Linnæus University

Course syllabus

School of Business and Economics
Department of Economics and Statistics

4NA061 Avancerad Ekonometri, 7,5 högskolepoäng
Advanced Econometrics, 7.5 credits

Main field of study
Economics

Subject Group
Economics

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved by School of Business and Economics 2018-12-13
The course syllabus is valid from autumn semester 2019

Prerequisites
General entry requirements for secondcycle studies and specific entry requirements:

- bachelor Degree in Economics, or in another social science or natural sciences or the equivalent
- a minimum of 90 credits in Economics,
- a minimum of 15 credits in Statistics,
- English B/English 6, or the equivalent

alternatively,

Students applying for the course within the Business Administration and Economics Programme need to have 60 credits Business Administration, 15 credits statistics, 15 credits Commercial Law, 90 credits economics and English B/English 6, or equivalent.

Objectives

After completed course the student is expected to be able to:

- derive and explain the linear regression model and its properties, using matrix algebra
- derive and explain the instrumental variables method
- perform inference on econometric models using the least squares method and the maximum likelihood method
- formulate and perform statistical tests, as well as explain the basic idea behind the Lagrange Multiplier, Likelihood Ratio and the Wald tests
- analyze models with discrete outcomes

- analyze models and perform inference on panel data models
- perform empirical analyses using software

Content
The course contains:

- the Ordinary Least Squares Method
- maximum likelihood
- instrumental variables method
- diagnostic tests: autocorrelation, heteroskedasticitet, normality, functional form, stationarity
- probit and Logit models
- panel data methods

Type of Instruction
The teaching consists of lectures and exercises.

Examination
The course is assessed with the grades A, B, C, D, E, Fx or F.
The course is examined through a written exam and assigments.

The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail.

After each regular examination there will be at least one new examination in close proximity to the date the results of the regular exam were posted. Students who are close to the passing grade of reports can complement after instructions and time-frame given by the examiner to obtain a pass grade.

Grading criteria for the A–F scale are communicated in writing to the student by the start of the course at the latest.

Course Evaluation
During the implementation of the course or in close connection to the course a course evaluation is to be carried out. Result and analysis of the course evaluation is to be presented as feedback both to the students who have completed the course and to the students who are to participate on the course the next time it is offered. The course evaluation is to be carried out anonymously.

Credit Overlap
The course cannot be included in a degree along with the following courses of which the content fully, or partly, corresponds to the content of this course: The course in econometrics deals with inference and estimation of the linear regression model at an advanced level. The main focus is on the least squares model and testing of the underlying assumptions, but it also includes models of discrete outcomes, instrumental variables and panel-data models. The course includes both theoretical analyses as well as empirical exercises.

Required Reading and Additional Study Material
Required reading
Verbeck, M. *A guide to modern econometrics*. John Wiley and Sons. Latest edition. About 510 pages.

Reference literature
Scientific articles. About 200 pages.