

Research Methodology and Statistics

Single subject and programme course

9 credits

Forskningsmetodik och statistik

729G48

Valid from: 2019 Spring semester

Determined by

Course and Programme Syllabus Board
at the Faculty of Arts and Sciences

Date determined

2018-11-13

Main field of study

Cognitive Science

Course level

First cycle

Advancement level

G1N

Course offered for

- Bachelor's Programme in Cognitive Science

Intended learning outcomes

After completion of the course, the student should be able to:

- formulate scientific hypotheses and use statistics to test them
- describe different measurement scales, distributions and statistical tests
- assess scientific work
- describe scientific practice and research ethics
- discuss and motivate choice of theory, method, analysis, and interpretation of results in a study
- conduct and report a scientific study
- apply criteria to constructively oppose another's work
- assess and discuss reliability and validity in scientific studies.

Course content

The course will cover the following areas:

- Scientific method
- Experimental and non-experimental design
- Control, sampling, measurement, levels of measurement, power
- Reliability and validity
- Ethical considerations in research
- Descriptive statistics, inferential statistics, and non-parametric statistics
- Designing, conducting and reporting scientific studies in within cognitive science
- Opposing and defending report

Teaching and working methods

Teaching will take the form of lectures, seminars, practicals and labs. Students are expected to work independently, both alone and in groups.

Examination

The course will be examined through individual take-home exam, group take-home exam, group assignments, and active participation in seminars. Detailed information can be found in the course 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

Three-grade scale, U, G, VG

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 beteendevetenskap och lärande