



FSH3211 Image Quality in Medicine 12.0 credits

Bildkvalitet inom medicin

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 FSH3211 valid from Spring 2019

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

MSc in Engineering Physics, or similar.

Language of instruction

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

Intended learning outcomes

After completing the course the student should be proficient in medical imaging in terms of the different techniques in detail, and the evaluation of these definitions of the measure of image quality. The student should be able to carry out the experiments required for the measurement of relevant parameters, and also be familiar with the detailed theory.

Course contents

The course content is chosen together with the examiner from the following or related areas, based on the book "Foundations of Image Science" by Harrison H. Barrett and Kyle J. Myers, Wiley, 2004, 1540 pages. These include e.g.,:

- Transforms used in medical imaging
- Stochastic descriptions of objects and images
- Statistical decision theory, such as ROC
- Image Quality
- Coherent imaging

Course literature

"Foundations of Image Science" by Harrison H. Barrett and Kyle J. Myers, Wiley 2004, 1540 pages.

Examination

- INL1 - Assignment, 4.5 credits, grading scale: P, F
- PRO1 - Project, 4.5 credits, grading scale: P, F
- SEM1 - Seminars, 3.0 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

Written report combined with an oral presentation

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.