



EN1020 Project Course in Electrical Engineering, part II 6.0 credits

Elektroprojekt, del II

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

The official course syllabus is valid from the autumn semester 2022 in accordance with the decision from the head of school: J-2022-0579. Decision date: 12/04/2022

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Additional regulations

A student, who at the beginning of the course does not have knowledge in electromagnetism equivalent to the contents of EI1220 must take EI1220 in parallel with EI1020.

Specific prerequisites

Completed project work, 7.5 higher education credits, equivalent to completed course EH1010.

Knowledge in electrical circuit analysis, 9 higher education credits, equivalent to completed course EI1110.

Active participation in a course offering where the final examination is not yet reported in LADOK is considered equivalent to completion of the course.

Being registered for a course counts as active participation.

The term 'final examination' encompasses both the regular examination and the first re-examination.

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 shall be able to

- plan and carry out a project
- tackle a problem from a system perspective by designing, building and improving an electrical engineering product. This requires the ability to evaluate and make simplifications that reduce the problem to an elementarily computable complexity
- describe the requirements of a product by creating a simple specification
- independently and also working with a team, be able to formulate, evaluate and choose a technical solution for a given problem
- make a design that fulfills the requirements of the specification by applying knowledge from earlier courses but also by searching for new knowledge where it is necessary
- build a product based on one's own design, ensure that the product functions and, when necessary, make improvements
- understand that there are various ethical perspectives to bear in mind in all forms of product development
- make a design and build a product where choices are made considering sustainability
- document and communicate technical results orally and in writing, creating both a report and a poster
- reflect on, evaluate and critically review one's own and others' technical solutions.

Course contents

The course EN1020 is a project course that connects several key courses in the programme Electrical engineering such as Electromagnetic Theory, Time continuous signals and systems, Discrete-time signals and systems, Classical physics, mechanics and waves and a future course in measuring techniques. Special focus is placed on building further on the course Project in Electrical Engineering from the first year of the programme, but knowledge from several of the parallel courses in the second year is also useful. During the course, a project is carried out that primarily gives the students a system perspective on a particular question. The intention is that students take a project through all stages of the product development, from defining the requirements for a product, designing it, implementing the design and finally to stay with the design chosen, improving the product without changing the design. In addition to an initial lecture, there are a number of reporting and supervision occasions in the course and a fair where the completed project is presented.

Examination

- INL1 - Assignment - Design, 1.0 credits, grading scale: P, F
- INL2 - Assignment - Report, 1.5 credits, grading scale: P, F
- INL3 - Assignment - Per review, 0.5 credits, grading scale: P, F
- PRO1 - Projekt, 3.0 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

See description of 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.