



## Course syllabus

School of Business and Economics

Department of Economics and Statistics

1NA011 Ekonometri, 7,5 högskolepoäng

1NA011 Econometrics, 7.5 credits

### **Main field of study**

Economics

### **Subject Group**

Economics

### **Level of classification**

First Level

### **Progression**

G1F

### **Date of Ratification**

Approved by School of Business and Economics 2013-10-15

The course syllabus is valid from autumn semester 2014

### **Prerequisites**

Economics 30 credits, including course credits in basic micro- and macroeconomics, and Statistics 15 credits or course credits in time series analysis and regression analysis, and English B, or equivalent

## Objectives

After finished course, the student is expected to be able to:

- formulate a hypothesis based on economic theory and specify a testable econometric model
- explain and describe regression models (simple and multiple), their properties and inference
- identify, explain and solve for problems such as heteroscedasticity, autocorrelation and multicollinearity
- explain and interpret time series models such as ARIMA and ARCH / GARCH
- explain and identify Granger-causality, (non-)stationarity and co-integration
- apply regression models to estimate and analyze economic relationships
- explain the possibilities and limitations associated with different data when using regression analysis
- explain and understand the intuition of the most common statistical methods to isolate causal effects

- interpret results in written and oral form from a regression analysis in both a scientific and a popular way
- use statistical software to perform data processing and estimation

## Content

The purpose of the course is to go through fundamental regression analysis which is frequently used in economics.

The course covers the following topics:

- Ordinary Least Squares
- model specification and diagnostics testing
- dynamic econometrics models
- causality and instrumental variables
- identification, estimation, diagnostic testing and prediction of ARIMA models

## Type of Instruction

Lectures, laboratory sessions and obligatory seminars.

## Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

The assessment of the performance of the students is based on the laboratory session, oral and written presentations and written examination.

Results are graded using one of the terms Passed with distinction, Pass or Fail, and A-F according to the ECTS scale.

For the grade pass, the objectives have to be reached; the grade is based upon the degree to which the objectives are met. The weighing of the grades to the course grade is following the principles in the document "Principer för betygsrapportering dnr ELNU 2011/160".

Students who do not achieve a satisfactory result in the examinations are permitted to make a second attempt approximately 5-8 weeks after the normal examination date. The student will have a minimum of five occasions for written exams in relation to the syllabus to which the student was accepted. Usually 3 occasions per academic year.

## Course Evaluation

A written course evaluation is carried out and compiled in a report, which is archived at the faculty. The results and possible measures taken are communicated by the course coordinator and presented to the students the next time the course is given, or in another way deemed suitable by the course coordinator. Other types of course evaluations, for example regular evaluations throughout the course or discussions with students, will be included and encouraged with the aim of ensuring continuous quality development.

## Required Reading and Additional Study Material

### Required reading

Gujarati, D.N. *Basic Econometrics*. McGraw- Hill. Latest edition. 900 pages.

Scientific articles and statistics provided by the teacher. About 100 pages.