APPLIES TO ACADEMIC YEAR 2015/2016

DRE 1011 Quantitative Research Methods: Multivariate Statistics

Programme
Common course

Responsible for the course
Ulf Henning Olsson

Department
Department of Economics

Term
According to study plan

ECTS Credits
6

Language of instruction
English

Introduction

Learning outcome
Goals:
The aim of the course is to give the students training in areas of advanced multivariate statistics, by teaching them some of the most popular computer based methods applied in social science statistics. The course will also focus on basic statistical theory as well as on critical use of statistics in research. There will also be discussions and presentations of some of the latest research within parametric methods and non-normality.

Learning outcome:
After undertaking this course the student should be able to apply several multivariate statistical techniques, use modern statistical software and apply these on their research projects. They should also have acquired enough basic knowledge so that they on their own can extend their statistical “tool box.”

Prerequisites
Admission to a PhD Programme is a general requirement for participation in PhD courses at BI Norwegian Business School.

External candidates are kindly asked to attach confirmation of admission to a PhD programme when signing up for a course with the doctoral administration. Other candidates may be allowed to sit in on courses by approval of the courseleader. Sitting in on courses does not permit registration for courses, handing in exams or gaining credits for the course. Course certificates or conformation letters will not be issued for sitting in on courses

Compulsory reading

Collection of articles:
A collection of articles
Karl G Jøreskog, Ulf H Olsson & Fan Yang Walentin. 2014. Multivariate Analysis with LISREL. Version 4

Other:
During the course there may be hand-outs and other material on additional topics relevant for the course and the examination

Recommended reading
Books:
Bartholomew, David J. ... [et al.]. 2008. Analysis of multivariate social science data. 2nd ed.. Chapman & Hall/CRC

Course outline
The following methods will be covered

Module 1

Regression analysis (OLS and 2SLS)
Logistic Regression

Module 2
Analysis of Variance
Introduction til GLM
EFA (Exploratory factor analysis)

Module 3
CFA (Confirmatory factor analysis)
SEM (Structural Equation Modeling)
Multilevel Analysis

Computer-based tools
Software: SPSS , LISREL 8.80 and / or LISREL 9

Learning process and workload

Workload (6 ECTS)

Lectures	30 hours
Specified learning activities (including reading)	80 hours
Autonomous student learning (including exam preparation)	50 hours
Total	160 hours

Examination
Individual term paper will account for 100% of the grade. The paper should be original work, and be written specifically for this course.
Term paper will use the ECTS grading scale, A- F

Examination code(s)
DRE 10111 term paper counts for 100% of the final grade.

Examination support materials
Not applicable

Re-sit examination
Re-takes are only possible at the next time a course will be held. When the course evaluation has a separate exam code for each part of the evaluation it is possible to retake parts of the evaluation. Otherwise, the whole course must be re-evaluated when a student wants to retake an exam.

Additional information
Honour Code
Academic honesty and trust are important to all of us as individuals, and represent values that are encouraged and promoted by the honour code system. This is a most significant university tradition. Students are responsible for familiarizing themselves with the ideals of the honour code system, to which the faculty are also deeply committed.

Any violation of the honour code will be dealt with in accordance with BI's procedures for cheating. These issues are a serious matter to everyone associated with the programs at BI and are at the heart of the honor code and academic integrity. If you have any questions about your responsibilities under the honour code, please ask.