Department of Economics

Stockholm University

Syllabus

for course at advanced level

Econometrics 1
Ekonometri 1

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	EC7410
Valid from:	Autumn 2013
Date of approval:	2013-05-23
Department	Department of Economics
Subject	Economics
Specialisation:	A1F - Second cycle, has second-cycle course/s as entry requirements

Decision

This syllabus was approved by the Board of the Department of Economics on 23 May 2013.

Prerequisites and special admittance requirements

Admission to this course requires that the student is either (1) enrolled in a Master's Programme in Economics or Master's Programme in Banking and Finance at Stockholm University, or (2) has (a) general eligibility for second-cycle programmes, (b) special eligibility for the Master's Programme in Economics at Stockholm University, and (c) prerequisites equal to the mandatory courses that have been given prior to this course according to the current curriculum for the Master's Programme in Economics.

Course structure

Examination code	Name	Higher Education Credits
741A	Econometrics 1	7.5

Course content

The course begins with a block of preparatory matrix algebra and statistics. This part of the course covers probability theory, such as random variables, probability distribution, expected values, independent samples, the central limit theorem, the law of large numbers, and consistency. Estimation of the population mean, hypothesis testing, and confidence intervals are also discussed. The course then discusses the linear regression model under its classical assumptions (OLS), as well as hypothesis tests and confidence intervals for both simple and multiple regressions. Different types of typical problems for the linear model, such as non-linear functions, omitted and irrelevant variables, simultaneity, measurement errors, heteroscedasticity, and autocorrelation are analysed. In addition, the course includes an overview of time series data, including autocorrelation, non-stationarity, forecasting, structural breaks, and unit roots.

Learning outcomes

Upon completion of the course, the student is expected to be able to:

1. understand basic probability theory,

2. understand basic statistical concepts,

3. understand basic multiple linear regression,

4. understand basic time series analysis,

5. apply the methods to empirical data and interpret the results.

Education
Instruction is given in the form of lectures and computer experiments. The language of instruction is English.

Forms of examination
The course is examined on the basis of:

* Continuous examination through written assignments that are to be completed and submitted in groups.

* A written examination.

Grades will be set according to a seven-point scale related to the learning objectives of the course: Passing grades are A, B, C, D, and E, where A is the highest grade and E the lowest. Failing grades are F and FX, where F is lower than FX.

Assessment criteria:

* A (Excellent): The student should be able to explain the concepts discussed in the course in a comprehensive manner using independent, critical reasoning. The student should also be able to apply the methods to data and real economic problems with great skill. Passing grade on all written assignments.

* B (Very Good): The student should be able to explain the concepts discussed in the course using independent, critical reasoning. The student should also be able to skilfully apply the methods to data and real economic problems. Passing grade on all written assignments.

* C (Good): The student should be able to largely explain the concepts discussed in the course using independent, critical reasoning. The student should also be able to apply the methods to data and real economic problems. Passing grade on all written assignments.

* D (Satisfactory): The student should be able to largely explain most of the concepts discussed in the course. The student should also be able to apply the methods to data and real economic problems. Passing grade on all written assignments.

* E (Adequate): The student should be able to explain important aspects of the concepts discussed in the course. Passing grade on all written assignments.

* FX (Inadequate): Not used as a grade on the examination.

* F (Totally Inadequate): The student is unable to explain important aspects of the concepts discussed in the course. The student demonstrates insufficient ability to apply methods to data and real economic problems.

Interim
If the course is discontinued, students have the right to be examined once per semester for three further semesters.

Required reading
See course homepage available from www.ne.su.se.