



FIK3508 Analysis and Optimization of Wireless Systems 7.5 credits

Analys och optimering av trådlösa system

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

Establishment

Course syllabus for FIK3508 valid from Spring 2014

Grading scale

G

Education cycle

Third cycle

Specific prerequisites

IK2510 or similar, undergraduate courses in optimization and probability

Language of instruction

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

Intended learning outcomes

This course provides a wide range of research problems for the design and operation of wireless communication systems. It also provides various analysis and optimization techniques useful for tackling those problems.

After the completion of the course, the student should be able to:

- identify challenging research problems for the design and operation of future wireless networks
- describe analysis and optimization techniques as potential tools for tackling the wireless system design problems
- evaluate suitability and possible advantages and disadvantages of each analysis and optimization technique
- summarize and critically review research papers in the area of the course.

Eventually, the student should be able to compose own research problem, choose and modify proper techniques, and apply these to the problem.

Course contents

This course consists of thematic seminars where course participants present/review research papers and actively participate in discussions. Supporting lectures will also be provided. The seminar topics include:

- Analytic and simulation approaches to performance evaluation of wireless systems
- Optimization problems for wireless system design and solution techniques
- Emerging requirements for wireless systems and potential solutions.

Disposition

The course consists of thematic seminars, supporting lectures, and project.

Course literature

Selected research papers

Examination

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.

Other requirements for final grade

Seminar: 6.0 credits

Project: 1.5 credits

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.