DM1576 Image and Video Technology 9.0 credits

Bild- och videoteknik

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

Establishment

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

For single course students: completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B, English corresponding to English A. Furthermore: 7,5 hp in mathematics and university studies in the area of electrical principals and waves, as well as basic computer science.

Language of instruction

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

Intended learning outcomes

After the course the student should be able to:

- choose and motivate different solutions for video systems
- seek and value technical information
- estimate required information volumes, bandwidths and transfer time for different media at different quality levels
- communicate with experts.

Course contents

Convergence between different media such as tele-, IT- and television are today one of the most exciting achievements of our time. There is a need to combine content for different platforms which puts new demands on the engineers. In this course we will start with the picture and how to capture it. We work our way through different signals and video standards, how to digitalize the signal and store it and in the end how to send and display it. Here are some of the topics:

- photography and image
- optics
- photometry
- video and videosignals
- filter
- AD/DA conversion
- storage
- distribution.

Course literature

Will be announced at the web page for the course at least 4 weeks before the course starts.

Examination

- PRO1 - Project, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 2.0 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.

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

In this course all the regulations of the code of honor at the School of Computer science and Communication apply, see: http://www.kth.se/csc/student/hederskodex/1.17237?l=en_UK.

Other requirements for final grade

Examination (TEN1; 4hp)

Laboratory assignments (LAB1; 2hp)

Project (PRO1; 3hp,)

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.