EJ2120 Electrical Energy Conversion - Project Course 9.0 credits

Elektrisk energiomvandling - projektkurs

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

Establishment

Course syllabus for EJ2120 valid from Autumn 2015

Grading scale

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

Education cycle

Second cycle

Main field of study

Electrical Engineering

Specific prerequisites

EJ2200 Electrical Machines and Drives or EJ2301 Power Electronics

Language of instruction

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

Intended learning outcomes

The aim of the course is to understand how to make a design of an electrical energy conversion application from any given set of specifications. The knowledge is applied by designing a system for an industrial application, working in a team which requires acquiring and practising project management skills.

After the course, the student should be able to :

* explain all the tasks in a design procedure of a system for electrical energy conversion

* apply parts of the procedure to design a system for a specific application

* describe the concepts of different modelling tools and apply adequate tools to predict performance of the designed system

* analyze obtained results using knowledge about the various approximations the simulation models are based on

* report and present orally the results of the project

* do a critical evaluation of the documentation produced by other students

The student should also be able to:

*organise a project for implementation of a complex task

* plan the work of a project group considering the boundaries between the project members' functions and tasks

* schedule activities so that the tasks can be performed within a set time frame and such that a uniform and equitable division of labor between project members can be achieved

Course contents

power electronics, electrical machines, drives and control of electrical energy conversion

Course literature

The course literature consists mainly on current research articles and reports that will be gathered during the course. The list of references used for previous projects is available on the course webpage.

Examination

- PRO2 - Project Work, 7.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO1 - Project Work, 2.0 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.

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

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.