

## Big Data: Social Processes and Ethical Issues

Big data: Sociala processer och etiska frågor

7.5 credits

Programme course

771A33

Valid from: 2019 Autumn semester

|   |                                      |                                   |
|---|--------------------------------------|-----------------------------------|
| <b>Determined by</b>  | <b>Main field of study</b>           |                                   |
| Course and Programme Syllabus Board at the Faculty of Arts and Sciences | Computational Social Science         |                                   |
| <b>Date determined</b>  | <b>Course level</b>                  | <b>Progressive specialisation</b> |
| 2018-10-08  | Second cycle                         | A1F                               |
| <b>Revised by</b>   | <b>Disciplinary domain</b>           |                                   |
|   | Social sciences                      |                                   |
| <b>Revision date</b>  | <b>Subject group</b>                 |                                   |
|   | Other Subjects within Social Science |                                   |
| <b>Offered first time</b>   | <b>Offered for the last time</b>     |                                   |
| Autumn semester 2019  |                                      |                                   |
| <b>Department</b>   | <b>Replaced by</b>                   |                                   |
| Institutionen för ekonomisk och industriell utveckling                  |                                      |                                   |

## Course offered for

- Master's Programme in Computational Social Science

## Entry requirements

- Bachelor's degree equivalent to a Swedish Kandidatexamen within 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)
- 45 ECTS credits completed in Computational Social Science (Exemption from Swedish)

## Intended learning outcomes

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

- identify and examine ethical issues involved in the use of large data troves in commercial and non-commercial settings
- analyse the social tensions and mutual benefits arising between those who contribute big data observations, organizations who collect data, and social actors using data to inform decision making
- formulate models of social behaviours that lead to the production of large data archives and engagement with digital platforms that generate these data
- design ethical methodological frameworks for collection, usage, and analysis of data
- criticise the use of digital data in social analysis in terms of bias, external validity, representativeness, and related issues
- analyse case studies exploring contemporary issues of big data collection, use, and analysis

## Course content

The course is about ethical issues related to the use of big data. It also considers social processes involving diverse actors who interact with digital platforms, produce and store big data, and analyse those data. Issues related to individual privacy, anonymity, and confidentiality are discussed. Unique ethical concerns that arise from the production of big data are scrutinized, including representativeness, sample selection, non-human and bad faith actors, and the reproduction of social biases through AI and machine learning. Social research and organizational decision-making processes that rely on big data are critiqued on this basis. The course also investigates the motivations, of organizations collecting and making use of big data directly or indirectly for profit and decision-making. These issues are explored through contemporary case studies.

## Teaching and working methods

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