



IL2224 Mixed Signal Circuit Simulation and Design Tools 7.5 credits

Kretssimulering och CAD verktyg

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 IL2224 valid from Spring 2010

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Information and Communication Technology

Specific prerequisites

Theoretical knowledge on analog and digital circuit design

Language of instruction

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

Intended learning outcomes

After the course the students should master techniques for simulation, physical implementation and verification of an integrated circuit containing both digital and analog components.

Course contents

Overview available Electronic Design Automation tools. Simulation algorithms (DC, AC, Noise, Transient, PSS, QPSS etc.). Models and limitations of deep sub-micron circuit devices. Schematic and layout editing techniques. Layout verification (LVS and DRC) and parasitic extraction. Automated simulation and efficient documentation of simulation results.

Disposition

Teaching language: English

Course literature

Lecture notes, design tool documentation and articles

Examination

- LAB1 - Laboratory Work, 5.0 credits, grading scale: P, F
- PRO1 - Project, 2.5 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.

Labs and project report.

Grading scale: P-F

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.