Advanced Quantitative Techniques (K000902)

Course Specifications
Valid as from the academic year 2017-2018

Course

Lecturers in academic year 2018-2019
Lievens, John
PS04 lecturer-in-charge

Course offerings and teaching methods in academic year 2018-2019
A (semester 1) Dutch
lecture 20.0 h
seminar 5.0 h
seminar: practical PC room classes 20.0 h

Offered in the following programmes in 2018-2019
Master of Science in Communication Science (main subject New Media and Society) 5 A
Master of Science in Sociology 5 A

Teaching languages
Dutch

Keywords
social statistics, applied statistics, quantitative methods, data analysis, multilevel analysis

Position of the course
Advanced Quantitative Techniques is one of the technical courses in the fixed program of the Master of Sociology.

Contents
Advanced Quantitative Techniques deals with multilevel analysis. Attention is paid to the link between analysis and sociologically relevant problems. The statistical-mathematical aspects of these method as well as its use in concrete sociological questions form part of this course. The basic random intercept multilevel model is thoroughly studied, with extension to fully random models and (cross-level) interactions, for linear and logistic regression analysis. Further, we go into more advanced variants of the multilevel model (cross-classified designs, meta-analysis, longitudinal analysis, ...). Before the part on multilevel analysis, the content of courses on quantitative analysis from previous years is systematized and integrated on actual research and applied to a real, large-scale dataset. During the last two lessons an introduction is given to other advanced techniques (event history analysis, structural equations modeling, ...).

Initial competences
Required
The students should have successfully taken the course ‘Multivariate Analysis’ (Ba3) or have gathered the competences, intended in this course, in some other way.

Final competences
1. Having insight in the possibilities and limitations of multilevel analysis techniques in social-scientific research.
2. Understand, interpret and critically evaluate reported analysis results in sociological literature.
3. Make a well-considered choice for a suitable analysis technique.
4. Articulate and substantiate the limitations of a choice for a certain analysis technique.
5. Soundly design and correctly perform statistical analyses on social-scientific data.

Credits 5.0 Study time 150 h Contact hrs 45.0 h

Course size (nominal values; actual values may depend on programme)

Contact hrs

45.0 h

Course size

(Approved)
6 Interpret and report results of statistical analyses.
7 Critically reflect upon the choice for and use of analysis techniques.

Conditions for credit contract
Access to this course unit via a credit contract is determined after successful competences assessment.

Conditions for exam contract
This course unit cannot be taken via an exam contract.

Teaching methods
Lecture, seminar, self-reliant study activities, seminar: practical PC room classes.

Extra information on the teaching methods
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Learning materials and price
reader
estimated cost: 10 euro

References
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Course content-related study coaching
- e-learning through Minerva (forums, FAQ, e-mail)
- individual guidance during fixed office hours

Evaluation methods
end-of-term evaluation and continuous assessment

Examination methods in case of periodic evaluation during the first examination period
Written examination with open questions, oral examination.

Examination methods in case of periodic evaluation during the second examination period
Written examination with open questions, oral examination.

Examination methods in case of permanent evaluation
Assignment
Possibilities of retake in case of permanent evaluation
examination during the second examination period is possible.

Extra information on the examination methods
Periodic evaluation: Emphasis lies on insight- and application-focused questions. The written exam focuses on application, the oral exam on theoretical insight.
Non periodic evaluation: analysis report with an integration of content of previous courses: from problem to research questions, datacleaning, operationalisation, univariate and bivariate descriptive and inductive statistics, various multivariate analysis techniques with assumption tests, conclusion.

Calculation of the examination mark
first examination period:
- periodic evaluation (60%): written (50%) and oral (10%) examination
- non periodic evaluation (40%): assignment
second examination period:
- periodic evaluation (100%): written (80%) and oral (20%) examination

Facilities for Working Students
1. Possible rescheduling of the examination to a different time.
2. Alternative time for feedback is possible.