



LUND
UNIVERSITY

School of Economics and Management

NEKN87, Economics: Fixed Income and Derivatives, 5 credits
Nationalekonomi: Räntebärande tillgångar och derivatinstrument,
5 högskolepoäng
Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by The Board of the Department of Economics on 2016-10-04 to be valid from 2016-10-04, spring semester 2017.

General Information

This is a single subject master course in economics belonging to the "Financial Economics" specialisation. The course is either obligatory or optional within a number of master programmes at Lund University.

Teaching is in English. (Teaching may be in Swedish if all registered students have a good knowledge of Swedish).

Main field of studies

Economics

Depth of study relative to the degree requirements

A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

Knowledge and understanding

The goal of the course is to develop the students' understanding models for fixed income securities and credit risk management and the students ability to apply the models to real word problem. More specifically, the students upon completion of the course shall have the ability to understand:

- main concepts in pricing fixed income securities,
- measuring interest rate risks,
- models of the short-term interest rates,
- Monte Carlo simulation,
- Interest rate swaps (IRS) and swaptions,
- Credit Default Swaps (CDS).

Competence and skills

Students shall have the ability to independently apply their knowledge to real world problems. In particular they shall be able to:

- implement models for pricing bonds,
- implement models to measuring fixed income and interest rate risks,
- implement simulation methods on the stochastic models of the short-term interest rate,
- implement methods for pricing interest rate swaps and CDS,
- identify the finance-related problems in the real-world and to incorporate adequate methods and theories to analyse these problems.

Judgement and approach

Students shall have developed:

- learning skills that allow for further study in finance and economics,
- an ability to independently search for and evaluate information from risk management literature within finance,
- an ability to independently conduct a master thesis.

Course content

The course consists of two major parts. The objective of the first part of the course is to give the students an understanding of fundamental issues in pricing fixed income securities and measuring and hedging risks associated with these securities. The first part of the course starts with an overview of the main concepts in pricing bonds of different characteristics. It continues by introducing risks associated with investing in bonds and models for measuring these risks. This part of the course ends by covering a number of stochastic models for short-term interest rate and using the Monte Carlo simulation methods to analyse the value of bonds. The second part of the course covers the mechanics, valuation and practical uses of interest rate swaps and credit default swaps in order to hedge market risk (interest rate risk) and credit risk, respectively. A corresponding discussion of options written on interest rate swaps and swaptions ends this second part of the course.

Course design

1. Teaching: Tuition consists of lectures and computer labs.

Assessment

1. Examination: Examination consists of a written examination that takes place at the end of the course. There will be further opportunities for examination close to this date. In addition, there are a number of compulsory computer exercises.
2. Limitations on the number of examination opportunities: –

The University views plagiarism and other academic dishonesty very seriously, and will take disciplinary action against students for any kind of attempted malpractice in connection with examinations and assessments. Plagiarism is considered to be a very

serious academic offence. The penalty that may be imposed for this, and other unfair practices in examinations or assessments, includes suspension from the University for a specified period.

Grades

Marking scale: Fail, E, D, C, B, A.

1. Grading: The official grading scale is A, B, C, D, E and Fail.

Grade (Definition), Points or percentage out of maximum points, Characteristic

A (Excellent), 85–100, A distinguished result that is excellent with regard to theoretical depth, practical relevance, analytical ability and independent thought.

B (Very good), 75–84, A very good result with regard to theoretical depth, practical relevance, analytical ability and independent thought.

C (Good), 65–74, The result is of a good standard with regard to theoretical depth, practical relevance, analytical ability and independent thought.

D (Satisfactory), 55–64, The result is of a satisfactory standard with regard to theoretical depth, practical relevance, analytical ability and independent thought.

E (Sufficient), 50–54, The result satisfies the minimum requirements with regard to theoretical depth, practical relevance, analytical ability and independent thought, but not more.

U (Fail), 0–49, The result does not meet the minimum requirements with regard to theoretical depth, practical relevance, analytical ability and independent thought.

Students have to receive a grade of E or higher in order to pass a course.

2. Weighting grades from different parts of the course: –

3. Grading scales for different parts of the course: –

Entry requirements

Students admitted to the Master Programmes in Finance are qualified for this course.

For other students, at least 90 ECTS-credits in economics are required. These must include a course in basic financial economics, an intermediate course in microeconomics (e.g., NEKG21 "Intermediate Microeconomic Analysis"), and an intermediate course in econometrics (e.g., NEKG31 "Econometrics") or equivalent Courses.

Further information

1. Transitional regulations:-

2. Limitations in the period of validity: –

3. Limitations: This course may not be included in the same degree as NEK725 "Financial Valuation and Risk management", NEKM41 "Financial Valuation and Risk management", NEKN83 "Financial Valuation and Risk management" or TEK180 "Financial Valuation and Risk management".

4. Similar courses: –

5. Limitations in renewed examination: –