

**HANKEN Svenska handelshögskolan
HANKEN School of Economics**

**Institutionen för finansiell ekonomi och nationalekonomi
Department of Finance and Economics**

Empirical Methods in Finance 17011

Autumn 2024

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DETAILED COURSE DESCRIPTION

This course description applies exclusively to students for whom the course is mandatory, i.e., to students admitted to

- the integrated bachelor's and master's studies at Hanken, majoring in finance (Swedish track);
- Hanken's master's level studies with a bachelor's degree from another university or polytechnic, majoring in finance (Swedish track);
- a master's degree programme at Hanken, **specializing in finance** (English track). Master's programmes in finance initialised in different years have different names.

I. Aim of the course according to the Handbook

This advanced level course is exclusively for students who aim to write a master's thesis in finance at Hanken. It provides the student with knowledge of quantitative methods used in finance research. The course considers econometric methods for cross sections, time series, panel data and count data. For each type of data, the specification and estimation of econometric models, and inference is treated.

The language of the course is English. Some seminar groups may be in Swedish.

More information is given in a detailed course description on the course Moodle page. (You are reading that document right now.)

II. Learning goals

You have the knowledge needed to apply appropriate quantitative methods to financial research problems, and to analytically discuss recent empirical findings in the area of finance. Further, you have the ability to undertake a quantitative study in the master's thesis in finance.

Upon completing the course, you are able to

- critically analyze and discuss empirical studies in the finance literature;
- choose appropriate models and estimators to solve empirical problems in finance;
- summarize and present results orally and in writing for a professional audience.



III. Prerequisites

Admitted to Hanken's master's level studies in finance either in Swedish or in English.

For students admitted to integrated bachelor's and master's studies in Finance in Swedish, at least 22 ects in Finance, and the course *Statistical Analysis* (Statistisk Analys, 7778) are required. The course *Econometrics* (Ekonometri, 3606) is strongly recommended.

The prerequisites will be separately checked to make sure Sisu got it right.

IV. Structure of the course

1. Lectures on-site

- Lectures 1–2: Intro and short on matrix algebra Jan Antell
- Lectures 2–12: Financial econometrics Jan Antell

2. Exercises 1–5 on-site on financial econometrics Jan Antell

3. Online lectures and on-site exercises on financial time series

Niklas Ahlgren and Alexander Back.

Watch the relevant video lectures before each on-site session.

4. Bring your own computer (BYOC). Some of the lectures and exercises, and all the financial time series events require the use of a computer. It is strongly advisable to have a computer at your disposal at all sessions. Install at least the econometric software packages R and RStudio, gretl, and perhaps OxMetrics.

5. Term paper and term paper seminars

The term paper is a finance oriented essay, potentially in article format written in pairs of two students with an emphasis on an empirical investigation using methods dealt with during the course. The essay is presented in term paper seminars, in which participants will also act as discussants. Individual contributions and innovations will be rewarded. Surprise the examiner!

V. Literature

Brooks C (2008): *Introductory Econometrics for Finance*, 2nd ed. or later. Cambridge University Press.

Hanck, C., Arnold, M., Gerber, A. and Schmelzer, M (2024): *Introduction to Econometrics with R*. Available at <https://www.econometrics-with-r.org>.

The companion website for Brooks is a part of the course material:

- second edition: <http://www.cambridge.org/features/economics/brooks>
- third edition: <http://www.cambridge.org/gb/academic/textbooks/introductory-econometrics>
- fourth edition: <https://www.cambridge.org/highereducation/books/introductory-econometrics-for-finance/75E9C608EA95A3AD87FB3BC683B9EBBF/re-sources/general-resources/10387D9567DA978F7E5DC6565F57F04F>

Get acquainted with each site, although most material overlap.

Lectures and lecture notes, exercise material and term papers.

Reading material specified by the examiner.



VI. Evaluation and Examination

1. Assignment or quiz
 - 10 points
 - The assignment/quiz is *mandatory* for passing the course, however with no minimum required points
 - Detailed information is given in a separate instruction
2. Term papers and term paper seminars on-site at Hanken
 - 32 points
 - Presentation: 5 points
 - Discussion: 10 points
 - Class activity: 5 points
 - Final version: 12 points
 - Participation is mandatory. Failed participation may lead to a failed course
 - Detailed information is given in a separate instruction
3. Final exam on-site at Hanken
 - 63 points with a minimum requirement of 31.5 points
 - Financial econometrics: 45 points
 - Time series: 18 points
 - At least one question is based on or influenced by an article published in the *Journal of Finance*. Answering the question does not require having read the article beforehand
 - There is *one and only one* retake exam
 - Detailed information is given in a separate instruction
4. Potential bonus quizzes during the lectures
 - at most 5 points
 - may or may not be employed – if used, they will be opened randomly for a short time during scheduled lectures and/or exercises
 - the points are *added to the exam points*, improving the odds to pass the exam
 - as the bonuses are fully optional and above the formal points of the course, they cannot be retaken

