Linnæus University

Course syllabus

Faculty of Technology

Department of Physics and Electrical Engineering

4ED384 Mikrovågsteori, 7,5 högskolepoäng
Microwave Theory, 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 2015-10-05
The course syllabus is valid from autumn semester 2016

Prerequisites
Admission to the course requires a bachelors degree (180 hp) in electrical engineering, or the equivalent, and the courses Telecommunication, 7.5 higher education credits (1ED042), Analogue signals and systems, 7.5 higher education credits (1ED062), or the equivalent.

Objectives
The course covers the central concepts of microwave technology. The student is expected to combine knowledge of mathematics, electronics and radio science to obtain a deeper knowledge of this part of high frequency technology. Problem solving is practiced on a set of assignments that are adapted to the advanced level.

Content
The course consists of the following topics:

- Transmission line theory
- Multiports and s-parameters
- Noise and autocorrelation
- Waveguides
- Microstrip lines

Type of Instruction
Lectures and practical work.

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, practicals and optional exam for higher grade.

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

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:4ED084 Microwave Theory, 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

Pozar D. M., *Microwave and RF Design of Wireless Systems*, Wiley, 2001. Pages 100 (350).