MG1002 Automation Technology 6.0 credits

Automatiseringsteknik

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

Establishment

Course syllabus for MG1002 valid from Spring 2012

Grading scale

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

Education cycle

First cycle

Main field of study

Mechanical Engineering, Technology

Specific prerequisites

MF1016 Basic Electrical Engineering

or equivalent

Swedish B and English A or equivalent

Language of instruction

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

Intended learning outcomes

After the course you will

- be able to describe the general principles, methods and equipment for control and automation
- have knowledge of components such as actuators, sensors and control systems
- manage to design, program and implement simple automated installations
- be familiar with production machinery and equipment found in manufacturing industries, and understand how productivity can be improved by automation
- be able to describe how numerically controlled machine tools and industrial robots work, and how they are utilized and programmed
- have insight in the technique of combining components into automated systems, where machining, handling, coordination, supervising, assembly
- be able to take into consideration the environmental, human and economical preconditions for the use of the systems

Course contents

Mechanization and automation, components and control systems. Principles for program controlled machinery and equipment, enhanced NC technique, machine characteristics, PLC,adaptive control, industrial robots, materials handling, automated manufacturing systems, computer communication.

Course literature

Course binder (in Swedish)

For sale at the ITM Student Office

Examination

- TEN1 - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 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

Lab work (LAB1; 3 cr)
Written exam (TEN1; 3 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.