

# Syllabus

for course at first level

**Empirical Finance**

**Empirisk finansiell ekonomi**

**7.5 Higher Education**

**Credits**

**7.5 ECTS credits**

<b>Course code:</b>	FE3823
<b>Valid from:</b>	Autumn 2017
<b>Date of approval:</b>	2014-04-24
<b>Changed:</b>	2017-06-21
<b>Department</b>	Stockholm Business School
<b>Main field:</b>	Företagsekonomi
<b>Specialisation:</b>	G1F - First cycle, has less than 60 credits in first-cycle course/s as entry requirements

## Decision

The syllabus has been decided on by the Educational committee of the Stockholm Business School on 2014-04-07, 2015-06-14, revised 2015-11-02, last revision conducted 2017-06-12.

## Prerequisites and special admittance requirements

45 HE credit points completed from Business Administration I and Business Administration II, or the equivalent.

## Course structure

Examination code	Name	Higher Education Credits
3823	Empirical Finance	7.5

## Course content

The objective of the course is to give students a thorough understanding of the most important research methods required for doing empirical analyses of financial data and for carrying out their bachelor thesis. The course begins with a brief discussion of the academic writing and the simple estimation methods, such as the OLS, maximum likelihood, which is followed by a description of the time series and time varying volatility of financial data. Thereafter, the course presents an explanation of the available methods for testing the most important asset-pricing model, i.e. CAPM.

Finally, the course is ended with the event study.

The course concentrates on the following issues: OLS regression, Maximum Likelihood, Time series (Autoregressive models), Stagnary Time Series test, Time varying volatility model (GARCH model), Co-integration, tests for the CAPM model, and Event Study.

The course consists of lectures, computer labs and quizzes.

## Learning outcomes

Intended Learning Outcomes

The aim of the course is to give students a thorough understanding of the most important research methods required for doing empirical analyses of financial data. Upon completion of the course, students should be able to:

## Knowledge and understanding

1. Interpret the general format of writing an research proposal.
2. Describe the OLS regression.

## Skills and abilities

3. Estimate financial models with OLS and Maximum Likelihood method
4. Perform a stationary test for financial time series
5. Perform an event study

## Judgement and Approach

6. Critically evaluate the theoretical and empirical issues in the CAPM model applied in empirical finance

## 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 is 200 hours equivalent to 7,5 ECTS (40 hours per week equivalent to 1,5 ECTS).

The language of instruction is English.

## Forms of examination

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

## Assessment tasks

The course contains the following weighted assessment tasks:

1. Individually written exam: assesses intended learning outcomes 1–6; constitutes 58% of total course points.
2. Individual quiz: assesses intended learning outcomes 2–6; constitutes 40% of total course points.
3. Lab attendance: assesses intended learning outcomes 2–6; constitutes 2% 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  $\geq 50$  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 tasks 1 and 2 are assessed on a 100-point scale.

Assessment task 3 is assessed on a 100-point scale in three intervals:

- Attending all labs: receive 100 points (2% of total course points).
- Absence from 1 lab: receive 50 points (1% of total course points).
- Absence from 2 or more labs: receive 0 points (0% of total course points).

Absence from assessment task 3 implies the loss of 100 points (3% of total course points).

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 ( $\geq 50$  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  $\geq 50$  course points.

A failing grade (Fx or F) in the course is obtained when a student has not achieved  $\geq 50$  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;
- relate course content to current social issues;
- 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 evaluate and relate to the content of the course from a comprehensive, critically reflective perspective, as well as to transfer and apply insights in 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, interconnect and become meaningful.

#### C (Good)

The student demonstrates ability to discuss the content, tasks and complex issues dealt with in the course from several well-developed but mainly independent perspectives.

#### D (Satisfactory)

The student demonstrates satisfactory ability to discuss the content, tasks and complex issues dealt with in the course in a way that, albeit in-depth and elaborate, is decidedly one-dimensional.

#### E (Sufficient)

The student demonstrates sufficient ability to discuss the content, tasks and complex issues dealt with in the course in a way that is decidedly one-dimensional.

#### 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 display major flaws, 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.

#### **Misc**

A plain calculator is allowed in the individually written exam (assessment task 1).

Exemption from an assessment task is granted if the student presents a valid reason and a written certification (such as illness and a medical certificate), whereupon the student may re-sit the assessment task at a later date while maintaining previously acquired course points.

Application for exemption should be submitted to the Director of Studies immediately after, or during planned absences well before, the date when the assessment task is carried out. A granted exemption expires at the end of the immediately following semester.

#### **Required reading**

##### Required Reading

- Lecture notes.

- Selected chapters from Brooks, C, 2008, Introductory Econometrics for Finance. 2nd Edition, Cambridge University press.

- A selection of academic articles (updated while course going).

##### Recommended Reading

- Campbell, J. Y., Lo, A.W. and Mackinlay, A.C. 1997, The Econometrics of Financial Markets, Princeton

University press, Princeton, New Jersey.