SK2907 Semiconductor Photonics 7.5 credits

Halvledarfotonik

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 is valid from and including VT 2026 according to faculty board decision: S-2024-0066. Decision date: 2024-10-07.

Grading scale

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

Education cycle

Second cycle

Main field of study

Engineering Physics

Specific prerequisites

Approved thesis at bachelor's level from a science-related program

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

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

• explain the physical principles of semiconductor-based optoelectronic and photonic components

• evaluate the properties of semiconductor materials and components for specific applications

• conduct experiments with photonic semiconductor materials and components

Course contents

Semiconductor photonics, with emphasis on optoelectronic and photonic component applications, properties of semiconductor materials, low-dimensional quantum structures and wavelength-scalable structures, trends in the development of semiconductor photonics and photonic integrated systems.

Examination

• LAB1 - Labs, 1.5 credits, grading scale: P, F

• TEN1 - Written exam, 6.0 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.