Computational Text Analysis

Beräkningsintensiv textanalys
7.5 credits

Single subject course

771A48

Valid from: 2026 Autumn semester

Determined by	**Main field of study**	
Chairman of the Course and Programme Syllabus Board at the Faculty of Arts and Sciences	Computational Social Science	
Date determined	**Course level**	**Progressive specialisation**
2026-03-26	Second cycle	A1N
Revised by	**Disciplinary domain**	
	Social sciences	
Revision date	**Subject group**	
	Other Subjects within Social Science	
Offered first time	**Offered for the last time**	
Autumn semester 2025		
Department	**Replaced by**	
Institutionen för ekonomisk och industriell utveckling		

Entry requirements

- 180 ECTS credits passed including 90 ECTS credits within one of the following areas humanities, social-, cultural-, behavioural-, natural-, computer-, or engineering-sciences.
- English corresponding to the level of English in Swedish upper secondary education (Engelska 6 or Engelska nivå 2).
  Exemption from Swedish.

Intended learning outcomes

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

- Demonstrate knowledge of core topics in computational social science.
- Critically evaluate computational text analysis tools for application in social science.
- Apply unsupervised and supervised text analysis techniques to empirical data.
- Critically discuss ethical issues in the application of text-analytic models.

Course content

This course introduces standard methods to analyze textual data with applications in the social sciences. The focus is on core methodologies and how these methods can be used to analyze textual data in the social sciences. The course has two components, supervised and unsupervised analysis of textual data. The unsupervised part of the course will focus mainly on standard methods for unsupervised pattern recognition for textual data, such as topic modelling and word embeddings. The supervised part focuses on text and token classification with standard methods, and an introduction to transformer neural networks and large language models.

Teaching and working methods

The teaching consists of lectures, computer laboratories, and independent study.

Language of instruction: English.

Examination

The course is examined through:

- Active participation in computer labs, grading scale: EC (Pass/Fail)
- Individual written exam, grading scale: EC

To receive a passing grade (E) for the course, students must obtain at least grade E on the individual exam and pass the computer labs. Higher final grades for the course are determined by the grade on the individual exam.

Detailed information about the assessment can be found in the study guide.

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

ECTS, EC

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.