



Course syllabus

Faculty of Health and Life Sciences

Department of Psychology

4PS111 Univariat och multivariat statistik, 7,5 högskolepoäng

4PS111 Univariate and multivariate statistics, 7.5 credits

Main field of study

Psychology

Subject Group

Psychology

Level of classification

Second Level

Progression

A1F

Date of Ratification

Approved 2014-09-23

Revised 2023-03-06 by Faculty of Health and Life Sciences.

The course syllabus is valid from autumn semester 2023

Prerequisites

45 credits in the following courses within work and organizational psychology at advanced level, or the equivalent:

Philosophy of Science and History of Work and Organizational Psychology, 7.5 credits
4PS209

Work- and organizational psychology: overview and practical applications 7.5 credits
4PS210

Scientific methodology 7.5 credits 4PS201

Job satisfaction and motivation 7.5 credits 4PS203

Judgment and decision making in the workplace 7.5 credits 4PS204

Selection and recruitment 7.5 credits 4PS115

Stress at work 7.5 credits 4PS205

Leadership theories 7.5 credits 4PS107

Coping with organizational conflicts 7.5 credits 4PS108

Objectives

Upon completion of the course, the student is expected to be able to:

- Explain in detail the principles of the General Linear Model (GLM) and how classical statistical tests in the field of work and organizational psychology (e.g., t-test, regression, ANOVA) relate to it

- Develop a statistical analysis plan based on given hypotheses and designs
- Conduct confirmatory statistical analyses based on a statistical analysis plan
- Explore data using GLM and factor analysis
- Follow practices for open science relevant to statistics: preregistration, open data, and open code
- Use the programming language R, through both code and graphical user interfaces (e.g., Shiny apps; jamovi)
- Report statistical results according to specified guidelines (e.g., APA)

Content

- Classical statistical tests and how they relate to the General Linear Model
- How to develop an analysis plan
- Confirmatory and exploratory statistical analyses
- Factor analysis
- How to share data, code, and materials in accordance with principles of open science
- The programming language R through code and graphical user interface
- Reporting of statistical analyses in written form

Type of Instruction

The course consists of a series of practical workshops interspersed with theoretical lectures. The course is taught in English.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.

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The grade A is the highest grade, with the remaining grades following in descending order where grade E is the lowest passing grade. The grade F indicates that the student's performance is assessed as: fail.

The examination consists of a written exam.

A re-examination is given in accordance with Local rules for course and examination at undergraduate and advanced level at Linnaeus University.

If the university has decided that a student is entitled to special educational support due to a disability, the examiner has the right to provide an adapted examination or for the student to take the exam in an alternative way.

Course Evaluation

Course evaluation is conducted during or in close proximity to the course. Results and analysis of the evaluation will be promptly communicated to students who have completed the course. Students who participate in the next course session will receive feedback at the beginning of the course.

Other

The course is part of the master's program in Psychology, Work and Organizational Psychology. Any additional costs associated with assignments and such are borne by the individual student.

Required Reading and Additional Study Material

Navarro D.J, & Foxcot D.R. (Most recent edition). Learning statistics with jamovi: A tutorial for psychology students and other beginners. DOI: 10.24384/hgc3-7p15. 519 pages.

Kaplan, D.T. Statistical Modeling (2nd edition). 18 chapters.

Additional scientific articles of approx. 100 pages.