APPLIES TO ACADEMIC YEAR 2005/2006

GRA 6020 Multivariate Statistics

Program
Master of Science in Business, Master of Science in Leadership and Organizational Psychology, Master of Science in Management, Master of Science (common course), Master of Science (Financial Economics)

Responsible for the course
Ulf Henning Olsson

Department
Economics

Term
According to study plan

ECTS Credits
6

Objective
- To understand and be able to apply some of the most known multivariate statistical techniques to research problems in the student's discipline of interest.
- To illustrate the use of actual statistical software. It is the responsibility of the student to familiarize himself/herself with the fundamentals of this or similar statistical analysis software.
- To provide an understanding for the statistical assumptions underlying these techniques.

Prerequisites
An introductory course in statistics.

Compulsory literature
Books:
Hair, Joseph F., Rolph E. Anderson, Ronald L. Tatham and William C. Black. \. 1998. Multivariate data analysis. 5th ed. N.Y.: Macmillian
Jøreskog Karl G.. 2002. Structural Equation Modeling with Ordinal Variables. (Can be downloaded: http://www.ssicentral.com/lisrel/ordinal.pdf)
Jøreskog, Karl G. and Dag Sørbom.. LISREL 8: Structural equation modeling with the SIMPLIS command language.. 1995. Chicago Scientific Software International.

Recommended literature
Books:
Gujarati, Damodar N.. 2003. Basic econometrics. 4th ed. New York: McGraw-Hill
Kaplan D.. 2000. Structural Equation Modeling: Foundadtion and Extensions. Thousands Oaks: Sage

Course outline
1. The idea of significance testing.
2. The linear regression model.
3. Qualitative Response Regression Models (Logit and Probit regression)
4. Factor analysis
5. Exploratory factor analysis
6. Confirmatory factor analysis
7. Structural Equation Modeling

Computer-based tools
The course uses modern statistical software.Blackboard/homepage

Course structure
Lecture format. 36 hours

Evaluation
Term paper and a two hour multiple choice control exam. In addition the thesis regsitration. Groups (up to three students on the termpaper) The contol exam must be passed to obtain course credits.

Evaluation code(s)
GRA60204 Term paper and a two hour multiple choice exam, account for 100 % of the grade in GRA 6020, 6 ECTS credits. The multiple choice exam is graded pass/fail. The contol exam must be passed to obtain course credits.

Aids at the examination
All aids are allowed.

Makeup exam
Re-takes are only possible at the next time a course will be held. When course evaluation consists of class participation or process elements, the whole course must me re-evaluated when a student wants to retake a exam. Retake examinations entail an extra examination fee.