



HL2029 Medical Engineering, Advanced Course 6.0 credits

Medicinsk teknik, fördjupningskurs

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 HL2029 valid from Autumn 2019

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Medical Engineering

Specific prerequisites

Bachelor's degree in Medical Engineering, Applied or Theoretical Physics, Electrical Engineering or equivalent. Knowledge of anatomy and physiology corresponding to the course SK2530 "Introduction to Biomedicine" is recommended.

Language of instruction

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

Intended learning outcomes

The course intends to improve, extend, expand and systematize the theoretical knowledge and practical skills in the subject area closely related to the topic of Master Thesis in medical engineering.

After the course is successfully completed, student will acquire the theoretical knowledge and practical skills to be able to:

- Search, collect, systematize and critically assess the information related to the topic of interest.
- Identify different approaches to solve the given problem related to the topic of interest. Discuss advantages and drawbacks of each approach.
- Perform initial mathematical calculation, theoretical modeling or pilot laboratory experiments to support formulated hypothesis.
- Discuss and critically assess acquired result. Draw meaningful conclusions.
- Position novel findings in a frame of existing knowledge (State of the art) and propose future outlook of the work.

Course contents

Introductory lecture in a form of information meeting, where specific objectives and requirements for the project as well as timeline of the activity are discussed among course responsible person, supervisor/mentor, and student.

The role of:

- Course responsible person is to ensure that supervisor/mentor is assigned, monitor the regularity of the meeting and work progress according to formulated timeline.
- Supervisor/mentor is to ensure that the problem within general topic of interest is assigned, the timeline and activity plan is developed and feasible, the tutorship is provided on regular basis.
- Student is to ensure active engagement and participation in activities proposed by supervisor/mentor, propose novel approaches and solutions.

At the end of the course technical report that summarize carried out activities and discuss the achieved results should be submitted to the course responsible person.

Examination

- PRO1 - Project, 6.0 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.

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.