



HI2010 Medical Information and Communication Systems

6.0 credits

Medicinska informations- och kommunikationssystem

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

Establishment

On 2020-04-17, the Head of School of CBH has decided to establish this official course syllabus to apply from the autumn semester 2020 (registration number C-2020-0762).

Grading scale

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

Education cycle

Second cycle

Main field of study

Information and Communication Technology

Specific prerequisites

120 credits including 90 credits in science and mathematics.

Basic knowledge in probability theory and statistics, such as HF1012 Mathematical Statistics

Language of instruction

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

Intended learning outcomes

By the end of the course the students should be able to:

- describe and discuss health informatics and biomedical technology
- find, analyse, synthesise and present scientific articles in the subject area
- use common ICT requirements methods to identify, reason, and analyse the medical and care needs of ICT solutions
- implement simple ICT systems with applications in the subject area
- apply basic signal processing algorithms to biomedical signals

Course contents

The course is broad introduction to the field of biomedical and health informatics as well as standards and regulations in medical technology. The application areas include healthcare, preventive care, elderly care, well-being, sports, mHealth, home care, etc. The focus is on the use of modern information and communications technology (ICT) solutions in these areas. The course also contains an in-depth part, where a narrower topic within the field is studied.

The practical parts of the course consist of labs covering the processing of physiological signals and the construction of software systems for wireless sensors and mobile applications in health and sports.

Examination

- LAB1 - Lab Work, 2.0 credits, grading scale: P, F
- RED2 - Report, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Written exam, 2.0 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.

Passed presentations (RED2; 32 credits), grade scale A-F

Passed laboratory work (LAB1; 2 credits), grade scale P/F

Final grade, grade scale A-F

Final grade is based on the lower grade of RED2 and TEN1.

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.