



DEPARTMENT OF POLITICAL SCIENCE

SF2321 Applied Statistical Analysis, 15 credits

Tillämpad statistisk analys, 15 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Faculty of Social Sciences on 2009-06-25 and was last revised on 2023-06-20 by Department of Political Science to be valid from 2023-08-28, autumn semester of 2023.

Field of education: Social Sciences 100%

Department: Department of Political Science

Position in the educational system

The course Applied Statistical Analysis is given as either a free-standing course or as part of a Master Programme within the Faculty of Social Sciences. The course Applied Statistical Analysis is a method course in the second cycle.

Main field of studies

Criminology

Sociology

Media and Communication Studies

Political Science

European Studies

International Administration and Global Governance

Specialization

A1F, Second cycle, has second-cycle course/s as entry requirements

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Entry requirements

To be eligible for the course the student should have obtained a pass grade for a first cycle social sciences research methods course (at least 15 credits) and have obtained 15 credits from a second cycle core course in the social sciences, or the equivalent.

Applicants must prove their knowledge of English: English 6/English B from Swedish Upper Secondary School or the equivalent level of an internationally recognized test, for example TOEFL, IELTS.

Learning outcomes

A student who has passed the course will be able to:

Knowledge and understanding

- Display knowledge and understanding of how to design social science research projects in order to make causal inferences.
- Display knowledge and understanding of the empirical application of statistical research methods for causal inference aimed to answer various research questions in the social sciences.
- Display comprehensive knowledge about the usage of different statistical techniques, primarily multivariate regression techniques.

Competence and skills

Be able to independently use methods of data management and to apply various statistical techniques on different data sources using a statistical computer package.

Be able to independently design and statistically test theoretically deduced causal models.

Demonstrate good ability to correctly present, visualize, interpret and analyze empirical results obtained through different statistical methods.

Independently plan and carry out a smaller study to solve a causal inference problem using appropriate statistical methods in a research paper.

Independently produce text in accordance with good academic practice, including proper citation technique and use of references

Communicate clearly and proficiently in English both orally and in writing.

Judgement and approach

- Independently and critically assess research designs, methodology, empirical analyses and conclusions from social science research based on statistical analysis.
- Independently and critically assess and evaluate principles of operationalization, validity and reliability.
- Identify, evaluate and judge problems of research ethics in Social Sciences.

Course content

This course provides students with a comprehensive understanding of the design and application of methods for causal inference using the most common regression techniques featured in social science research and in public and commercial analyses and reports. The course consists of three parts. The first part focuses on theory and research design for causal inference. The second, and largest part of the course starts with an introduction to basic statistical analysis and the statistical software used in the course. Most time is however devoted to lectures, teacher-led tutorials, and assignments on linear regression and statistical methods for causal inference. The third part of the course is focused on an independent research paper in which learned skills are put into practice and the design and statistical methods for causal inference are applied on a self-chosen research problem and data material.

Form of teaching

The course is taught through lectures, teacher-led tutorials, individual supervision and oral presentations at mandatory seminars.

Language of instruction: English

Assessment

The course is examined through oral and written assignments, some are group assignments and some are individual assignments. The student also have to actively participate at mandatory seminars.

Completion of examined assignments are permitted. If the student does not submit the completion on time, the student will be failed on the assignment.

A student who is not able to attend a compulsory part of the course can do an alternative assignment. The assignment will be described in the course guide.

A student who has failed twice has the right to change examiner, unless weighty argument can be adduced. The application shall be sent to the Department.

If a student has received a recommendation from the University of Gothenburg for study support for students with disabilities, the examiner may, where it is compatible with the learning outcomes of the course and provided that no unreasonable resources are required, decide to allow the student to sit an adjusted exam or alternative form of assessment.

At least five occasions shall be offered the students to pass a course or part of a course (Chapter 6, Section 21 of Higher Education Ordinance).

In cases where a course has been discontinued or major changes have been made a student should be guaranteed at least three examination occasions (including the

ordinary examination occasion) during a time of at least one year from the last time the course was given.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

To be awarded Pass with Distinction (VG) for a full course, the final individual assignment must have been awarded Pass with Distinction (VG) and all of the other assignments must be awarded Pass (G). To be awarded Pass (G) for the full course all assignments must be awarded Pass (G).

Course evaluation

The student will be given the opportunity to do a course evaluation. The results of and possible changes to the course will be shared with students who participated in the evaluation and students who are starting the course.