



HE1032 Electric Power Engineering I 8.0 credits

Elkraftteknik 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 HE1032 valid from Spring 2022

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

General entrance requirements. - successful completion of upper secondary education, knowledge of Swedish and English and basic knowledge in electric circuits

Language of instruction

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

Intended learning outcomes

After the project course the student should know:

- The principles of electric power distribution to all parts of a society in a sustainable and environmentally sound way.
- How to select electrical equipment e.g. for buildings, industries and transportation.
- Specify e.g. electric motors frequency converters, wiring and switches.
- Use, maintain and troubleshoot electrical apparatus for transmission, distribution and use of electric energy.
- The legislation and rules for electrical installations, in order to obtain safety and reliability.

Course contents

The course consists of the following topics:

- Single phase and three-phase AC
- Transformers
- DC-machines
- Induction machines
- Phase compensation
- Synchronous machines
- Three-phase transmission
- Short circuit power
- Power electronics

Examination

- LAB1 - Lab Work, 2.0 credits, grading scale: P, F
- PRO1 - Project Work, 2.0 credits, grading scale: P, F
- TEN1 - Examination, 4.0 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.

Other requirements for final grade

Passed examination (TEN1), passed labs (LAB1) and passed presentation of the project task (PRO1).

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.