Department of Statistics

Stockholm University

Education plan

for

Master's Programme in Statistics
Masterprogram i statistik

120.0 Higher Education Credits
120.0 ECTS credits

Programme code:	SSTAO
Valid from:	Autumn 2010
Date of approval:	2009-10-08
Department:	Department of Statistics

Decision

This syllabus was approved by the Faculty Board of the Social Sciences, Stockholm University on 2009-10-08.

Prerequisites and special admittance requirements

Bachelor's Degree, 180 HECs, including at least 90 HECs in Statistics or equal, and
English B or English 6 from the Swedish upper secondary education or equal.

Programme structure

The programme comprises two years of full time study (120 ECTS credits). These include 45 ECTS credits of mandatory courses, 45 ECTS credits of optional courses and 30 ECTS credits of a master thesis.

The instruction is given in the form of lectures and tutorials for all the courses. The instruction will be in English if necessary. As far as possible the students will work independently with exercises.

For all courses and the master thesis the letters A-E denominate a pass, where A is the highest grade. There are also grades denominating a fail, Fx and F, where Fx is higher than F. In exercise-oriented courses or modules the grade Pass or Fail can be awarded.

Goals

The Master programme builds on the knowledge and skills that students have acquired in courses in statistics at the undergraduate level up to 90 ECTS credits. The Master programme aims to provide both a greater breadth and a greater depth in statistics. After completing the Master programme, the student is expected either to be able to work independently with qualified statistical analysis in the private or public sector or to continue with postgraduate studies in statistics. The education must be on such a level that the student should be able to obtain theoretical knowledge in statistics at a level and to an extent that at least one academic year of studies can be credited upon admission to the Ph. D. programme in statistics at Stockholm University. The education will be completed when the student will apply his/her acquired knowledge and skills in a study based on current research. This study will be carried out individually and presented in writing in the form of a Master thesis.

Knowledge and understanding

After completing the Master programme, the student should:

- have acquired knowledge and understanding in statistics, including the field's scientific basis and applied

methods,

- have been oriented on current research issues in statistics.

Skills and ability

After completing the Master programme, the student should:

- have the ability to search, collect, evaluate and critically interpret the relevant information in a given problem and to critically discuss phenomena, issues and situations that can arise in a statistical analysis,

- have the ability to identify, formulate and solve problems independently, and carry out tasks within given time frames,

- have the ability to present and discuss, orally and in writing, information, problems and solutions in dialogue with different groups, and have the skill required to work independently as a statistician.

Ability to make assessments and approach

After completing the Master programme, the student should:

- have the ability to make assessments in statistics, taking into account relevant scientific, social and ethical aspects,

- have an insight on the role of knowledge in society and on people's responsibility for how it is used,

- have the ability to identify his/her need for further knowledge and to expand his/her competence.

Courses

Mandatory courses
Mathematics (7.5 ECTS credits)
Probability theory (7.5 ECTS credits)
Statistical inference (7.5 ECTS credits)
Statistical computation (7.5 ECTS credits)
Statistical methods (15 ECTS credits)

Optional courses
Analysis of categorical data (7.5 ECTS credits)
Analysis of repeated measurements (7.5 ECTS credits)
Analysis of survey data (7.5 ECTS credits)
Bayesian statistics - Introduction (7.5 ECTS credits)
Bayesian statistics - Continuation (7.5 ECTS credits)
Planning and analysis of clinical trials (7.5 ECTS credits)
Econometrics (15 ECTS credits)
Economic statistics (7.5 ECTS cred
Design of Experiments - Introduction (7.5 ECTS credits)
Design of Experiments - Continuation (7.5 ECTS credits)
Non-linear regression (7.5 ECTS credits)
Multivariate methods (7.5 ECTS credits)
Methods for official statistics (7.5 ECTS credits)
Statistical data bases and registers (7.5 ECTS credits)
Game and decision theory (7.5 ECTS credits)
Statistical methods in epidemiology (7.5 ECTS credits)
Survey methodology (7.5 ECTS credits)
Sampling and estimation (7.5 ECTS credits)
Survival analysis (7.5 ECTS credits)

Master Thesis
Master thesis (30 ECTS credits)

Degree

An individual who has completed the programme with a passing grade on all courses will, upon application, obtain a Master degree.

Misc