Modules of the course passed are valid only during the current academic year. Any parts of the course done previously are obsolete for the current course. **A student failing to finish the course for whatever reason must start the course from the beginning and carry out all parts anew. Failing any mandatory part will fail the course. The assignment or the term paper cannot be re-taken within the course.**

Note that the following rules will be taken seriously:

- Action Plan against Academic Dishonesty:
<https://www.hanken.fi/en/students/study-practicalities/study-regulations/action-plan-against-academic-dishonesty>
- Artificial intelligence in studies and learning:
<https://www.hanken.fi/en/students/learning-lab/artificial-intelligence-studies-and-learning>
- Unsolicited use of artificial intelligence is strictly prohibited, unless explicitly stated otherwise
- The grade for some parts of the course may be adjusted as a function of the plagiarism similarity score



VII. Examiners and administrators

Jan Antell	Examiner, lecturer, exercise and term paper instructor, and administrator.
Niklas Ahlgren	Online lectures accompanied by on-site exercise groups on financial time-series.
Alexander Back	On-site exercise groups on financial time-series.
Jesper Haga	Special appearance on one lecture.
Ante Nuptialis	Term paper instructor possibly assigned for the course.

VIII. Timetable

Please refer to the Hanken web and the next page. Additional important dates:

7 October 2024	The term paper topics are released on the Moodle page. Alternatively, the groups and topics might be randomised.
17 October 2024	Dead-line for the assignment/quiz.
11 November 2024	Dead-line for the term papers, no later than 4 pm.
18 November 2024	Term paper seminars start. A separate schedule will be released later.
13 December 2024	Final exam on-site at Hanken (at most four hours). Registration guidelines must be followed
13 January 2025	Dead-line for the final, improved term paper, no later than 4 pm.
14 January 2025	Final exam retake on-site at Hanken (at most four hours). Registration guidelines must be followed

IX. Final note

We will try to stick to the stated setup and dates. However, adjustments are possible. Any changes or clarifications, and additional information will be released as news announcements on the course Moodle page. Make sure to follow the news, and set the settings of your Moodle page such that all announcements are delivered automatically to your e-mail.



Detailed schedule

Report to *Dr Jan* if the schedule is inconsistent with the information given elsewhere

BYOC Bring/use your own computer at least on these sessions. Install R and RStudio, gretl, and OxMetrics. It is advisable to bring a computer on all session

Financial TS Financial time-series. Watch the relevant online lectures before attending.

Date	Weekday	Time	Room	What?	Who?
2.9.2024	Monday	8.30-10.00	Maxen B201	Intro + Lect 1	Jan Antell
3.9.2024	Tuesday	14.15-15.45	Maxen	Lecture 2	JA
5.9.2024	Thursday	8.30-10.00	Maxen	Lect 3 BYOC	JA
9.9.2024	Monday	8.30-10.00	Maxen	Lecture 4	JA
10.9.2024	Tuesday	14.15-15.45	Maxen	Lect 5	JA
12.9.2024	Thursday	8.30-10.00	Maxen	Exercise 1	JA
16.9.2024	Monday	8.30-10.00	Maxen	Lecture 6 BYOC	JA
18.9.2024	Wednesday	12.30-14.00	A210	Lecture 7	JA
19.9.2024	Thursday	8.30-10.00	Maxen	Lecture 8	JA
23.9.2024	Monday	8.30-10.00	Maxen	Exercise 2	JA
24.9.2024	Tuesday	14.15-15.45	Maxen	Lecture 9	JA
26.9.2024	Thursday	8.30-10.00	Maxen, Teams	Lect 10	JA
30.9.2024	Monday	8.30-10.00	Maxen	Exercise 3 BYOC	JA
1.10.2024	Tuesday	14.15-15.45	Maxen	Lecture 11	JA
3.10.2024	Thursday	8.30-10.00	Teams, Maxen	Lecture 12	Jesper Haga
7.10.2024	Monday	8.30-10.00	Maxen	Exercise 4 potentially with lecture	JA
8.10.2024	Tuesday	14.15-15.45	Maxen	Exercise 5 BYOC	JA
10.10.2024	Thursday	8.30-10.00	Maxen	Financial TS	Ahlgren/Back
14.10.2024	Monday	8.30-10.00	Maxen	Financial TS	Ahlgren/Back
17.10.2024	Thursday	8.30-10.00	Maxen	Financial TS	Ahlgren/Back

Special appearance by
Jesper Haga