



ML1318 Analogue Technology

7.5 credits

Analogteknik

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

Establishment

Course syllabus for ML1318 valid from Autumn 2016

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 passing the course, the student should be able to:

- Apply basic relationships at analysis of both direct and alternate current networks
- Account for the properties of passive components and their fields of use
- Calculate the time constant and interpret its effect on the processes at closing and opening in DC networks
- Carry out calculations on AC circuits (including power correcting)
- Account for how one expresses a given periodic function by means of a Fourier series
- Use simulation programs to describe an arbitrary electric net and simulate its function
- Explain the function of the ideal operational amplifier and its basic connections
- Use electric components and measuring instruments

Course contents

- Circuit theory
- AC Theory
- The transformer
- Linear systems, differential equations and transient behaviour
- Fourier series
- Introduction to Laplace methods
- Simulation of electric nets
- Operational amplifiers

Disposition

Lectures Exercises Laboratory exercises Presentations Individual studies

Course literature

Boylestad: Introductory Circuit Analyses, Prentice Hall, ISBN-13: 978-0137146666
Kursbunt

Examination

- TEN1 - Examination, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Exercises, 3.0 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

Passed written examination Passed laboratory sessions

The final grade is decided by the result of written examination.

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.