Digital Strategies for Social Science Research

Single subject and programme course

7.5 credits

Digitala strategier för samhällsvetenskaplig forskning

771A25

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

A1X

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

- design a strategy to locate digital data relevant to social science research questions, while understanding potential merits and limits of these data;
- identify and evaluate ethical issues related to the use of digital data sources;
- collect, store and format digital data using appropriate software and programming tools;
- explore and analyze digital data with various statistical and computational techniques, from descriptive statistics to machine learning;
- compare classic statistical and machine learning tools for constructing social scientific measures based on digital data.

Course content

This course introduces the theories and practices of digital social sciences. The course considers the respective relevance of various digital data sources (sensors, surveys, internet-based media platforms, etc.) for social scientific purposes. In hands-on computer labs, the functioning and structure of the World Wide Web and its mark-up languages are examined. Programming tools for extracting information from these structure, especially the manipulation of text and text files, are introduced. Finally, training in the use of common statistical and computational tools to explore and analyze data (descriptive statistics, dimensionality reduction, clustering) is provided, including a comparison between classic statistical methods and machine learning.

Teaching and working methods

The teaching consists of lectures, readings, interactive 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, interactive computer labs, and a final written individual assignment. Detailed information about the examination can be found in the course's study guide.

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