MG2032 Automation Technology, Advanced Course 6.0 credits

Automatiseringsteknik, fortsättningskurs

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

Establishment

Course syllabus for MG2032 valid from Autumn 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

MG1002 Automation technology, MG1016/MG1026 Manufacturing Technology and MG1024 Production, or the equivalent.

and documented proficiency in English B or the equivalent

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 will be able to:

- use proper teminology, define terms, and describe function and properties for automation components
- select suitable components, control system and communication technology for automation of material handling and automated assembly
- in a structured way model, simulate, predict and evaluate the behaviour of given automation solutions
- in a systematic maner develop robust programs of high quality for robots, SCADA (supervision and process control system) and PLC systems, using Codesys and simulation aids
- develop requirements specification for and adapt an automation project to the needs and preconditions of a company

Course contents

The course covers the subjects of:

- Development of automation technology.
- Development of PLC technology and its use.
- Sensors and actuators used in manufactoring industry.
- Feeder technology and material handling.
- Assembly technology and robot systems.
- Joining techniques used within assembly technology.
- Assembly technology with a focus on DFA.
- Selected problems in automatic assembly

Examination

- TENA - Written Examination, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- LABA - Laboratory Exercises, 2.0 credits, grading scale: P, F
- PROA - Project, 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.

If the course is discontinued, students may request to be examined during the following two academic years.

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.

Additional regulations

Lab exercises and project assignments require equipment and software which is only available in the department facilities