



# ML0022 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 ML0022 valid from Autumn 2015

## Grading scale

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

## Education cycle

Pre-university level

## Specific prerequisites

The upper-secondary school before 1 July 2011 and adult education at upper-secondary level before 1 July 2012:

Mathematics B with at least the grade Pass or 3.

The upper-secondary school from 1 July 2011 and adult education at upper-secondary level from 1 July 2012 (Gy2011):

Mathematics 2 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

TEN1: 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: LAB1.

## Course literature

### Gleerups

- **Impuls Fysik 1**

Fraenkel, Gottfridsson, Jonasson 978-91-40-67415-9

Extrabok som rekommenderas:

- **Konvergenta**

Fysik 1000 978-91-973708-7-5

## Examination

- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 7.5 credits, grading scale: P, 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

TEN1 - Written examination, 7.5 credits, Grade P/F

LAB1 - Laboratory sessions, 1.5 credits, Grade P/F

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

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

## 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.