



# MG2032 Automation Technology, Advanced Course 1 6.0 credits

## Automatiseringsteknik, fortsättningskurs 1

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 MG2032 valid from Autumn 2007

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Mechanical Engineering

## Specific prerequisites

Automation technology MG1002 or equivalent.

including documented proficiency in Swedish B and English B or equivalent

# Language of instruction

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

## Intended learning outcomes

After carried out the course you managed to:

- describe how equipment and methods are structured and organised according to standards.
- describe in a structured way how a automation problem is formulated.
- write a PLC-program according to the description of the automation problem.
- design and implements a supervise system.
- describe basic industrial data communication.
- design a basic interface against Internet that creates possibility for information transfer of process status.
- describe the most common sensors and actuators.
- describe common used equipment used in assembly technology.
- describe possibilities using escort memory, for example RFID.
- describe different types of robot system and the equipment used according to the system.
- describe different types of feeding systems.
- write a robot program for a robot equipped with vision system.
- design a supervise program for the FMS-system st the Department.
- describe the principles of assembly and the design of details affecting the possibilities of an automated assembly.

## Course contents

The Course subject is based of the parts:

- Development of automation technology.
- Development of PLC technology and the use of the technique.
- Sensors and actuators used in manufacturing industry.
- Assembly technology.
- Robot system.
- Feeder technique.
- Join technique used within Assembly technology
- Assembly technology in alignment to DFA.

## Course literature

Compendium which is for sale at the course expedition..

## Examination

- INL1 - Assignment, 2.0 credits, grading scale: P, F
- PRO1 - Project, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 2.0 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.

Three laboratory experiment, (INL1; 2 hp). One project task and two seminar tasks, (PRO1; 2 hp). Written examinations, 4 hours, no teaching aids, (TEN1; 2 hp).

## Other requirements for final grade

To pass exam it demands at least 50% of maximum point.

## 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.