



FEG3214 Power System Stability and Control 10.0 credits

Stabilitet och styrning av elkraftsystem

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 FEG3214 valid from Spring 2022

Grading scale

P, F

Education cycle

Third cycle

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

1. create mathematical models to perform an in-depth analysis and study of power system stability and control,
2. apply different methods to assess power system stability,
3. derive and apply different control algorithms to improve power system stability and damping,

4. describe and analyse effect of integration of renewable energy on power system dynamics and stability,
5. both orally and in writing present and discuss obtained results.

Course contents

This course covers power system stability and control. Based on different mathematical models various power system instabilities are analyzed. Different methods will be applied to assess power system stability after disturbances. Different technical solutions will also be discussed and presented to improve power system stability. In the second part of the course, the PhD student must propose a final project in which an in-depth analysis and study of power system stability and control shall be performed.

Specific prerequisites

The course is intended for Ph.D. students in electric power systems.

Examination

- EXA1 - Examination, 10.0 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.

The examination includes oral presentations and written reports.

Other requirements for final grade

Approved oral presentations and written reports.

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.