



Course syllabus

Faculty of Technology

Department of Physics and Electrical Engineering

4ED394 Aktuella frågeställningar inom vågutbredning, 7,5 högskolepoäng

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 by Faculty of Technology 2015-05-22

The course syllabus is valid from spring semester 2016

Prerequisites

Bachelors degree 180 credits in electrical engineering, or the equivalent, and the courses Antenna theory 7.5 credits (4ED014), Microwave theory 7.5 credits (4ED084) or the 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.

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: 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).

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