



# HM1006 Electrical and Control Engineering 7.5 credits

El- och styrteknik

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 HM1006 valid from Spring 2023

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Electrical Engineering, Technology

## Specific prerequisites

Completed course: ML1000 or equivalent and approved module DÖV1 in ML1309 or equivalent

## 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:

- calculate and measure electrical quantities in direct and alternating current circuits
- realize solutions to control engineering problems using PLC and microprocessor

## Course contents

- Direct voltage - Direct current
- Alternating voltage – Alternating current
- Three phase
- Electric machines
- Sensors
- OP amplifier
- Digital circuits
- GRAFCET
- Simple control systems, PLC and microcontrollers

## Examination

- LAB2 - Laborations and assignments, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Written examination, 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.