Subject		
Econometrics		
ECTS code	**Semester**	Faculty: Finance
	3	Major: Finance and Accounting
		Corporate Finance and Accounting

Faculty:		
Lecture:		
Classes:		

System of studies:

part time, first degree

Subject status	Pass requirement	Number of contact hours		ECTS points
		Lectures	**Classes**	
A – core course	examination	15	15	4

Teaching language

English

Subject provisions and objectives (including the expected can-do of students on completion of the course)

Econometrics is the application of statistical techniques to economic models in an effort to achieve numerical results and to verify economic theorems, so the familiarity with multivariate calculus and linear algebra (first and second derivatives and how to obtain them), Summation and Integration, matrices and matrix operations, statistics (i.e. the difference between the population and the sample, the difference between an parameter and an estimator, the properties of random variables (including both discrete and continuous random variables), calculating expectations, variances, correlations, conditional expectations and conditional variances, working with the univariate normal distribution and the construction of confidence intervals and hypothesis tests) is crucial.

The classes will briefly review some of this material, but the review will be very intense and designed for people who have already learned this material in a previous courses.

The objective of this course is to provide a very thorough presentation of important econometric concepts. Students should leave the course with an understanding of the main problems which applied economists face.

Other goals on completion of the course include

1. Formal understanding of econometric theory, including the ability to construct rigorous econometric proofs.

2. Ability to apply regression techniques with a competency sufficient for academic level empirical research.

3. The ability to critically evaluate empirical work in both popular, work related and academic settings.

Teaching curriculum (in case of prescribed subjects, compliance with the standards, maximum 15 topics)

Core subjects will include:

1. Introduction
    a. Econometric models and variables and their classification
    b. Construction of an econometric model
2. Regression analysis and forecasting
    a. Linear regression models (OLS) with one and multiple regressors
    b. Assumptions of the OLS and the Gauss Markov Theorem
    c. Point estimator of the parameters and its properties
    d. Interval estimation, hypothesis testing
    e. Serial Correlation, Heteroscedasticity and Nonnormality detection and consequences.
    f. Forecasting with OLS models
3. Simultaneous Equations Identification and Estimation

Class topics (maximum 15 topics)

The classes will review the lecture curriculum with emphasis on the problems arising in the analysis of economic data

Introductory topics

Mathematics - multivariate calculus and linear algebra (first and second derivatives and how to obtain them), Summation and Integration, matrices and matrix operations, statistics (i.e. the difference between the population and the sample, the difference between an parameter and an estimator, the properties of random variables (including both discrete and continuous random variables), calculating expectations, variances, correlations, conditional expectations and conditional variances, working with the univariate normal distribution and the construction of confidence intervals and hypothesis tests)

Teaching methods

Lectures and classes (problem sets)

Basic literature and other sources

1. Greene W.H. (2000), Econometric Analysis, (fourth edition), Prentice Hall Inc. Upper Saddle River, New Jersey

Pass requirements for signature/examination

Signature: class activities, colloquia etc. Student should fulfill at least 50% of the requirements

Examination: written, 50% of points is required to pass

Examples of questions for tests and examinations