HL2032 Medical Engineering, Project Course 9.0 credits

Medicinsk teknik, projektkurs

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

Establishment

Course syllabus for HL2032 valid from Autumn 2019

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Medical Engineering

Specific prerequisites

Equivalent to the special admission requirements for the master program in Medical Engineering. The student should also have a general knwoledge about project management, oral and written presentation technique as well as anatomy and physiology.

Language of instruction

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

Intended learning outcomes

Background

This course is offered at the end of the master programme in Medical Engineering

As an engineer you need to be able to integrate skills and knowledge from different courses within this programme. It is also expected from you to be able to construct a product or prototype from a given, not completely finished, specification of requirement, both as participant and as a project manager. To manage this you will also need to acquire new information and knowledge, which is a life-long process.

Main Objectives

The aim of this course is to give you skills to participate in and conduct a practical design project.

This means that you should be able to integrate and deepen your knowledge from earlier or parallel going courses in a complex problem.

Since the task will be chosen from the area of medical engineering you might need to apply your medical knowledge.

The result of this course will be a prototype which fulfils certain requirements and a correct report describing the product and the process of the project as well as an oral presentation.

Expected skills

After passing the course the student should be able to:

•Participate in and conduct project groups with similar problems

•Show an analytic ability by dividing a larger problem into smaller sub problems

•Show the ability to use relevant prerequisites to solve the task

•Show ability to independently search or ask for relevant information to solve the task

o Interpret data sheets and technical manuals

o Use resource persons to acquire searched

information

•Orally present a technical product and discuss the work

•Be able to produce a well disposed technical report with good linguistic and scientific quality

•Show the ability to review your own and others work

For higher grades it is also required that the student

•Can suggest several alternative solutions to a given problem and chose the best one from certain criteria

•Can make assumptions of performance or inaccuracy in the constructed prototype

•Can suggest improvements of the presented construction that could be implemented in a later version

• Have shown a large degree of independence

Course contents

The project work will be to construct a prototype fulfilling certain requirements. The work will be performed in groups and presented orally and written

Disposition

The project can be done at KTH or at an exterrnal company or hospital.

Course literature

No course book. Finding suitable literature is part of the project work

Examination

• PRO1 - Project, 9.0 credits, grading scale: A, B, C, D, E, FX, 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.

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

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.