This course syllabus is discontinued or replaced by a new course syllabus.

ÖREBRO UNIVERSITY
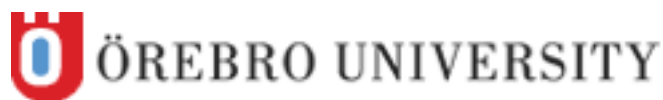
School of Science and Technology

Course Syllabus

Computer Science, Master Thesis in Robotics and Intelligent Systems, Second Level, 30 Credits

Course Code:	DT4040	**Subject Area:**	Field of Technology
Main Field of Study:	Computer Science	**Credits:**	30
		Subject Group (SCB):	Computer Science
Education Cycle:	Second Cycle	**Progression:**	A2E
Established:	2011-11-01	**Last Approved:**	2016-09-29
Valid from:	Spring semester 2017	**Approved by:**	Head of School

Aims and Objectives

General aims for second cycle education

Second-cycle courses and study programmes shall involve the acquisition of specialist knowledge, competence and skills in relation to first-cycle courses and study programmes, and in addition to the requirements for first-cycle courses and study programmes shall
- further develop the ability of students to integrate and make autonomous use of their knowledge
- develop the students' ability to deal with complex phenomena, issues and situations, and
- develop the students' potential for professional activities that demand considerable autonomy, or for research and development work.

(Higher Education Act, Chapter 1, Section 9)

Course Objectives

Knowledge and Understanding
After completed studies, the student shall be able to demonstrate
- broad knowledge and understanding of the field of robotics and intelligent systems,
- a considerable degre of specialised knowledge in certain areas of the field, as well as insight into current research and development,
- specialised methodological knowledge within robotics and intelligent systems.

Competence and Skills
After completed studies, the student shall be able to demonstrate
- the ability to critically and systematically integrate knowledge and to analyse, assess, and manage complex phenomena, issues and situations, even with limited information,
- the ability to analyse, design, and implement projects in intelligent systems and robotics,
- the ability to independently identify and formulate issues, as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames,
- the ability to clearly account for and discuss his or her conclusions, both orally and in writing, including the knowledge and the arguments that they are based on, in dialogue with different audiences, and
- the skills required for participation in research and development work within robotics and intelligent systems, or employment in a similarly qualified capacity, including the ability to critically evaluate his or her own work.

Judgment and Approach
After completed studies, the student shall be able to demonstrate
-the ability to make assessments in robotics and intelligent systems, informed by relevant

disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work,
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

Main Content of the Course

Practical experience with modern algorithms, robots, and sensors,
- problem formulation, data analysis,
- independent implementation work,
- task management: dividing a task into manageable subtasks and plan and following up on work load and time spent,
- information management, ethical considerations in research,
- report writing,
- text review.

Teaching Methods

Supervision and independent work.

Students who have been admitted to and registered on a course have the right to receive tuition and/or supervision for the duration of the time period specified for the particular course to which they were accepted (see, the university's admission regulations (in Swedish)). After that, the right to receive tuition and/or supervision expires.

Examination Methods

Examination, 30 Credits. (Code: 0100)
Written thesis document. In order to pass, the thesis must also have been defended at a final oral seminar, and the work of another students must have been critically examined.

For further information, see the university's local examination regulations (in Swedish).

Grades

According to the Higher Education Ordinance, Chapter 6, Section 18, a grade is to be awarded on the completion of a course, unless otherwise prescribed by the university. The university may prescribe which grading system shall apply. The grade is to be determined by a teacher specifically appointed by the university (an examiner).

According to regulations on grading systems for first- and second-cycle education (vice-chancellor's decision 2010-10-19, reg. no. CF 12-540/2010), one of the following grades is to be used: fail, pass, or pass with distinction. The vice-chancellor or a person appointed by the vice-chancellor may decide on exceptions from this provision for a specific course, if there are special reasons.

Grades used on course are Fail (U), Pass (G) or Pass with Distinction (VG).

Examination
Grades used are Fail (U), Pass (G) or Pass with Distinction (VG).

The course grading is translated to the ECTS grading scale.

For further information, see the university's local examination regulations (in Swedish).

Specific entry requirements

Computer Science, Research methodologies for Intelligent Systems, Second Level, 30 credits and Computer Science, Advanced Technologies for Intelligent Systems, Second Level, 30 credits. If the applicant's first language is not English, knowledge in English must be documented by an internationally recognized proficiency test.

For further information, see the university's admission regulations (in Swedish).

Transfer of Credits for Previous Studies

Students who have previously completed higher education or other activities are, in accordance with the Higher Education Ordinance, entitled to have these credited towards the current programme, providing that the previous studies or activities meet certain criteria.

For further information, see the university's local credit transfer regulations (in Swedish).

Other Provisions

The course can be given in English.

Reading List and Other Teaching Materials

Additional Reading

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Additions and Comments on the Reading List

Kurslitteratur fastställs av handledaren med hänsyn till examensarbetets karaktär.