Nederlands / Dutch

400854 : Research Master: Analysis of Multilevel and Longitudinal Data

General info

Instruction language	English	
Type of Instruction	Lectures and lab sessions	(Lecture schedule)
Type of exams	Written exam and attendance at lab sessions	(Examination schedule)
Level:	Master	
Course load:	6 ECTS credits	
Blackboard Info	Link to Blackboard *(When you see 'Guest are not allowed in this course', please login at Blackboard itself)*	

Lecturer(s)

dr. M.A.L.M. van Assen prof. dr. J.K. Vermunt

Objectives

The aim of the course is to gain practical and theoretical knowledge of the techniques for the analysis of multilevel and longitudinal data.

Contents

This course deals with two rather strongly related topics. The first topic is the design of multilevel studies and the analysis of data from multilevel studies. A multilevel study is a study with observational units at different levels, such as employees nested within organizations or teams, patients nested within doctors or hostpital, pupils nested within schools, and survey respondents nested with geographical areas (say countries). The emphasis is on design issues and data analysis using regression models with random effects, also referred to as mixed models. The second topic is the design of longitudinal studies and methods for the analysis of various types of longitudinal data. Examples of such designs are experiments using repeated measurements, panel studies, life history studies, cohort studies, and trend studies. The two main types of analysis methods are -- as in multilevel analysis -- regression models with random effects (also called growth models or panel regression models), and transition, event history or survival models. The relevant software packages in this course are SPSS, and R.

Specifics

The course consists of 14 two-hour lectures and 14 two-hour computer practicals. In the interactive lecture, the lecturer explains the subject matter, asks questions, and invites students to discuss the subject matter. In the practicals, the students apply the acquired methods and techniques to real-data sets from the Social Sciences and Social Psychology using SPSS and R.

Written exam (2 times 3 hours) and attendance at lab sessions. Students are allowed to miss one lab session. For each additional missed lab session, students must do an additional assignment.

The 168 hours in the course consist of 28 (14 × 2) hours attending lectures, 28 (14 × 2) hours attending practicals, and 82 hours self-tuition, and 30 hours for preparing and doing the written exam.

Compulsory Reading

1. Ronald H. Heck, Scott L. Thomas, & Lynn N. Tabata., *Multilevel and longitudinal modeling with IBM SPSS*, Routledge Academic, 2010, ISBN 978-1-84872-863-9.
2. Judith D. Singer and John B. Willett, *Applied Longitudinal Data Analysis: Modeling change and event occurrence*, Oxford University Press, 2003, ISBN 13-978-0-19-515296-8.
3. Several relevant articles on multilevel and longitudinal data analysis.

Required Prerequisites

Only for students who are qualified for the Research Master.

Compulsory for

- Master Social and Behavorial Sciences: Minor Social Sciences (2011, 2012)
- Master Social and Behavorial Sciences: Minor Methodology & Statistics (2011, 2012)

Recommended option for

- Research Master in Business: Marketing (2009, 2010, 2011, 2012)
- Master's degree program in Research in Social and Behavior Sciences (2008, 2009)

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