EG2330 Power System Design, Project Course 9.0 credits

Utformning av elkraftsystem, projektkurs

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

Establishment

Course syllabus for EG2330 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

At least one of the courses EG2100 Power system analysis or EG2200 Power generation operation and planning.

At least one of the following courses: EG2110 Power system stability and control, EG2120 FACTS and HVDC in electric power systems, EG2210 Electricity market analysis, EG2220 Power generation, environment and markets.

Language of instruction

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

Intended learning outcomes

The objective of this course is that the participants in the form of a project should be able to design a power system including generation, transmission and distribution.

After the course, participants will be able to

• explain the design procedure for a power system and 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 the performance of the designed system,

• analyse obtained results using knowledge about the various approximations the simulation models are based on,

• 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 the work so that the work can be performed within a set time frame and such that a uniform and equitable division of labor between project members can be achieved,

• write status reports of a project at predetermined times,

• write a project report, where apart from the background, methods, implementation, results obtained and conclusions are included,

• evaluate the quality of labor of an executed project,

• in oral form present a project for clients and the public.

Course contents

The course is conducted in project groups of 5-8 students. After an introduction to project management each group will be given a description of a power system, as well as a number of problems that need to be solved for this system. Course implementation is done by working with these problems.

To carry out the project, knowledge from earlier courses in electric power systems given in the master programme will be needed, but also other course from the programme are useful. Since each project requires knowledge from several fields a first task will be to identify the specific knowledge needs within each project group. The collection of necessary knowledge is achieved through direct participation in earlier courses, but it is in many cases necessary to independently find and assimiliate this knowledge. A second task is to distribute the group work to acquire the necessary knowledge and to to make a schedule for implementing the project.

Disposition

Project work and individual essay.

Course literature

Depends on the project and is determined by the project group.

Examination

- PRO2 - Project Assignment 2, 7.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO1 - Project Assignment 1, 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.

The final grade will be a weighted mean of the grade for the different parts of the course.

Other requirements for final grade

Each part of the examination must be passed.

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.