


**KAPITAŁ LUDZKI**  
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez  
 Unię Europejską w ramach  
 Europejskiego Funduszu  
 Społecznego

**UNIA EUROPEJSKA**  
 EUROPEJSKI  
 FUNDUSZ SPOŁECZNY


Course title			ECTS code	
Econometrics			14.3.7239	
Name of unit administrating study				
Faculty of Management				
Studies				
faculty Faculty of Management	field of study Finance and Accounting	type	first tier studies (BA)	
		form	full-time	
		specialty	all	
		specialization	all	
Teaching staff				
prof. UG, dr hab. Anna Zamojska; dr Sabina Nowak				
Forms of classes, the realization and number of hours			ECTS credits	
Forms of classes			6	
Auditorium classes, Lecture			1 ECTS (30h) participation in lectures	
The realization of activities			1 ECTS (30h) participation in tutorials	
classroom instruction			1 ECTS (30h) self-study, literature review and preparation for the classes	
Number of hours			1 ECTS (30h) data collection, software learning	
Auditorium classes: 30 hours, Lecture: 30 hours			1 ECTS (30h) preparation of a project	
			1 ECTS (30h) exam preparation	
The academic cycle				
2024/2025 summer semester				
Type of course		Language of instruction		
obligatory		English		
Teaching methods		Form and method of assessment and basic criteria for eveluation or examination requirements		
<ul style="list-style-type: none"><li>- group work</li><li>- multimedia-based lecture</li><li>- problem solving</li></ul>		Final evaluation		
		<ul style="list-style-type: none"><li>- Graded credit</li><li>- Examination</li></ul>		
		Assessment methods		
		<ul style="list-style-type: none"><li>- assignment work – project or presentation</li><li>- written exam (test)</li></ul>		
		The basic criteria for evaluation		
		Credit: 45% team-project with presentation, 45% written test, 10% classroom activities. Lectures: written exam. The final grades are based on the score according to the University terms of study: 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)		
Method of verifying required learning outcomes				

NQF learning goal	Solving the tasks	Team-work	Exam
	Knowledge		
FiRL3_W02			x
FiRL3_W06	x	x	x
	Skills		
FiRL3_U03	x		x
FiRL3_U04	x		x
	Social competences		
FiRL3_K02		x	
FiRL3_K03	x	x	

**Required courses and introductory requirements****A. Formal requirements**

Enrollment to the 4th semester

**B. Prerequisites**

Basic knowledge of the following subjects: Mathematics for economics, Descriptive statistics and inferential statistics

**Aims of education**

This course introduces students to econometric methods useful for those aiming to work in finance.

**Course contents**

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?

**Bibliography of literature****A. Basic literature**

Brooks C., Introductory Econometrics for Finance, Cambridge University Press, 2008.

Dougherty C., Introduction to Econometric, Oxford University Press, 2008.

**B. Supplementary literature**

Mills T.C., Markellos R.N., The Econometric Modelling of Financial Time Series, Cambridge University Press, 2008.

**The learning outcomes (for the field of study and specialization)**

Student knows:

- various stylized facts of the financial time series
- how to formulate and estimate the model
- how to improve the estimated model

Student can:

- demonstrate competency in numeric skills
- apply statistical methods to analyse past data and infer future trends
- analyse and interpret output from estimated models
- demonstrate an understanding of the appropriate application of quantitative techniques to a range of problems in finance
- communicate the results of quantitative analyses in the context of finance
- recognise the limitations of the quantitative models

**Knowledge**

[FiRL3\_W02] The student has advanced knowledge of various types of economic structures and institutions and their changes, in particular: banking system, insurance system, taxation system, financial markets, organization of the public finance system and the private sector.

The student knows the interrelationships between these structures and social institutions on a national and international scale.

[FiRL3\_W06] The student has advanced knowledge of methods and tools, including data acquisition and analysis techniques, appropriate to management science and quality, which allow describing economic structures and institutions and the processes within and between them.

**Skills**

[FiRL3\_U03] The student can properly analyse the causes, course and effects of specific processes and phenomena in finance and accounting using advanced theories and relevant social sciences methods. Can identify stakeholders of processes and phenomena from the disciplines of management and

<p>Student :</p> <ul style="list-style-type: none"> <li>• works effectively in a professional environment, including oral and written communication, personal organization, use of computer hardware and software, and applies appropriate ethical standards</li> <li>• demonstrates competence in leadership and teamwork</li> <li>• explores his/her current interests and discovers new interests</li> </ul>	<p>quality sciences and economics and finance.</p> <p>[FiRL3_U04] The student can forecast economic processes and phenomena in finance and accounting using advanced methods and tools.</p>
	<p><b>Social competence</b></p> <p>[FiRL3_K02] Cooperation: - can harmoniously interact and work in a group, taking on different roles in it - can agree with the group on goals and division of tasks - is open-minded and respects the differences of other team members.</p> <p>[FiRL3_K03] Communication: - can present his view or issue in a way that others can understand - boldly (but thoughtfully) expresses his opinion, is not afraid to ask questions - can culturally participate in discussions - can give constructive criticism.</p>
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