



SK1104 Classical Physics 7.5 credits

Klassisk 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 head of school at the SCI school has decided on 27 October 2020 to establish this syllabus to apply from Autumn 2021 (registration number S-2020-1250).

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

SF1673 Analysis in one variable, SF1672 Linear algebra and SF1674 Multivariable calculus. These course are studied in parallel with this course.

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

- solve engineering problems relevant for his/her study programme, which are connected with electric and magnetic fields, mechanical and electromagnetic waves
- assess the plausibility of the solutions for real-world situations

Course contents

Historical perspectives on the progress of physics.

Fundamental wave physics, acoustics, waves in music instruments.

Interference and standing waves.

Fundamental and applied electrostatics.

Fundamental and applied magnetism and electromagnetism.

Electric dc and ac circuits. Three phase circuits.

Electromagnetic waves.

Geometrical optics, camera, projector, telescope and microscope.

Interference and diffraction with electromagnetic waves.

Polarisation.

Examination

- TEND - Digital examination, 1.5 credits, grading scale: P, F
- TENE - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- TENV - Written exam, waves, 3.0 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.