



SK2375 Optics, Supplementary Course for the Media Programme 6.0 credits

Optik, påbyggnadskurs för media

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

Establishment

Course syllabus for SK2375 valid from Autumn 2010

Grading scale

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

Education cycle

Second cycle

Main field of study

Physics

Specific prerequisites

For external students the following are required: 120 credits within natural sciences and engineering or corresponding knowledge and documented proficiency in Swedish B and English B or corresponding knowledge.

Recommended previous knowledge:

Basic mathematics courses for the programme in Media Technology. Spectral transforms is an advantage.

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 will be able to:

- choose the right optical technique for image registration or display in a given situation
- dimension and design illumination systems
- experimentally handle camera and projector optics
- understand and use optical novelties relevant to the programme

Course contents

Refresh of basic optics, camera optics, zoom, aberrations, depth of field and depth of focus, photometry, light transport in camera optics, projector optics and light transport in projectors, alternative projector and display types, optics of the human eye, 3D vision, color vision.

Course literature

Lecture notes that are posted on the course website no later than four weeks before the course starts.

Instructions to lab experiments.

Examination

- INL1 - Assignments, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory, 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.

The course is examined through continuous hand in tasks during the course from which the grades D and E can be achieved. For higher grades, the grade D on the hand in tasks is required, as well as an oral exam, for which time is booked individually with the examiner. (INL1; 4 hp, grading scale A-F)

Passed lab experiments (LAB1; 2 hp, grading scale P/F).

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.