Department of Mathematics (incl. Math. Statistics)

Stockholm University

Syllabus

for course at advanced level

Probability Theory III
Sannolikhetsteori III

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	MT7001
Valid from:	Autumn 2007
Date of approval:	2006-09-27
Department	Department of Mathematics (incl. Math. Statistics)
Subject	Mathematical Statistics
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University on 27 September 2006.

Prerequisites and special admittance requirements

To qualify for the course, knowledge equivalent to 60 hp in Mathematical Statistics is required, including the courses Probability theory II, 7.5 hp (MT5002) and Stochastic processes and simulation II 7.5 hp (MT5012). Additional required knowledge is English B or the equivalent.

Course structure

Examination code	Name	Higher Education Credits
S701	Probability Theory III	7.5

Course content

The course covers basics measure theory, probability space, characteristic functions, stochastic convegence and limit theorems; martingales: basic properties, stopping theorems and convergence theorems.

Learning outcomes

It is expected that the student after taking the course vill be able to:
* communicate stringent probabilistic reasoning
* derive advanced probabilistic results
* solve advanced probabilistic problems

Education

The education consists of lectures, exercises and submitted work.

Forms of examination

a. Examination for the course is in the following manner: measurement of knowledge takes place through written examination.

b. Grading is carried out according to a 7-point scale related to learning objectives:
A = Excellent
B = Very Good
C = Good

D = Satisfactory
E = Sufficient
Fx = Fail
F = Fail

c. Grading criteria for the course will be distributed at the start of the course.

d. A minimum grade E is required to pass the course.

e. Students who fail to achieve a pass grade in an ordinary examination have the right to take at least further four examinations, as long as the course is given. The term "examination" here is used to denote also other compulsory elements of the course. Students who have achieved a pass grade on an examination may not retake this examination in order to attempt to achieve a higher grade. Students who have failed to reach a pass grade on two occasions have the right to request that a different teacher be appointed to set the grade of the course. A request for such appointment must be sent to the departmental board.

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 during a two-year-period after the end of giving the course. A request for such examination must be sent to the departmental board.

Limitations
The course may not be included in a degree together with the course "Probability Theory III" (MS 3080).

Misc
The course is a component of the Master's Programme in Mathematical Statistics, and it can also be taken as an individual course.

Required reading
Course literature is decided by the departmental board and is described in an appendix to the syllabus.