

Syllabus

for course at advanced level

Fixed Income Securities
Räntebärande tillgångar

7.5 Higher Education
Credits
7.5 ECTS credits

Course code:	FE4126
Valid from:	Spring 2014
Date of approval:	2013-12-02
Department	Stockholm Business School
Main field:	Företagsekonomi
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

Decision

This syllabus was approved by the Academic Dean at Stockholm University School of Business 2013-12-02.

Prerequisites and special admittance requirements

Degree of Bachelor worth at least 180 credits, or admission to Business Studies IV, Extended Course or Business Studies IV, Magister's Course, Master's programme or equivalent.

Course structure

Examination code	Name	Higher Education Credits
4121	Fixed Income Securities	7.5

Course content

This course equips students with the tools required to understand the construction, the pricing and the risks of bonds and fixed income derivatives. The essential building block for understanding fixed income securities is interest rates. Interest rates are paid to the bond holders in the form of coupons, and interest rates are central to the present value concept used for pricing, valuation, and risk measurement. Financial institutions also issue a range of derivatives with different types of interest rates as underlying assets. Students of this course learn how to use such derivatives, including forward rate agreements, interest rate futures, options, and swaps, to manage the interest rate risk of a portfolio. They also learn how interest rates reflect monetary policy. As fixed income securities involve extensive material of quantitative nature, the course includes computer-based exercises and assignments as a complement to the concepts covered in lectures.

Learning outcomes

Intended Learning Outcomes

The overall aim of this course is to equip students with the tools required to understand the construction, the pricing and the risks of fixed income securities.

Upon completion of the course, students should be able to

Knowledge and understanding

1. Understand how and why various features of fixed income securities influence their pricing and risk. This includes both a theoretical understanding and recognition of how technical features influence the practice of

pricing and risk management.

Skills and abilities

2. Implement scientific methods to quantify and analyse the price and value, as well as the duration and convexity of fixed income securities. Students should also be able to use the fixed income securities to examine the status of market-wide interest rates and to manage interest rate risk.

Judgement and approach

3. Critically assess and evaluate the theoretical and empirical issues in fixed income securities and interest rate risk management.

Education

The course consists of a combination of lectures, seminars and group work and requires a significant portion of self-study on the part of students. Assessment for the course will be continuous and is carried throughout the different activities of the course.

The course workload (model: 40 hours per week equivalent to 1,5 ECTS) is allocated as follows:

Teacher-led lectures: 18 hours

Computer based exercises: 12 hours

Written assignment: 40 hours

Self-studies: 122 hours

Assessment: 8 hours

Total workload: 200 hours equivalent to 7,5 ECTS.

The language of instruction is English.

Please note that all teaching and learning activities - such as lectures, seminars, assignments and assessment tasks – are carried out in English when the language of instruction is English.

Forms of examination

Assessment for the course will be continuous and is carried throughout the different activities of the course. Each assessment task is weighted in relation to its importance in the overall assessment of the course. The student's results from these different assessment tasks are added up to a total course score corresponding to the final grade for the course.

Assessment tasks

The course contains the following weighted assessment tasks

1. Individual final examination: assesses learning outcomes 1, 2, and 3; constitutes 50% of total course points.
2. Written assignment: assesses learning outcomes 1, 2, and 3; constitutes 20% of total course points.
3. Quant-quiz on derivatives: assesses learning 1 and 2; constitutes 20% of total course points.
4. Quant-quiz on bonds: assesses learning 1 and 2; constitutes 10% of total course points.

Grading

After completion of the course, students will receive grades on a scale related to the intended learning outcomes of the course. Passing grades are A, B, C, D and E. Failing grades are Fx and F. A grade Fx can be completed for a grade E.

A course comprises 0–100 course points. Receiving a final passing grade requires ≥ 50 course points. The scale for the final grade is tied to fixed score intervals: A: 90-100; B: 80-89; C: 70-79; D: 60-69; E: 50-59;

Fx: 45-49; F: 45. The grades correspond to the total score points a student obtains (over a total of 100) for all the weighted assessment tasks combined as part of the continuous assessment for the course.

Each assessment task is awarded 0–100 points. The score for a single assessment task is the number of points multiplied by its percentage weight, and the combined total of score points for all weighted assessment tasks for the course are added up to a final score between 0 and 100 which then translates into a corresponding final course grade between A and F.

Assessment task 1, the final examination, and assessment tasks 3 and 4, the quant-quizzes, are assessed on a hundred-point scale.

