Syllabus

for course at first level

Multivariate Methods
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7.5 Higher Education Credits
7.5 ECTS credits

Course code:	ST304G
Valid from:	Autumn 2014
Date of approval:	2007-04-25
Changed:	2014-03-12
Department	Department of Statistics

Main field:	Statistics
Specialisation:	G2E - First cycle, has at least 60 credits in first-cycle course/s as entry requirements, contains degree project for BA/BSc

Decision

This syllabus was approved by the Board of the Department of Statistics on April 25, 2007, and revised 2014-03-12.

Prerequisites and special admittance requirements

Statistical Theory, Advanced course, 5 credits or Statistical Theory III, first level, 7,5 ECTS credits or Statistical Theory with Applications, 15 ECTS credits or equivalent.

Course structure

Examination code	Name	Higher Education Credits
11ME	Multivariate methods	7.5

Course content

The course consists of one course unit:
1. Multivariate Methods

The course gives an introduction to some of the most important multivariate methods. The following concepts are treated more thoroughly: Principal components, exploratory and confirmatory factor analysis, structural equation models, discriminant analysis, logistic regression, canonical correlation and cluster analysis. There will be some deeper studies of factor analysis. Matrix algebra is part of the course. An orientation of multivariate normal distribution is presented. Hotelling's T2-test is also treated in the course and some examples of types of multivariate charts are given.

The content of the course gives extended knowledge of great use in applications of statistical methods in several fields.

Learning outcomes

To pass the course the student should be able to:
- give an account of the most common multivariate methods
- use statistical software to analyse data with some multivariate methods and interpret print-outs

Education

Teaching forms consists of lectures and exercises.

Forms of examination

a. Examination will be done by assessing the learning outcomes. Examination will be in the form of a written test and written reports of compulsory exercises

b. Grading is done according to a seven-point scale related to the specified learning outcomes:

A = Excellent

B = Very Good

C = Good

D = Satisfactory

E = Adequate

Fx = Inadequate

F = Totally Inadequate

c. The assessment criteria for the course will be distributed at the beginning of the course.

d. In order to pass the course, the grade E or higher is required on the course unit.

e. Students who have received the grade Fx or F on an examination are entitled to at least four additional examinations to achieve the lowest grade E as long as the course is given. Neither Fx or F are passed grades and both demands a re-examintion. Students who have received the grade E on an examination may not retake this examination in order to attempt

to achieve a higher grade.

Students who have received the grade Fx or F on an examination on two occasions by the same examiner have

the right to request that a different examiner be appointed to set the grade of the examination. The request must be in writing and sent to the head of the department. The examination denotes all compulsory elements of the course.

Every time the course is given, there should be two examination opportunities during the current semester.

Interim

Students can request examination in accordance with this syllabus once per semester during a period of three semesters after the course is no longer given. The request must be in writing and sent to the head of the department.

Required reading

The course literature is described in an appendix to the syllabus.