



SK2371 Physics of Visual Impressions, Larger Course 9.0 credits

Synintryckens fysik, större kurs

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 SK2371 valid from Spring 2022

Grading scale

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

Education cycle

Second cycle

Main field of study

Engineering Physics, Physics

Specific prerequisites

English B / English 6

Language of instruction

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

Intended learning outcomes

The main goal with the course is to develop an understanding of vision related physics.

After the course, the student will be able to:

- estimate reasonableness of visual impressions specifications
- read technically scientific articles in Swedish and in English
- initiate and lead work with vision related characteristics of products in the chosen profession.

Course contents

Basic geometrical and physical optics. Optics of the human eye, accommodation, adaptation and convergence. Different methods for 3D-illusion. Wavelength and colour, colour spaces and colorimetry. Colour in dyes and pigments. Additive and subtractive colour mixing. Photometry and illumination. Cameras and imaging. Quality in camera imaging. Aliasing.

Examination

- RED1 - Report, 2.0 credits, grading scale: P, F
- TEN1 - Examination, 7.0 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.

Examination in two parts:

A technical news article in English or another non-Swedish language will be summarized to a presentation intended to be given to a non-technically educated group of people (RED1; 2 credits, grading scale P/F).

Exam where the range and general view of the topic is presented (TEN1; 7 credits, grading scale A-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.