# DD2425 Robotics and Autonomous Systems 9.0 credits

**Robotik och autonoma system**

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

## Establishment

Course syllabus for DD2425 valid from Spring 2019

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Computer Science and Engineering

## Specific prerequisites

Single course students: Bachelor of Science degree or equivalent including 45 university credits in Mathematics or Information Technology. Furthermore: 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 completing the course the student should be able to

1. recall basic concepts in robotics
2. implement and integrate software components for robots
3. solve a robotics task with limited resources
4. identify and discuss ethical and societal aspects of robot technology

in order to

- be able to work with autonomous and other complex systems in research and/or development
- become better at planning, executing and developing work in project groups.

# 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 lecture part of the course deals with fundamental concepts in robotics.

The practical part of the course adds hands on experience with sensors, actuators, programming of systems and building of robots.

# Course literature

Meddelas senast 4 veckor före kursstart på kursens hemsida.

# Examination

- PRO1 - Project, 5.5 credits, grading scale: P, F
- TEN1 - Exam, 3.0 credits, grading scale: P, F
- LAB1 - Laboratory Works, 0.5 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.

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.

# 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.