IK255U Ericsson Radio School - analog to digital conversion 3.0 credits

Ericsson radioskola - analog till digital omvandling

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

Establishment

Course syllabus for IK255U valid from Spring 2022

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Electrical Engineering

Specific prerequisites

Language of instruction

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

Intended learning outcomes

After passing the course, the students should be able to

- account for basic sampling theory
- account for basic digital-to-analog and analog-to-digital conversion.

Course contents

RF receiver architectures

- Mixing
- Sampling Processes
- Analog-to-Digital Conversion (ADC)
- Continous Time receivers
- Discrete Time receivers

Direct RF digitization receivers

- System Level Aspects
- Receiver System-Level Design

Realization and measurements

- RF Front End
- Mixed Signal Front End
- Mixed Signal AGC Loop
- System Level Measurements

Examination

- INL1 - Assignment, 1.0 credits, grading scale: P, F
- SEM1 - Seminars, 2.0 credits, grading scale: P, 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.

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

Other requirements for final grade

At least 90 percent participation at the seminars is required.

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.