Statistical Research Methods in Psychology, part 1, 7.5 credits

Statistiska forskningsmetoder i psykologi, del 1, 7,5 hp

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<th>Course Code/Codes</th>
<th>35PS045, 3.5 credits</th>
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<td>35PS046, 4 credits</td>
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<td>Subject Area</td>
<td>Psychology</td>
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<td>School/equivalent</td>
<td>School of Law, Psychology and Social work</td>
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<td>2017-10-16</td>
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<td>Head of School</td>
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<td>Translation to English, date and signature</td>
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1 Course content

Two courses (Statistical Research Methods in Psychology, part 1 and 2) have been specifically designed to provide a basic theoretical background and an introduction to the various statistical methods used within the discipline of psychology. The two courses are independent of each other. Students already familiar with basic statistical data analysis may opt to take part 2 of the course. For both courses, students are expected to work with their own data. Together, part 1 and 2 shall provide students with an understanding of statistics necessary to take more advanced courses in structural equation modelling (SEM) and multilevel modelling.

In the teaching of the course, there is a strong emphasis on examples from psychology research, both cross-sectional and longitudinal. Overall, part 1 shall provide students with a solid foundation in statistical approaches, and part 2 is intended to provide knowledge of many of the multivariate statistical techniques used in psychology research.

Part 1 offers an introduction to statistical methods, descriptive statistics and statistical interference (estimation and significance tests), to understand the underlying principles of statistical analysis. Univariate analyses, such as group comparisons and analysis of association between categorical variables, are followed by an introduction to multivariate techniques. Here, correlation statistics and multiple regression, as well as more sophisticated ANOVA methods and logistic regression, are presented.

The course covers the following components:

- basic statistical concepts
- describing and exploring data
- normal distribution
- sampling advantages and hypothesis testing
- basic concepts relating to probability
- categorical data and Chi²
2 Outcomes

2.1 The course in relation to the doctoral programme

The course shall primarily refer to the following intended learning outcomes for third-cycle courses and study programmes as described in the Higher Education Ordinance, i.e. the doctoral student shall demonstrate:

Knowledge and understanding
- familiarity with research methodology in general (part of outcome 2)
- familiarity with the methods of the specific field of research in particular (part of outcome 2)

Competence and skills
- the capacity for scholarly analysis and synthesis (part of outcome 3)
- the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively (part of outcome 4)
- the ability to plan and use appropriate methods to undertake research and other qualified tasks within predetermined time frames (part of outcome 4)
- the ability to review and evaluate research and other qualified tasks (part of outcome 4)

Judgement and approach
- intellectual autonomy and disciplinary rectitude (part of outcome 9)

The intended learning outcomes are listed in the same order as in the general syllabus for the programme.

2.2 Intended course learning outcomes

To obtain a passing grade, the doctoral student shall demonstrate:

- the ability to identify and formulate scientific problems, critically and autonomously, which can be tested statistically
- the ability to review and evaluate statistical research methods
- an understanding of basic quantitative methods, their possibilities and limitations
- a basic understanding of basic statistical theory and analysis methods
- the ability to perform their own basic statistical analyses in research
- the ability to apply different univariate statistical methods on the same research problem
- knowledge on using SPSS syntax to perform statistical analyses
- knowledge and understanding of basic assumptions in statistical interference
- knowledge of the way in which difference statistical analyses, variance analysis and regression analysis, are variants of the same statistical approach
- the ability to apply relevant basic statistical methods for analyses of their own data
3 Reading list and other teaching material

The following course readings and teaching material will be used on the course:

Compulsory reading:

Further readings may be added.

4 Teaching formats

Teaching on the course takes the following format:

Lectures, seminars and computer exercises.

5 Examination

The course is assessed through the following examinations which will be graded separately:

35PS045, Statistical research methods in psychology, part 1.1, 3.5 credits
35PS046, Statistical research methods in psychology, part 1.2, 4 credits
The examinations are in the form of two hand-in assignments of 3.5 credits and 4 credits respectively.

*For examinations consisting of several examination components, the following applies*: If during the course it is concluded that a doctoral student is unable to complete a certain examination component, the examiner may set a substitute assignment provided that circumstances do not reasonably allow for the course component to be completed at a later date during the run of the course.

6 Grades

Examinations on third-cycle courses and study programmes are to be assessed according to a two-grade scale with either of the grades ‘fail’ or ‘pass’ (local regulations).

The grade shall be determined by a teacher specifically nominated by the higher education institution (the examiner) (Higher Education Ordinance).

To obtain a passing grade on examinations included in the course, the doctoral student is required to demonstrate that he/she attains the intended course learning outcomes as described in section 2.2. Alternatively, if the course consists of multiple examinations generating credit, the doctoral student is required to demonstrate that he/she attains the outcomes that the examination in question refers to in accordance with section 5.

A student who has failed an examination is entitled to a retake.

If an examination consists of several examination components, and a student fails an examination component, the examiner may, as an alternative to a retake, set a make-up assignment with regard to the examination component in question.

A doctoral student who has failed an examination twice for a specific course or course element is entitled, upon his/her request, to have another examiner appointed to determine the grade.

7 Admission to the course
7.1 Admission requirements

To gain access to the course and complete the examinations included in the course, the applicant must be admitted to a doctoral programme at Örebro University.

Alternatively, the applicant must be admitted to a doctoral programme at another equivalent higher education institution.

7.2 Selection

Selection between applicants who have been admitted to doctoral programmes at Örebro University and who otherwise meet the admission requirements as listed above is made according to the following order of precedence:

Priority will be given to those to whom the course is compulsory.

If no other selection criteria are specified in this section, priority shall be given to applicants with a lower number of course credits left before the award of their degree over applicants with a higher number of remaining course credits. Should two or more students have equal number of credits, selection will be done through the drawing of lots. This also applies within any selection groups listed unless otherwise stated.

7.3 Other applicants than doctoral students admitted at Örebro University

Other applicants than doctoral students admitted at Örebro University may be given access to the course on the grounds of provisions for and/or agreements regarding contracted courses, joint degrees, national graduate schools or cooperation in other respects with other universities.

Any decisions on what such other applicants may be given access to the course are made separately and on the basis of the provisions and/or agreements that occasion the student to apply for the course.

For participation in the course in other respects, the same provisions shall apply as for doctoral students admitted to Örebro University.

8 Transfer of credits for courses, study programmes and other experience

Provisions on the transfer of credits can be found in the Higher Education Ordinance and on the university’s webpage.

9 Other information

The language of instruction is English.

Transitional provisions

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