

Syllabus

for course at advanced level

Statistical Models
Statistiska modeller

7.5 Higher Education
Credits
7.5 ECTS credits

Course code:	MT7002
Valid from:	Autumn 2021
Date of approval:	2006-09-27
Changed:	2021-04-29
Department	Department of Mathematics (incl. Math. Statistics)
Main field:	Mathematical Statistics
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

Decision

This course syllabus was approved by the Board of Science at Stockholm University on 27 September 2006, and revised 2021-01-11 and 2021-04-29. A technical revision of the Student Office was carried out on 2019-04-26.

Prerequisites and special admittance requirements

Prerequisites for the course is knowledge corresponding to 60 hp in mathematical statistics including the courses Probability theory II, 7.5 hp (MT5002) and Statistical inference, 7.5 hp (MT5003) or the equivalent. Also required is knowledge equivalent to Swedish upper secondary school course English B or the equivalent.

Course structure

Examination code	Name	Higher Education Credits
STAT	Statistical models	7.5

Course content

The course covers likelihood methods, exponential families, multivariate models, regression models, Fisher information and asymptotic results.

Learning outcomes

After completion of the course the student is expected to:

- * define advanced statistical concepts and models
- * describe the most common principles of statistical inference and relate them to each other
- * choose an appropriate model for a given problem and draw reasonable conclusions based on the analysis of chosen model
- * critically examine and evaluate whether obtained results are reasonable

Education

Teaching consists of lectures and exercise sessions.

Forms of examination

a. The course is examined as follows: Assessment takes place through written examination.

The examiner can decide on adapted or alternative examination formats for students with disabilities.

b. The course has no compulsory teaching.

c. Grading: The course's final grade is set according to a seven-point criterion-referenced scale:

A = Excellent

B = Very good

C = Good

D = Satisfactory

E = Adequate

Fx = Failed, some additional work is required

F = Failed, much additional work is required

d. The course's grading criteria are handed out at the start of the course.

e. Students who receive a failing grade on a regular examination are allowed to retake the examination as long as the course is still provided. The number of examination opportunities is not limited. Other mandatory course elements are equated with examinations. A student who has received a passing grade on an examination may not retake the examination to attain a higher grade. A student who has failed the same examination twice is entitled to have another examiner appointed, unless there are special reasons to the contrary. Such requests should be made to the department board. Under normal circumstances, the course includes three examination opportunities per academic year, those years when the course is offered. For the academic years that the course is not offered, at least one examination opportunity is offered.

f. Students who receive a grade of Fx are given the opportunity to improve their grade to E. The examiner decides on the required supplementary assignments, and they have to be performed before the next examination opportunity.

Interim

Students may request that the examination is carried out in accordance with this syllabus even after it has ceased to apply. This right is limited, however, to a maximum of three occasions within a two-year-period after the end of the course offering. A request for such examination must be sent to the departmental board. This provision is also valid in the case of revision of the syllabus and of the course literature.

Misc

The course is part of the Master Program in Mathematical Statistics, but may also be taken as a separate course.

Required reading

Course literature is decided by the department board and it is published at the website of the Department of Mathematics at least 2 months before the start of the course.