



## DEPARTMENT OF PHILOSOPHY, LINGUISTICS AND THEORY OF SCIENCE

### **LT2214 Computational syntax, 7.5 credits**

Komputationell syntax, 7,5 högskolepoäng

*Second Cycle*

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#### **Confirmation**

This course syllabus was confirmed by Department of Philosophy, Linguistics and Theory of Science on 2018-05-29 and was last revised on 2020-01-13 to be valid from 2020-01-20, spring semester of 2020.

*Field of education:* Science 100%

*Department:* Department of Philosophy, Linguistics and Theory of Science

#### **Position in the educational system**

Can also be offered as a freestanding course.

The course can be part of the following programmes: 1) Computer Science, Master's Programme (N2COS), 2) Applied Data Science Master's Programme (N2ADS) and 3) 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**

Admission to the course requires either successful completion of the following three courses:

- LT2001 Introduction to programming 7.5 credits
- LT2002 Introduction to formal linguistics 7.5 credits
- LT2003 Natural language processing 15 credits

or equivalent language technology skills.

## Learning outcomes

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

### *Knowledge and understanding*

- analyse the syntax of natural language of any level of complexity
- read and write computational grammar rules that account for basic syntactic constructions in some natural language
- use syntactic analysis in a pipeline with other levels of analysis such as morphology and semantics
- have a conception of algorithms for syntactic analysis and their complexity.

### *Competence and skills*

- annotate natural language with syntactic structure using a standard annotation format and create treebanks,
- implement grammars using tools provided by programming languages and/or grammar development systems,
- write applications that use syntax as a component for analysis and generation of language.

### *Judgement and approach*

- make informed judgments about selecting types of analysis tools for particular language technology applications,
- evaluate implemented grammars and construct evaluation materials such as test suites

## Course content

The course deals with methods and techniques in the development of formal syntax for natural language, such as: phrase structure grammar, categorial grammar, dependency structures. The course also provides an overview of syntactic constructions and how they are to be described and implemented in a formal grammar.

## Form of teaching

The course includes lectures, supervised laboratory sessions and assignments.

*Language of instruction:* English

**Assessment**

The course is assessed through written and a written or oral exam. A student who has failed a test twice has the right to change examiner, unless weighty argument can be adduced. Such a request must be made in writing to the department. The maximum total number of exam sessions is five. Students can be asked to re-work graded assignments and re-submit them.

**Grades**

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

**Course evaluation**

Students who are currently taking the course or have completed it will be given the opportunity to express their views and share their experiences in an anonymous course evaluation. A compilation of the course evaluation and the course coordinator's reflections on it will be made available to the students within reasonable time after the end of the course. The next time the course is taught the compilation and any measures based on it will be presented to the students.

**Additional information**