CM210V Postprocessing in Magnetic Resonance Imaging 2.0 credits

Efterbehandling i magnetresonansavbildning

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 CM210V valid from Autumn 2024

Grading scale

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

Education cycle

Second cycle

Main field of study

Medical Engineering

Specific prerequisites

Completed degree project 15 credits, 15 credits in mathematics, 15 credits in physics, 6 credits in programming. Alternatively, 1 year of professional experience in medical technology, technical physics, electrical engineering, or computer science. English 6/B.

Language of instruction

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

Intended learning outcomes

After successful completion of the course the students should be able to

- describe the most common image artifacts associated with magnetic resonance imaging (MRI) and how they can be reduced/avoided during postprocessing.
- describe the most common postprocessing steps used for advanced MRI pulse sequences.

In order to:

- select the most appropriate postprocessing pipeline for specific applications.
- have a broad knowledge base that can ease understanding literature in the field.

Course contents

The course is divided into two modules:

- Postprocessing methods for reducing artifacts in MRI
- Methods for group comparisons

Examination

- 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.

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.