



IK2506 Advanced Communication Systems 7.5 credits

Kommunikationssystem, avancerad nivå

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for IK2506 valid from Autumn 2008

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Specific prerequisites

30 HEC math

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

Give the student the ability to analyze the design parameters of a communication system. That means that the student should be able to:

- Explain the system structure of analogue and digital communication systems
- Use mathematical tools to analyse the performance of communication systems
- Use probability theory and stochastic processes in communication system applications.
- Choose suitable channel coding and encryption methods for different applications
- Apply Information and Detection theory to communication system applications

Course contents

- Probability theory and stochastic processes
- Random signals and noise
- Information theory
- Information Sources and Source Coding
- Channel coding and encryption
- Analogue and Digital Transmission
- Digital Techniques for Analogue Messages and Networks
- Spread spectrum systems

Examination

- INL1 - Problem Assignments, 1.5 credits, grading scale: P, F
- TEN1 - Examination, 6.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

Betygsskala: A/B/C/D/E/Fx/F

Other requirements for final grade

Written examination, TEN1, 6 HEC, Grade: AF
Problem assignments, INL1, 1,5 HEC, Grade PF

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.