

TITLE: ECONOMETRICS					Code: 14.3.5519
ECTS points: 6	Hours: 60	Year: 2021/22	Semester: summer	Status: elective	Language: English
Lecturer: Sabina Nowak, PhD Email: sabina.nowak@ug.edu.pl					
Course description:					
<p>The aim of the course is to provide students with an understanding of the quantitative methods for finance and investment. Student possess the ability to formulate problems into quantitative models, to aid the successful resolution of the problem. Student learns how to apply statistical methods to analyse past data and infer future trends. Using output from mathematical and statistical models, student learns to analyse, interprets and derives potential outcomes from quantitative information.</p> <p>Course content:</p> <ol style="list-style-type: none"> 1. Introduction: Types of data, returns in financial modelling, steps involved in formulating an econometric model, econometric package EViews. 2. Classical linear regression model: model, regression versus correlation, the assumption underlying the classical linear regression model, properties of the OLS estimator, precision and standard errors, the t-ratio, examples in finance: can US mutual funds beat the market? Can UK unit trust managers beat the market? The overreaction hypothesis and the UK stock market, the CAPM. 3. Generalising the simple model: testing multiple hypothesis, data mining and the true size of the test, goodness of fit statistics, examples in finance: APT and hedonic pricing models. 4. Linear model assumptions and diagnostic tests: Statistical distributions for diagnostic tests, assumptions, multicollinearity, the functional form, inclusion (omission) of an irrelevant (important) variable, parameter stability tests, example in finance: determinants of sovereign credit ratings. 5. Univariate time series modelling: moving average processes, autoregressive processes, the partial autocorrelation function, ARMA processes, the Box-Jenkins approach. 6. Limited dependent variable models: the linear probability model, the logit model, the probit model, choosing between the logit and probit models, estimation of limited dependent variable models, example in finance: Are unsolicited credit rating biased downwards? 					
Reading list:					
<p>Brooks C., Introductory Econometrics for Finance, Cambridge University Press, 2008. Dougherty C., Introduction to Econometric, Oxford University Press, 2008. Mills T.C., Markellos R.N., The Econometric Modelling of Financial Time Series, Cambridge University Press, 2008.</p>					
Grading:					
<p>The final grades are based on the score according the University terms of study:</p> <p>50% or less - 2,0 (fail) >50% - 3,0 (pass) >60% - 3,5 (pass +) >70% - 4,0 (good) >80% - 4,5 (good+) >90% - 5,0 (very good)</p>					
Prerequisites:					
There are no pre-requisites for this course					