



DD2419 Project Course in Robotics and Autonomous Systems 9.0 credits

Projektkurs i 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

The official course syllabus is valid from the spring semester 2025 in accordance with the decision from the director of first and second cycle education: J-2024-2179. Date of decision: 2024-10-15.

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Computer Science and Engineering

Specific prerequisites

Knowledge of introductory robotics, 7.5 credits, equivalent to completed course DD2410

or that the student meets the following three requirements:

- knowledge and skills in programming, 6 credits, equivalent to completed course DD1337/DD1310-DD1319/DD1321/DD1331/DD100N/ID1018
- knowledge of algorithms and data structures, 6 credits, equivalent to completed course DD1338/ID1020/ID1021/DD1320-DD1328
- additional skills in independent software development, 30 credits, in addition to the above-mentioned courses, from completed courses in computer science, computer technology or numerical methods with laboratory elements that are not carried out in groups larger than two people.

Language of instruction

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

Intended learning outcomes

On completion of the course, the student should be able to

1. implement and integrate software components for robots
2. solve an assignment in robotics with limited resources

in order to

- be able to work with autonomous and other complex systems in research and/or development
- improve the skills of planning and carrying out development work in project groups.

Course contents

The main task in the course is to design, implement and evaluate robots to solve certain specific assignments. The work is carried out in groups as a project. The assignments that should be solved are large and complicated enough to put the project groups in situations where one is forced to prioritise and handle limitations, especially in time.

Examination

- INL1 - Project preparations, 0.5 credits, grading scale: P, F
- INL2 - Project documentation, 1.0 credits, grading scale: P, F
- PRO1 - Project work, 7.5 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.

Passing item INL1 is required before participating in the grupprojetarbetet (INL2 and PRO1).

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.