APPLIES TO ACADEMIC YEAR 2009/2010

GRA 6020 Multivariate Data Analysis

Programme
Core Course, Master of Science in International Marketing and Management, Master of Science in Leadership and Organizational Psychology, Master of Science in Strategic Marketing Management, Master of Science in Political Economy

Responsible for the course

Department
Department of Economics

Term
According to study plan

ECTS Credits
6

Language of instruction
English

Introduction

Learning outcome
- 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 reading
Books:
Hair, Joseph F. ... [et al.]. 2010. Multivariate data analysis. 7th ed. Upper Saddle River, N.J.: Pearson Education
Jøreskog, Karl G. and Dag Sørbom. 1995. LISREL 8: Structural equation modeling with the SIMPLIS command language. 3rd printing, with foreword and computer exercises. Chicago : Scientific Software International

Other:
Jøreskog Karl G. 2002. Structural Equation Modeling with Ordinal Variables. (Can be downloaded: http://www.ssicentral.com/lisrel/ordinal.pdf)

Recommended reading
Books:
Gujarati, Damodar N., Dawn C. Porter. 2009. Basic econometrics. 5th ed. New York : McGraw-Hill
Kaplan, David. 2009. Structural equation modeling : foundations and extensions. 2nd ed. London : Sage Publications

Course outline
1. The basic idea of hypothesis testing.
2. The linear regression model.
3. Qualitative Response Regression Models (Logistic regression)
4. Explanatory 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

Learning process and workload
Lectures and exercises.

Please note that while attendance is not compulsory in all courses, it is the student's own responsibility to obtain any information provided in class that is not included on the course homepage/Blackboard or text book.

Examination
Term paper and a two-hour multiple-choice control exam account for 100% of the grade. Groups of up to three students on the termpaper. The multiple-choice exam is graded and counts for 25% of the final grade and must be passed to obtain course credits.
For further information please see information placed on Blackboard and the web.

Specific information regarding student evaluation beyond the information given in the course description will be provided in class. This information may be relevant for requirements for term papers or other hand-ins, and/or where class participation can be one of several elements of the overall evaluation.

Exam code(s)
GRA 60205 for the term paper (75%)
GRA 60206 for the multiple choice exam (25%).

Examination support materials
All aids are allowed. Only BI-approved calculators are allowed at examinations. Exam aids at written examiniations are explained under exam information in our web-based Student handbook. Please note use of calculator and dictionary.
http://www.bi.edu/studenthandbook/examaids

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. Retake examinations entail an extra examination fee.

Please note that students who only retake the control exam need to be aware that the exam may be based on the termpaper given this semester. Students should therefore regard the termpaper as a part of the course literature, even if the students already have a passing grade in the termpaper.

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

Any violation of the honor 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 honor code, please ask.