



FEL3245 Principles of Wireless Sensor Networks 7.0 credits

Principer för trådlösa sensornätverk

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 FEL3245 valid from Spring 2014

Grading scale

Education cycle

Third cycle

Specific prerequisites

Language of instruction

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

Intended learning outcomes

After finishing the course, the attendant will

- Know the essential theoretical tools to cope with WSNs.

- Know the fundamentals of parallel computation and network optimization.
- Know how to design WSNs.
- Develop a research project.
- Develop presentation skills.

Course contents

Disposition

The course is worth 5 credits plus 2.5 optional credits based on an original research project. Grades (pass/fail) will be based on attendance (50%) and exercises plus presentations (50%). The exercises will contain theoretical as well as practical (mainly through simulations and possible implementation on sensors) parts.

Course literature

1. D. P. Bertsekas, J. N. Tsitsiklis, **Parallel and Distributed Computation: Numerical methods**, Athena Scientific, 1997.
2. D. P. Bertsekas, **Network Optimization, Continuous and Discrete Models**, Athena Scientific, 1998
3. H. Karl and A. Willig, **Protocols and Architectures for Wireless Sensor Networks**, Wiley, 2005.

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.

Other requirements for final grade

The lectures will be mainly based on blackboard and slides. Students have to present a paper/book chapter per lecture.

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.

