IE1205 Digital Design 6.0 credits

Digital design

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 IE1205 valid from Spring 2019

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

Education cycle
First cycle

Main field of study
Technology

Specific prerequisites

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

Intended learning outcomes
After completed course the student shall be able to
- use boolean algebra to describe and optimise logic functions

- draw and interpret schematics with symbols for logic gates and standard digital components

- analyse small combinational and sequential logic circuits and determine their functionality

- design small combinational and sequential logic circuits which implement a given function

- use tools for simulation of combinational and sequential digital circuits

- determine the functionality of small digital circuits that are described using a hardware description language

- give the functionality of simple CMOS-schematics by a boolean equation

- understand how the physical properties affect the timing characteristics of digital circuits

**Course contents**


**Course literature**


Or


**Examination**

- LAB1 - Laboratory Work, 2.0 credits, grading scale: P, F
- TEN1 - Examination, 4.0 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.
Other requirements for final grade
For the final grade all examination parts (TEN1 and LAB1) have to be passed.

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.