DD2426 Robotics and Autonomous Systems 7.5 credits

Robotik och autonoma system

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 DD2426 valid from Autumn 2009

Grading scale

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

Education cycle

Second cycle

Main field of study

Computer Science and Engineering,Information Technology,Information and Communication Technology

Specific prerequisites

Language of instruction

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

Intended learning outcomes

After completing the course the student should

- be able to design and implement an autonomous robot almost from scratch including mechanics, computer software and hardware as well as programming.
- be able explain basic concepts and technologies in the broad and interdisciplinary field of robotics,
- be able to identify the possibilities and limitations for robottechnology of today,

The course also provides valuable experience in

- project based problem solving
- writing a report that documents the work carried out in the project

Course contents

During the course a small, mobile, autonomous robot for performing certain tasks is built. This work is carried out in groups as a project. At the end of the course there is a contest between the robots that the participants have constructed.

The theoretical part of the course deals with fundamental concepts in robotics, kinematics, navigation and digital control. The practical part of the course adds hands on experience with sensors, actuators, programming of microcontrollers and building of robots.

Course literature

To be announced at least 4 weeks before course start at course web page.

Examination

- LAB1 - Project task, 4.5 credits, grading scale: P, F
- TEN1 - Examination, 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.

In this course all the regulations of the code of honor at the School of Computer science and Communication apply, see: http://www.kth.se/csc/student/hederskodex/1.17237?l=en_UK.

Other requirements for final grade

Examination (TEN1; 2 university credits.).
Project assignments (LAB1; 4,5 university credits.).

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.