

Syllabus

for course at advanced level

Stochastic Processes III
Stokastiska processer III

**7.5 Higher Education
Credits**
7.5 ECTS credits

Course code:	MT7023
Valid from:	Spring 2009
Date of approval:	2008-10-13
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 13 October 2008.

Prerequisites and special admittance requirements

Prerequisites for the course are courses equivalent to Stochastic processes and simulation II FC, 7.5 hp (MT5004) and Probability Theory II FC, 7.5 hp (MT5002). Also required is knowledge equivalent to Swedish upper secondary school course English B or equivalent to one of the following tests; Cambridge CPE and CAE: Pass, IELTS: 6.0 (with no part of the test below 5.0), TOEFL (paper based): 550 (with minimum grade 4 on the written test part), TOEFL (computer based): 213, TOEFL (internet based): 79.

Course structure

Examination code	Name	Higher Education Credits
S723	Stochastic processes III	7.5

Course content

The course covers Point process theory, Markov processes in continuous time, properties of Brownian motion, and various applications, in particular from queueing (network) theory.

Learning outcomes

It is expected that the student after taking the course will be able to:

- * define the advanced concepts of stochastic processes
- * solve advanced finance problems of stochastic processes
- * have skill to show received results and solutions in a written way

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 "Stochastic processes" (MS 3070).

Required reading

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