



## Course syllabus

Faculty of Technology

Department of Physics and Electrical Engineering

4ED394 Aktuella frågeställningar inom vågutbredning, 7,5 högskolepoäng

4ED394 Topics in wave propagation, 7.5 credits

### **Main field of study**

Electrical Engineering

### **Subject Group**

Electrical Engineering

### **Level of classification**

Second Level

### **Progression**

A1F

### **Date of Ratification**

Approved 2015-05-22

Revised 2020-09-03 by Faculty of Technology. Prerequisites are revised.

The course syllabus is valid from autumn semester 2021

### **Prerequisites**

Bachelor Degree in Electrical Engineering, Computer Engineering, Engineering Physics including Antenna technology with applications at advance level or the equivalent, English 6/B or equivalent.

## Objectives

The course covers some central concepts of wave propagation and scattering and is intended as a preparation for the thesis project. Upon completion of the course, the student should:

- be able to combine knowledge of mathematics, physics and radio science in order to obtain a deeper understanding of wave propagation and scattering
- have the ability to solve problems at the advanced level that may also require programming in some form.

## Content

The course may cover some of the following topics:

- diffraction

- integral equations
- high frequency methods
- asymptotic methods
- wave propagation models
- numerical methods.

## Type of Instruction

Lectures and assignments.

## 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.

Repeat examination is offered in accordance with Local regulations for courses and examination at the first and second-cycle level at Linnaeus University.

If the university has decided that a student is entitled to special pedagogical support due to a disability, the examiner has the right to give a customised exam or to have the student conduct the exam in an alternative way.

## Course Evaluation

During the implementation of the course or in close conjunction with the course, a course evaluation is to be carried out. Results and analysis of the course evaluation are to be promptly presented as feedback to the students who have completed the course. Students who participate during the next course instance receive feedback at the start of the course. The course evaluation is to be carried out anonymously.

## Credit Overlap

The course cannot be included in a degree along with the following course/courses of which the content fully, or partly, corresponds to the content of this course: 4ED094 Topics in wave propagation, 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

*Current scientific articles*. Pages 25 (25).

*FTK, Distributed material*. Pages 50 (50).