



DEPARTMENT OF PSYCHOLOGY

PX2310 Psychology: Statistical Analysis and Methods, 15 credits

Psykologi: Statistisk analys och metod, 15 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Psychology on 2015-09-23 and was last revised on 2020-09-09 to be valid from 2021-01-18, spring semester of 2021.

Field of education: Social Sciences 100%

Department: Department of Psychology

Other participating department

Department of Psychology

Position in the educational system

The course is an advanced course and can be included in a 1-year master's degree (magisterexamen) or a 2-year master's degree.

Main field of studies

Psychology

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

Admission to the course requires at least 90 credits in psychology, including at least 15 credits in elementary statistics and social science research methods.

Learning outcomes

Upon successful completion of the course the student will be able to:

Knowledge and understanding

- Use and independently conduct multiple regression analysis and analysis of variance.
- Conduct binary logistic regression and understand the principles of non-linear models.
- Demonstrate familiarity with the interpretation of different types of analysis of variance and regression analyses, as well as estimates of effect sizes.
- Demonstrate understanding of how concepts can be operationalized and made measurable.
- Plan a scientific study.

Competence and skills

- use and independently perform multiple regression analysis and variance analysis
- perform binary logistic regression analyses and understand the principles of non-linear models
- show familiarity with interpretation of different types of variance and regression analyses as well as estimates of effect sizes
- demonstrate an understanding of how concepts can be operationalized and made measurable
- plan an own scientific study

Judgement and approach

- critically examine and assess the validity of regression analysis and variance analysis in psychological research
- critically review and evaluate scientific studies in the field of psychology

Course content

Sub-courses

- 1. General methods of statistical analysis** (*Generella statistiska analysmetoder*), 10 credits

Grading scale: Pass with Distinction (VG), Pass (G) and Fail (U)

Module 1 aims to provide in-depth knowledge of statistical methods that can be used to analyze data from different types of studies. The main focus is on regression analysis methods and their general applicability.

- 2. Reliability and validity of psychological measurement** (*Psykologiska mätningars reliabilitet och validitet*), 3 credits

Grading scale: Pass (G) and Fail (U)

Module 2 focuses on conceptual, systematic and random measurement errors of psychological concepts.

3. Planning an empirical study (*Undersökningsplanering*), 2 credits

Grading scale: Pass (G) and Fail (U)

Module 3 focuses on the preparation of a detailed plan for an empirical study in psychology.

Form of teaching

Teaching methods include lectures, computer exercises and seminars.

The medium of instruction is Swedish, but the course may also be conducted in English if needed

Language of instruction: Swedish and English
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Assessment

Assessment in Module 1 includes a written examination and active participation in compulsory computer exercises.

Assessment in Module 2 consists of take-home exams and active participation in compulsory seminars.

Assessment in Module 3 is based on active participation in seminar about submitted written plans for an empirical study.

Absence in compulsory components must be compensated in accordance with the course coordinator.

All teaching can constitute basis for examination.

If a student who has failed the same examined component twice, wants to change examiner before the next examination, they should submit a written request to the department responsible for the course. The request shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

Students with a recommendation for special educational support from the University of Gothenburg may receive an adapted examination or alternative examination form provided that the examiner decides it is compatible with the course objectives and unreasonable resources are not required.

In the event where a course has been discontinued or has undergone major changes, the student shall normally be guaranteed at least three examinations (including the ordinary examination) during a period of at least one year up to two years after the course has been discontinued/changed. The same applies for internships and on-the-job trainings,

but with a restriction to only one additional examination session.

Grades

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

Conditions for receiving the grade Pass (G):

- Active participation in all compulsory components
- Passed written exam in the module on methods for general statistical analysis
- Passed take-home exams in the module on reliability and validity of psychological measurements
- Approved planning report

Conditions for receiving the grade Pass with Distinction (VG):

- Active participation in all compulsory components
- Grade Pass with Distinction (VG) on written examination in the module on methods for general statistical analysis
- Passed take-home exams in the module on reliability and validity of psychological measurements
- Approved planning report

Course evaluation

The course coordinator is responsible for ensuring that students are given the opportunity to provide an anonymous, written course feedback at the end of the course. On completion of the course, the course coordinator writes a course report, which includes a summary of students' feedback. The course report is discussed in a relevant course evaluation group and is communicated both to the students, who completed the course evaluation as well as to the students who are starting the course. The reports are available to students.

Additional information

The medium of instruction is Swedish in autumn term and English in spring term. If all students are Swedish-speaking, teaching can also be conducted in Swedish in spring term.

If the course requires access to a computer, internet or other digital tools, it is the student's responsibility to make sure to have access to such resources.