

Syllabus

for course at first level

Basic Insurance Mathematics
Grundläggande försäkringsmatematik

**7.5 Higher Education
Credits**
7.5 ECTS credits

Course code:	MT5011
Valid from:	Spring 2017
Date of approval:	2016-08-23
Department	Department of Mathematics (incl. Math. Statistics)
Main field:	Mathematical Statistics
Specialisation:	G2F - First cycle, has at least 60 credits in first-cycle course/s as entry requirements

Decision

Prerequisites and special admittance requirements

Prerequisites for the course are knowledge equivalent to the courses Mathematics I, 30 credits, (MM2001), Mathematics II - Analysis, part A, 7.5 credits, (MM5010), Mathematics II - Linear Algebra, 7.5 credits, (MM5012), Probability Theory I, 7.5 credits, (MT3001), Statistical Analysis, 7.5 credits, (MT4001), Stochastic processes and Simulation, 7.5 credits, (MT4002), Programming Techniques for Mathematicians, 7.5 credits, (DA2004). Swedish upper secondary school course English B/6 or equivalent.

Course structure

Examination code	Name	Higher Education Credits
FALL	Case studies	3.5
TEOR	Theory	4

Course content

General principles for valuation of stochastic cash flows, interest rates, discounting and present value calculations.

Introduction to basic insurance concepts: Modelling of claims costs, reserving and premium principles, together with how these concepts differs between non-life and life insurance applications.

Solvency, risk aggregation and risk reducing techniques: Diversification, modelling of dependencies, risk measures and Solvency II (including financial/investment risks), reinsurance and other risk reducing techniques (including financial/investment risks)

Learning outcomes

Education

Forms of examination

- The course is examined as follows: Knowledge assessment takes the form of a written examination.
- Grades are assigned according to a seven-point goal-related grading scale:

A = Excellent
B = Very good
C = Good
D = Satisfactory
E = Sufficient
Fx = Fail (more work required before credit can be awarded)
F = Total fail

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

d. To be awarded a pass, the minimum grade E is required.

e. Students who fail an ordinary examination are entitled to sit additional examinations as long as the course is offered. There is no restriction on the number of examinations. Examinations also include other obligatory elements of the course. Students who have passed an examination may not resit it in order to achieve a higher grade. Students who have failed on two occasions are entitled to request the appointment of a different examiner for the next examination. Any such request must be made to the departmental board.

The course has at least two examinations for each academic year in the years in which instruction is provided. Intervening years include at least one examination.

f. Students awarded the grade Fx are given the opportunity to improve their grade to E. The examiner decides the supplementary assignments to be performed and the pass mark criteria. The supplementary assignments will take place before the next examination session.

Interim

Students may request that the examination be conducted in accordance with this course plan even after it has ceased to be valid. However, this may not take place more than three times over a two year period after course instruction has ended. Requests must be made to the departmental board. The provision also applies in the case of revisions to the course plan.

Required reading

Course literature is decided by the departmental board and described thereafter in an appendix to the course plan.