



DEPARTMENT OF PHILOSOPHY, LINGUISTICS AND THEORY OF SCIENCE

LT2318 Artificial Intelligence: Cognitive Systems, 7.5 credits

Artificiell intelligens: kognitiva system, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Philosophy, Linguistics and Theory of Science on 2018-05-29 and was last revised on 2018-06-19 to be valid from 2018-06-19, autumn semester of 2018.

Field of education: Science 100%

Department: Department of Philosophy, Linguistics and Theory of Science

Position in the educational system

The course can be part of the following programmes: 1) Applied Data Science Master's Programme (N2ADS) and 2) Master in Language Technology (One year or Two years) (H2MLT)

Main field of studies

Language Technology

Specialization

A1F, Second cycle, has second-cycle course/s as entry requirements

Entry requirements

For admission to the course a passed result in each of the following courses:

- LT2001 Introduction to programming 7.5 credits
- LT2002 Introduction to formal linguistics 7.5 credits
- LT2003 Natural Language Processing 15 credits
- LT2213 Computational semantics 7.5 credits

or the equivalent is required.

Learning outcomes

On successful completion of the course the student will be able to:

Knowledge and understanding

- describe how linguistic meaning interacts with the world around us and how it is coordinated between and learned by agents,
- describe the basic concepts involved in situated language processing: perceptual judgements, "grounding", situated dialogue, perceptual and linguistic representation of space, "embodiment",
- learn about the techniques of situated language interpretation and generation,
- become familiar with the most widely known implementations of embodied situated dialogue systems,
- learn about the resources available for situated language processing.

Skills and abilities

- acquire theoretical pre-requisite knowledge to be able to build parts of situated dialogue agents

Judgement and approach

- make an informed choice of different techniques for situated natural language interpretation and generation.

Course content

The course gives an overview of theory and practical computational implementations of how natural language interacts with the physical world. We will look at topics such as semantics theories of human language, action and perception, situated dialogue, situated language acquisition, grounding of language in action and perception, spatial cognition, generation and interpretation of scene descriptions from images and videos, integrated robotic dialogue systems and others.

Form of teaching

The course consists of lectures and compulsory supplementary student presentations (seminars) of selected papers/book chapters.

Language of instruction: English

Assessment

The course is assessed by active participation in seminars, seminar presentation and, either a course essay or well documented implementation.

Obligatory attendance may be required for some components.

A student who has failed a test twice has the right to change examiner, unless weighty argument can be adduced. The application shall be sent to the board of the department and has to be in writing. The total number of exam sessions is five, when feasible. Completion of examined student achievement is admitted.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

Course evaluation

Students participating in, or having completed the course, are given the chance to anonymously submit their opinions of and suggestions for the course in a course evaluation. A short version of the course evaluation, together with the reflections of the course coordinator, is published and made available to the students within a reasonable time after the course has finished. The next time the course will be given, a short version of the course evaluation will be presented together with any implemented measures.