



MF2103 Embedded Systems for Mechatronics 9.0 credits

Inbyggda system för mekatronik

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 MF2103 valid from Spring 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Degree of Bachelor in Mechanical engineering or the equivalent.

The course MF1016 Electrical engineering completed, or the equivalent knowledge in electrical engineering

The course DD1321 Applied programming and computer science, completed or the equivalent knowledge in programming.

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 students should be able to:

1. Give example of embedded systems and their applications and describe the special requirements that are set to develop such systems.
2. Be able to use modern integrated development environments for micro-controller/processor programming and their functionality for testing and troubleshooting.
3. Develop micro-controller programs for mechatronic applications including the use of I/O and external units.
4. Apply knowledge in automatic control and programming in design and realisation of control software on distributed computers.
5. Describe, explain and use software platforms as well as real-time operating systems (RTOS).
6. Describe and apply systematic methods for embedded software engineering.

Course contents

Disposition

* Lectures to give overview and inspiration.

* Exercises where new tools and methods are introduced.

* Laboratory sessions where the presented tools and the methods are used to solve practical assignments.

Course literature

Reading material and other literature will be distributed during the course and is available online to the extent that the copyright allows.

Examination

- LAB3 - Laboration, 5.0 credits, grading scale: P, F
- TEN2 - Written examination, 4.0 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.

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.