Intelligent Virtual Agents and Social Robots

Intelligenta virtuella agenter och sociala robotar

6 credits

Programme course

769A32

Valid from: 2025 Autumn semester

Determined by	Main field of study	
Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Cognitive Science	
Date determined	**Course level**	**Progressive specialisation**
2022-12-06	Second cycle	A1N
Revised by	**Disciplinary domain**	
Chairman of the Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Technology	
Revision date	**Subject group**	
2023-06-30; 2024-06-19; 2025-02-12	Technology from a Social Perspective	
Offered first time	**Offered for the last time**	
Autumn semester 2023		
Department	**Replaced by**	
Institutionen för datavetenskap		

Course offered for

- Master Programme in Cognitive Science

Entry requirements

- Bachelor's Degree in Cognitive Science, Computer Science, Information Systems, Informatics, Information Technology, Programming, Psychology, Cognitive Neuroscience, or corresponding, equivalent to a Swedish Kandidatexamen
- English and Swedish corresponding to the level of English and Swedish in Swedish upper secondary education (Engelska 6 and Svenska 3)

Intended learning outcomes

After completion of the course, the student should at an advanced level be able to:

- account for and critically examine current research questions, results, and theories concerning intelligent virtual agents and social robots
- discuss limitations and opportunities in methods and the technologies used for the development and implementation of intelligent virtual agents and social robots
- critically reflect on how the development and use of such technologies affect human interaction with intelligent virtual agents and social robots
- independently design a development- or evaluation project with intelligent virtual agents or social robots

Course content

The course covers theories, methods, and technology in the research front of the area. It aims to provide an understanding of current theoretical issues as well as practical knowledge of implementation and/or evaluation of agent- or robot-based interactive systems with focus on the interaction between humans and such systems.

The course covers the following theoretical areas:

- Interaction by means of natural language and non-verbal language
- Embodiment
- Visual appearance including gender, ethnicity, anthropomorphism
- Methods for development and evaluation
- Application areas, for example learning, training, health, entertainment

Teaching and working methods

The course consist of lectures, seminars, and supervision. In addition to this, the student must practice self-study.

Examination

The course is examined through:

- active participation in seminars, grading scale: UG
- individual written report and oral presentation of project work, grading scale: UV

For the final grade Pass, the grade Pass is required for all modules. For the final grade Pass with Distinction, the grade Pass with Distinction is also required for the project work.

Detailed information about the examination can be found in the study instructions.

If special circumstances prevail, and if it is possible with consideration of the nature of the compulsory component, the examiner may decide to replace the compulsory component with another equivalent component.

If the LiU coordinator for students with disabilities has granted a student the right to an adapted examination for a written examination in an examination hall, the student has the right to it.

If the coordinator has recommended for the student an adapted examination or alternative form of examination, the examiner may grant this if the examiner assesses that it is possible, based on consideration of the course objectives.

An examiner may also decide that an adapted examination or alternative form of examination if the examiner assessed that special circumstances prevail, and the examiner assesses that it is possible while maintaining the objectives of the course.

Students failing an exam covering either the entire course or part of the course twice are entitled to have a new examiner appointed for the reexamination.

Students who have passed an examination may not retake it in order to improve their grades.

Grades

Three-grade scale, U, G, VG

Other information

Planning and implementation of a course must take its starting point in the wording of the syllabus. The course evaluation included in each course must therefore take up the question how well the course agrees with the syllabus.

The course is conducted in such a way that there are equal opportunities with regard to sex, transgender identity or expression, ethnicity, religion or other belief, disability, sexual orientation and age.

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this course syllabus, and delegate the right to take such decisions.

About teaching and examination language

The teaching language is presented in the Overview tab for each course. The examination language relates to the teaching language as follows:

- If teaching language is "Swedish", the course as a whole could be given in Swedish, or partly, or as a whole, in English. Examination language is Swedish, but parts of the examination can be in English.
- If teaching language is "English", the course as a whole is taught in English. Examination language is English.
- If teaching language is "Swedish/English", the course as a whole will be taught in English if students without prior knowledge of the Swedish language participate. Examination language is Swedish or English depending on teaching language.