



# KH1251 Electrical Measurements, Control Theory and Practice 6.0 credits

El-, mät- och reglerteknik

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 KH1251 valid from Autumn 2007

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Chemistry and Chemical Engineering, Technology

## Specific prerequisites

## Language of instruction

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

## Intended learning outcomes

To give its students knowledge of the fundamentals of electronics and electrical engineering, how electrical and non-electrical entities are measured and registered and how chemical processes are controlled and regulated.

## Course contents

Electric circuit theory. Generation of alternating current. Three-phase system. High-tension installations. Dangers. Electronic components. Amplifiers. Analog instruments. Digital technology. Digital instruments. Logical control. Design of control circuits. On-Off control. PID regulator. Sensors, detectors and other measurement & control components. How computers are used to aid instrumentation, control and regulation.

## Course literature

Hägglund, T: Praktisk processreglering, Studentlitteratur, 2:a uppl. 1997

Elektroteknik del 1 och 2, Inst för maskinkonstruktion, KTH

## Examination

- INL1 - Assignment, 1.5 credits, grading scale: P, F
- LAB1 - Laboratory Work, 1.5 credits, grading scale: P, F
- TEN1 - Written examination, 3.0 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

Passed written exam (TEN1; 3 cr.). Passed lab sessions (LAB2; 1,5 cr.). (INL1;1,5 cr)

## 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.