EG2021 Power System Analysis, part 1 7.5 credits

Analys av elkraftsystem, del 1

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 EG2021 valid from Autumn 2011

Grading scale

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

Education cycle

Second cycle

Main field of study

Electrical Engineering

Specific prerequisites

Courses in electrical engineering 45 (HEC), courses in mathematics (including complex numbers, algebra and numerical methods) 30 (HEC), also documented proficiency in English B, English 6 or equivalent.

Language of instruction

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

Intended learning outcomes

Upon completion of the course the student will be able to

- explain the static state in a power system,
- create computational models suitable for analysis of symmetrical as well as unsymmetrical conditions in a power system,
- formulate the load flow calculation problem,
- perform sensitivity analysis and optimal power flow to decrease power losses,
- describe schematically the positive-, negative, and zero-sequence networks of an unbalanced system.

Course contents

This course deals with basic models and methods that are used in analysis of electric power systems. These models and methods are fairly general and can be applied to a power system of any scale ranging from a small-scale distribution grid to a national transmission network.

Course literature

Kurskompendier

Examination

- TEN1 - Examination, 7.5 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

One written examination, 7,5 HEC

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.