



# SF2964 Mathematics in Life Insurance, Advanced Course 7.5 credits

Livförsäkringsmatematik, fortsättningskurs

This is a translation of the Swedish, legally binding, course syllabus.

## Establishment

Course syllabus for SF2964 valid from Autumn 2007

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

Second cycle

## Main field of study

## Specific prerequisites

SF2963 Mathematics in life insurance.

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

To pass the course, the student should be able to do the following:

- account for the basic mathematical principles of managing the dynamics of an insurance over different states
- account for the principles of managing surplus and the economics of a traditional life insurance company
- perform a profitability analysis for the life insurances, especially unit link insurances
- describe life and critical illness insurance products

To receive the highest grade, the student should in addition be able to do the following:

- Combine all the concepts and methods mentioned above in order to solve more complex problems.

## Course contents

- Critical illness insurance, basic actuarial principles. Models for transitions between different states.
- Bonus policy. Basic principles for allocation. Examples of bonus policy models.
- Profitability. Practical profitability analysis within life and unit link insurance.
- Life insurance products: A primer on life and critical illness insurance products.

## Course literature

To be announced.

## Examination

- INL1 - Computer Exercises, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 4.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

## Other requirements for final grade

Written exam.  
Computer assignments.

## **Ethical approach**

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.