Social Network Analysis

Single subject and programme course

7.5 credits

Social nätverksanalys

771A23

Valid from: 2019 Spring semester

Determined by
The Quality Board at the Faculty of Arts and Sciences

Date determined
2017-10-20

Main field of study
Computational Social Science

Course level
Second cycle

Advancement level
A1N

Course offered for
- Master´s Programme in Computational Social Science

Entry requirements
A bachelor's degree or equivalent in the humanities, social-, cultural-, behavioural-, natural-, computer-, or engineering-sciences.
English corresponding to the level of English in Swedish upper secondary education (English 6/B).

Intended learning outcomes
After completing the course the student should at an advanced level be able to:
- explain basic concepts and theories of network analysis in the social sciences, and understand how these concepts and theories can help explain different actors' micro behaviors as well as macro outcomes;
- critically examine the ways in which networks can contribute to the explanation of social, political, economic and cultural phenomena;
- use statistical software to visualize networks and analyze their properties, connecting these to network concepts and theories;
- explain principles underlying statistical models for social networks;
- use software to implement statistical models of social networks to analyze network formation and evolution;
- use software to simulate the dynamics of networks based on social network models.

Course content

This course presents key concepts, measures, and statistical techniques needed for the analysis of relational, social network data using a computational approach. Network concepts such as centrality and brokerage are discussed, and popular measures related to these concepts are reviewed. The course proceeds to computational methods for handling network data, producing network visualizations, and calculating relevant statistics. Statistical models applicable to network data are considered, and tutorials in relevant software tools are provided. Various statistical models for network data are presented and estimated in interactive computer labs involving real data, and methods for simulating network models are implemented.

Teaching and working methods

The teaching consists of lectures, readings, computor labs, and seminars. Homework and independent studies are a necessary complement to the course. Language of instruction: English

Examination

The course is examined through written assignments, active participation on seminars, computer labs, and a final written individual assignment.
Detailed information about the examination can be found in the course's study guide.

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 instead 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.

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 carried out in such a way that both men´s and women´s experience and knowledge is made visible and developed.

Department

Institutionen för ekonomisk och industriell utveckling