



SK2303 Optical Physics 7.5 credits

Optisk fysik

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

The course plan applies from and including HT2023 according to school head decision: S-2022-1338. Decision date: 2022-10-14

Grading scale

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

Education cycle

Second cycle

Main field of study

Engineering Physics

Specific prerequisites

Completed degree project at undergraduate level in technical physics or medical physics.

Language of instruction

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

Intended learning outcomes

After passing the course, the student must be able to:

- Explain optical phenomena and solve problems related to optical applications
- Build and use optical setups to analyze optical phenomena
- Investigate optical phenomena with computer simulations

Course contents

Electromagnetic fields, propagation in vacuum and matter. Physical optics. polarization, interference, thin film optics, optical measurement technology. Diffraction, Fourier optics, coherence. Geometric optics, interlacing, including labs.

Examination

- LAB1 - Laboratory work, 2.5 credits, grading scale: P, F
- LAB2 - Computer laboratory work, 1.0 credits, grading scale: P, F
- TEN1 - Written exam, 4.0 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.