Assessment task 2, the written assignment, is assessed on a six-point scale:

There are five passing grades, yielding 100, 90, 80, 70, or 60 points; and one failing grade, where no points are awarded below 60 points.

Students receiving a passing grade may not retake the final examination or complete a previously not completed assessment task to attain a higher grade. A passing grade may not be turned into a failing grade upon the request of a student.

The student is responsible for completing the course's assessment tasks: that a sufficient amount of course points is earned and a passing course grade is obtained. The course's final assessment task can be taken twice: 1) during the course's first scheduled occasion; and, if a passing result (≥ 50 course points) was not achieved at the first occasion, 2) at the course's second, scheduled occasion. All other assessment tasks are offered once during the course.

A passing grade (A–E) in the course is obtained when a student has achieved ≥ 50 course points.

A failing grade (Fx or F) in the course is obtained when a student has not achieved ≥ 50 course points:

- If 45–49 course points are achieved, a grade Fx is obtained, which can be completed for a grade E within 3 semester weeks after receiving instructions from the course director. If a complementary task is not completed within this time limit, and the course's two final assessment tasks have been accomplished, the course grade Fx is confirmed, implying that the student must re-register for the course and that previously acquired course points are forfeited. Note that first-time registered students have priority access to the seminar groups.
- If 45 course points are achieved, a grade F is obtained, implying that the entire course must be retaken and that previously acquired course points are forfeited.

Re-registration implies that:

- first-time registered students have priority access to the course's group registration;
- the final assessment task can be re-assessed without attendance at any of the course's other learning activities and without points from the course's other assessment tasks accredited.

Students receiving a passing grade may not retake the final examination or complete a previously not completed assessment task to attain a higher grade. A passing grade may not be turned into a failing grade upon the request of a student.

Assessment criteria

Assessment criteria are designed as overall assessments, combined qualitative descriptions of what the student is expected to do in order to demonstrate how well the course's learning outcomes are achieved. The assessment criteria are based upon the general abilities as expressed in the degree objectives of the Higher Education Ordinance (appendix 2, System of Qualifications). The list of abilities below is a compilation of these degree objectives. To pass the course (grade E) students should demonstrate general ability to:

- recall, understand and explain course content, the course subject and its scientific basis and methodology;
- apply course content;
- critically analyse course content;

- problematise course content;
- present and discuss course content in writing;
- meet standards of written presentation and formal accuracy.

The following assessment criteria are used to decide to what extent students have demonstrated these abilities and hence fulfil the course's intended learning outcomes, whereby a grading decision can be made. A higher grade-level presupposes the abilities at lower levels.

A (Excellent) ☐

The student demonstrates ability to critically assess and evaluate the content of the course, as well as to transfer and apply theoretical and quantitative insights to new, meaningful contexts.

B (Very Good) ☐

The student demonstrates ability to, from an overarching and coherent perspective of the field, understand and use concepts to explain how different aspects of the course relate to each other. The student also demonstrates strong quantitative skills in assessing prices and risks of fixed income securities.

C (Good) ☐

The student demonstrates ability to critically assess and evaluate the content of the course. Furthermore, the student shows good quantitative skills and good theoretical understanding in assessing prices and risks of fixed income securities.

D (Satisfactory) ☐

The student demonstrates satisfactory understanding of the various features of fixed income securities and the underlying theory of how and why they matter for pricing and risk measurement. Furthermore, the student shows satisfactory quantitative skills in assessing prices and risks of fixed income securities.

E (Sufficient) ☐

The student demonstrates sufficient understanding of the various features of fixed income securities and the underlying theory of how and why they matter for pricing and risk measurement. Furthermore, the student has sufficient skills to quantify risk and pricing, and to assess risk management and market-wide interest rates. Finally, the student demonstrates some ability to critically assess and evaluate the course concepts.

Fx (Fail) ☐

The student's knowledge, skills and abilities display minor flaws, overall or in significant parts.

F (Fail) ☐

The student's knowledge, skills and abilities are insufficient, overall or in significant parts.

Interim

If the course is discontinued, or its contents are substantially altered, students have the right to be examined according to this syllabus once per semester for three further semesters.

Limitations

This course may not be included in a degree together with a course, taken in Sweden or elsewhere, of identical or partially similar content.

Required reading

Required Reading

Veronesi Pietro: Fixed Income Securities: Valuation, Risk, and Risk Management. Wiley, 2010. Chapters 1-8.

A selection of academic articles as specified in the study guide.

Recommended Reading

Hull John C.: Options, Futures, and other Derivatives. 8th edition (global). Pearson Education, 2011. Chapters 1-7.