

# ML0025 Physics for Technical Preparatory Year II 18.0 fup

#### Fysik för basår II

This is a translation of the Swedish, legally binding, course syllabus.

#### **Establishment**

# **Grading scale**

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

# **Education cycle**

Pre-university level

### Specific prerequisites

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

• Mathematics 3, Physics 1b1 (or Physics 1a) and Chemistry 1.

## Language of instruction

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

# Intended learning outcomes

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

- carry out, describe, analyse and present experiments to examine physical phenomena which are discussed in the course.
- apply the working methods of physics, physics concepts and units, and basic physics models.
- identify, analyse and solve physics problems and present them in a structured way.

#### **Course contents**

#### Module A

- Projectile motion
- Circular motion
- Electric fields
- Potential
- · The capacitor
- Magnetic fields
- Induction
- Alternating current

#### Module B

- Mechanical waves
- Electromagnetic waves
- Reflection
- Refraction and interference
- Oscillatory motion
- Photoelectric effect
- Atoms and quantum mechanics
- The atomic nucleus and radioactivity
- Relativistic effects

#### **Examination**

- TENB Written examination, 8.0 fup, grading scale: A, B, C, D, E, FX, F
- TENA Written examination, 8.0 fup, grading scale: A, B, C, D, E, FX, F
- LAB1 Laboratory Work, 2.0 fup, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

# Other requirements for final grade

Final grades are given if all examination parts are approved. The final grade is based on the points in the examination.

## 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.