



DEPARTMENT OF PHILOSOPHY, LINGUISTICS AND THEORY OF SCIENCE

LT2123 Basic skills for language technology, 7.5 credits

Grundläggande färdigheter för språkteknologi, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Philosophy, Linguistics and Theory of Science on 2020-11-23 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

Can be offered as a freestanding course.

The course can be part of the following programme: 1) Master in Language Technology (One year or Two years) (H2MLT)

Main field of studies

Language Technology

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

Students with an undergraduate degree (at least three year full-time study) in

- language technology, computational linguistics or computer science;
- linguistics (with at least 30 hec, corresponding to half a year full-time study, in formal linguistics);
- adjacent subjects, eg. cognitive science, languages, philosophy or mathematics can also be considered, provided that the student can show a background in either programming or formal linguistics corresponding to 30 hec, half a year full-time study;
- or a certificate from the department that your qualifications are equivalent.

English 6 or equivalent is also required.

Learning outcomes

Knowledge and understanding

- account for basic concepts in NLP, automata theory, probability theory, linear algebra, and calculus,
- have knowledge of basic object-oriented programming concepts,
- demonstrate awareness of the relevance of mathematical and programming concepts to NLP applications,
- know what plagiarism implies,
- have knowledge of GU rules about plagiarism,

Competence and skills

- use basic machine learning and NLP programming tools,
- use command-line tools to manage data,
- use statistical evaluation methods,
- identify plagiarism,
- find information about plagiarism and GU rules about plagiarism,
- perform work according to a predetermined schedule,

Judgement and approach

- select appropriate tools to handle text data for different applications,
- connect different applications and techniques to relevant mathematical concepts.

Course content

The course imparts basic skills for developing and applying language technologies.

Students will gain practical experience in programming while solving NLP-related problems. The programming language used in Introduction to programming, LT2001, will also be used in this course together with standard NLP libraries and command-line tools.

The course is divided into two main topics, one covering basic concepts in mathematics and computer science and one covering practical tools necessary to implement NLP applications and computational linguistics research.

1. Basic concepts:

- basic automata theory and mathematical linguistics
- basic probability theory
- basic algebra and calculus

- evaluation measurement

2. Practical tools:

- basic object-oriented software development techniques
- basic command-line navigation and file manipulation
- basic text processing using command-line tools
- basic I/O and process management
- basic system security
- practices in language data management

Form of teaching

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

Language of instruction: English

Assessment

The examination consists of a combination of take-home programming exercises and projects, written assignments, written and/or oral tests. Obligatory attendance may be required for some course components.

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).

For the grade Pass is required:

- completed take-home assignments

- passed written/online tests, if any are assigned

To pass with distinction is required:

- exceptional performance on take-home assignments
- passed written/online tests, if any are assigned

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

This 7.5 credit course is ideally intended to be taken alongside the 7.5 credit LT2124 in the H2LTG programme and together supplant the 15-credit course LT2003.

The course cannot be used together with LT2003 for a degree in the H2MLT programme.

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