



KH0022 Physics for Technical Preparatory Year I 9.0 credits

Fysik för basår I

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 KH0022 valid from Autumn 2016

Grading scale

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

Education cycle

Pre-university level

Specific prerequisites

Completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B, and English corresponding to English A. For students who received/will receive their final school grades after 31 December 2009, there is an additional entry for mathematics as follows:
documented proficiency in mathematics corresponding to Mathematics 2a,2b,2c, or Mathematics B with at least the grade Pass

Language of instruction

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

Intended learning outcomes

Overall goals

The course should promote a scientific view and give an understanding of basic physics concepts and quantities and give a good basis for further studies within physics and technical subjects that are included in the 3- and 5-year engineering programs.

On completion of the course, the student should be able to:

Carry out, describe, analyse and present experiments to examine physical phenomena dealt with in the course.

Apply the working methods and concepts of physics and units and basic physics models.

Identify, analyse and solve physics problems and present them in a structural way.

Course contents

-Working methods, density, forces and equilibrium, torque, pressure, Archimedes' principle, energy, mechanical work, power, general gas laws, thermodynamics, electric charge, electric energy, voltage, current, linear motion, force and motion, momentum and impulse

-Laboratory sessions

Course literature

- Alphonse m.fl., Heureka! Fysik 1 och 2 Basåret Teoribok ISBN 978-91-274471-0-3
- Alphonse m.fl., Heureka! Fysik 1 och 2 Basåret Övningsbok ISBN 978-91-274471-1-0
- Alphonse/Pilström, Formler och tabeller, andra upplagan (ISBN 978-91-274224-5-2, Natur & kultur)
- Fysik 1000, 7:e upplagan 2013 (ISBN 978-91-973708-7-5, Konvergenta)

Examination

- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- TENA - Written examination, 7.5 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.

Other requirements for final grade

For final grade, it is required that all examination parts are approved.

Furthermore, approved oral and/or written presentations can be required for selected assignments during the course.

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.