JÖNKÖPING INTERNATIONAL
BUSINESS SCHOOL
JÖNKÖPING UNIVERSITY

Ph.D. COURSE:

Multi level analysis

Spring 2012 at Jönköping International Business School, full speed

Course credits:
7.5 ECTS credits

Education Cycle:
Third cycle, doctoral program course

Course managers/examiners:
Examiner: Professor Ghazi Shukur
Teacher: Professor Shakir Hussain

Course language
English

Prerequisites:
15 hp in Statistics introductory course in Econometrics recommended. It is assumed that all participants have a basic knowledge of LINEAR and GENERALIZED LINEAR methods.

Purpose and objectives

The aim of the course is to give the students basic knowledge in multilevel modelling from both theoretical as well as practical side. The course is designed to help doctoral students in their empirical analysis with multi-level data. The course will provide an up-to-date overview on the most commonly used models within this area of statistics e.g., linear multilevel model, generalized multilevel, and Bayesian approach. The course will also provide tools for using the statistical packages R and MLwiN in multilevel modelling and how to apply this in the thesis work of the doctoral students.

Course content
The contents of this course include

- Introduction to Linear model.
- What is Multilevel Modelling
- Why using Multilevel Modelling
- Linear Multilevel model
- Generalized Linear Multilevel modelling
- Prediction from linear and Generalized linear Model
- Bayesian multilevel model
- R free software
- MLwiN software
- Using R for Multilevel model
- Using MLwiN for Multilevel modelling
- Using R and MLwiN to Data from Participants.

Intended learning outcomes:
After completing the course the student should be able to:

Knowledge and understanding

1. Understand the basic structure, purpose and motivation of multilevel analysis
2. Understand how interpret results of multilevel analysis on empirical models
3. Understand the limitations of linear multilevel modeling and generalized multilevel modeling.

Skills and abilities

1. Analyse multilevel data by using R
2. Critically interpret results from empirical analysis
3. Write on codes and routines in R performing multilevel analysis and simulate from own data.

Judgement and approach

4. Run different types of multilevel models and understand the limitations of the various models.

Course/classes methodology

Lectures, seminars and computer assignments

Examination
Written report and presentation of paper

Course evaluation
A course evaluation will be conducted at the end of the course.

Schedule
The course will take place January 23-27 2012.
Register for the course by contacting Lina Bjerke (JIBS, Box 1026, 551 11 Jönköping/phone: 036-101739, or e-mail: lina.bjerke@ihh.hj.se

Course Literature

Data Analysis Using Regression and Multilevel/Hierarchical Models, ANDREW GELMAN and JENNIFER HILL, CAMBRIDGE 2007. 465 pages