LT2314 Language technology resources, 7.5 credits

Språkteknologiresurser, 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 2023-05-29 to be valid from 2023-08-28, autumn semester of 2023.

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	*Specialization*
Language Technology	A1F, Second cycle, has second-cycle course/s as entry requirements

Entry requirements

Admission to the course requires having passed the following courses:

- LT2001 Introduction to programming 7.5 credits
- LT2002 Introduction to formal linguistics 7.5 credits
- LT2003 Natural language processing, 15 credits (or LT2123 Basic skills for language technology, 7.5 credits together with LT2124 Themes in NLP and language technology, 7.5 credits)
- LT2212 Statistical methods 7.5 credits (or LT2222 Machine learning for statistical NLP: introduction 7.5 credits)

or equivalent language technology competence.

English 6 or equivalent is also required.

Learning outcomes

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

Knowledge and understanding
- describe which types of algorithms are used in language technology research and development and choose suitable algorithms for a given problem,
- describe challenges and open problems in advanced text-based language technology problems,
- describe existing language technology and data structure algorithms and their possible application on above mentioned problems,
- describe existing resources and algorithms and understand how these can be merged to tackle new problems and purposes,
- describe evaluation models with their limitations, pros and cons.

Competence and skills

- choose, develop or adapt algorithms, tools or resources for a given purpose and domain,
- use at least an existing implementation of algorithm or a tool or a resource,
- choose an evaluation model based on a given problem and purpose.
- perform work according to a predetermined schedule.

Judgement and approach
- Assess if a specific algorithm, tool or resource can be used for a given purpose and domain,
- interpret evaluation results in relation to a given purpose and domain,
- justify your choice and need of a specific resource for a given purpose and domain.

Course content

The course gives advanced knowledge in algorithmic resources for language technology (or language technology tools) such as algorithms for word sense and disambiguation, learning algorithms and sentence level classification. Language technology resources, such as corpora, dictionary, syntax, text and language models are covered with relevant algorithms. The course is thematic organised in the following main parts:

- Algorithmic resources for language technology
- Advanced language technology problems in text-based language technology
- Use of resources in language technology research and development

Form of teaching

The teaching is given in the form of lectures, laboratories, assignments, seminars, exercises, individual work, or group work.

Two teaching sessions a week during the first four weeks, thereafter individual work with the project. During the project work it is possible to meet the lecturers and discuss with them. Submission and project presentation at the end of the course.

Language of instruction: English

Assessment

The course is assessed by written and/or oral tests. Compulsory attendance can apply for some course elements.

The grading teacher may request completion of examined student achievements.

A student who has taken two exams in a course or part of a course without obtaining a pass grade is entitled to the nomination of another examiner. The student needs to contact the department for a new examiner, preferably in writing, and this should be approved by the department unless there are special reasons to the contrary (Chapter 6 Section 22 of the Higher Education Ordinance).

If a student has received a recommendation from the University of Gothenburg for special educational support, where it is compatible with the learning outcomes of the course and provided that no unreasonable resources are required, the examiner may decide to allow the student to sit an adjusted exam or alternative form of assessment.

In the event that a course has ceased or undergone major changes, students are to be guaranteed at least three examination sessions (including the ordinary examination session) over a period of at least one year, but no more than two years, after the course has ceased/been changed. The same applies to placements and professional placements (VFU), although this is restricted to just one additional examination session.

Grades

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

- passed course essay and course assignment oral presentation
- passed practical assignment

Requirements for Pass with distinction:

- course essay passed with distinction and good quality of course assignment oral presentation
- practical assignment passed with distinction by having merged algorithms/tools/resources or by having implemented a supplement or an addition

to an existing algorithm, tool or resource.

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 measures implemented..

Additional information

The course requires access to a computer (or similar) with internet access.