Linnæus University

Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

4ED024 Signalbehandlande antenner, 7,5 högskolepoäng
Signal Processing Antennas, 7.5 credits

Main field of study
Electrical Engineering

Subject Group
Electrical Engineering

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved by Organisational Committee 2009-08-11

The course syllabus is valid from spring semester 2010

Prerequisites
Digital signals and systems (1ED052) 7.5 higher education credits, Calculus in several variables and vector calculus (1MA165) 7.5 higher education credits, Probability theory (1MA201) 7.5 higher education creditsor the equivalent.

Expected learning outcomes
The course will give the students deeper knowledge in signal theory and stochastic processes with applications in signal processing. The student is expected to combine knowledge of mathematics and signal theory to become acquainted about modern methods within the area of signal processing antennas.

Content
The course comprises the following items

- Adaptive antennas
- Adaptive algorithms
- Direction of arrival estimation
- Antenna diversity
- Channel capacity
- Channel models
- Multiple-In-Multiple-Out (MIMO) technology
- Space-time coding

Type of Instruction
Lectures.

Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.

Course Evaluation

A written course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The course evaluation will be filed at the department.

Required Reading and Additional Study Material

Required reading

Sven Nordebo,*Signal Processing Antennas*, (material from the department).Pages 146 (146).