



Course Memo

FEG3214 Power System Stability and Control (10 credits)

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 will formulate and propose a final project in which an in-depth analysis and study of power system stability and control will be performed.

Intended Learning Outcomes (ILOs)

In order to successfully complete this course, students should be able to:

- ILO1.** create mathematical models to perform an in-depth analysis and study of power system stability and control,
- ILO2.** apply different methods to assess power system stability,
- ILO3.** derive and apply different technical solutions to improve power system stability and damping,
- ILO4.** describe and analyse effect of integration of renewable energy on power system dynamics and stability,
- ILO5.** both orally and in writing present and discuss obtained results.

Prerequisites	Language
The course is intended for KTH Ph.D. students pursuing research studies in the field Electric Power Systems	English

Course structure

The course consists of two parts. In the first part, the course EG2110 is totally followed based on its structure and schedule. The second part provides a more in depth-coverage of the topics in EG2110 as well as additional topics regarding power system stability and control. In this part, the Ph.D. student will formulate and propose a final project in which an in-depth analysis and study of power system stability and control will be performed. The obtained results will be presented both orally and in a written report.

Code of honor

In this course, the EECS code of honor applies, see:

<http://www.kth.se/en/eecs/utbildning/hederskodex>

Disability

If you have a disability, you may receive support from Funka, KTH's coordinator for students with disabilities, see <https://www.kth.se/en/student/studentliv/funktionsnedsattning>.

Please inform the course coordinator if you have special needs not related to the written exam, and show your certificate from Funka.

- Support measures under code R (i.e. adjustments related to space, time, and physical circumstances) are generally granted by the examiner.

- Support measures under code P (pedagogical measures) may be granted or rejected by the examiner, after you have applied for this in accordance with KTH rules. Normally, support measures under code P will be granted.

Examination

1. In the first part, the examination in EG2110 will be followed. To start the second part of the course, **at least** a grade B from the first part (i.e. on EG2110) is required.
2. In the second part, (***providing that a grade B on EG2110 has been obtained***), the individual project may be started. The obtained results will be presented both orally and in a written report.

For the final grade, a passing grade (P) for both the oral presentation and the written report in the second part of the course is required.

Plagiarism

All the reports will be checked for plagiarism, and if the plagiarism of text, code, or figures is found then strict action will be taken against the corresponding student, based on KTH rules.

For more information regarding plagiarism, please visit [Cheating and plagiarism | KTH](#)