degree project. Otherwise, the degree project will be ended with a failed grade, unless special circumstances apply.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.