Linnæus University

Course syllabus

Faculty of Technology
Department of Physics and Electrical Engineering

4ED324 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 Faculty of Technology 2016-08-15
The course syllabus is valid from spring semester 2017

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.

Objectives
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 A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Assignments/written exam. Examination format is determined at the start of the course.

Course Evaluation
During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Credit Overlap
This course cannot be part of a degree in combination with another course in which the content fully or partly correspond to the content of this course: 4ED024 Signal Processing Antennas, 7.5 credits

Other
Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material
Required reading
Sven Nordebo,*Signal Processing Antennas*, (material from the department).Pages 146 (146).