

Annex No. 3		First Cycle Studies Course Programme			
1.	Course Title	Applied Econometrics			
2.	Code	ECN450			
3.	Study programme	Economics			
4.	Organizer of the study programme (university unit i.e. institute, chair, department)	Ss. Cyril and Methodius University in Skopje Faculty of Economics - Skopje Chair of Economics			
5.	Level (first, second, third cycle)	First cycle			
6.	Academic year / semester	2022-2023 (winter/summer semester)	7.	Number of ECTS credits	7.5
8.	Professor	Prof. Vesna Bucevska, PhD			
9.	Preconditions for enrolment	None			
10.	<p><b>Course Objectives (Competencies):</b> After taking this course, students should be able to:</p> <ol style="list-style-type: none"> <li>1. Understand and appropriately apply the selected statistical and econometric tools commonly used in empirical economic and business analysis;</li> <li>2. Know how to assess causal effects and make predictions using cross-sectional data;</li> <li>3. Evaluate dynamic causal effects and make projections using time series data;</li> <li>4. Understand the concept of the method of maximum reliability and interpret the obtained scores;</li> <li>5. Distinguish between fixed and random effects and how to evaluate them;</li> <li>6. Understand endogenousness in models of simultaneous equations and how to act on it by evaluating with instrumental variables;</li> <li>7. Evaluate vector autoregressive models;</li> <li>8. Implement Generalized Autoregressive Conditionally Heteroscedastic Models (GARCH Models) and Stochastic Volatility Models to represent the dynamic behavior of uncertainty;</li> <li>9. Use econometric models to test various financial hypotheses and models, such as testing the effectiveness of markets, and assessing the risk of an individual stock by calculating its value at risk (Value at Risk);</li> <li>10. Know how to interpret the scores obtained on discrete response models.</li> </ol>				
11.	<p>Course content: The field of Applied Econometrics is growing rapidly as a result of the advancement of computer software and the increasing availability of data. Using econometric packages available on the market does not take much time to evaluate very complex models. The course deals with additional econometric techniques (not covered in the Econometrics course) that are useful for conducting empirical economic research. The aim of the course is to prepare students to fully operate econometric tools for measuring, modeling, interpreting, and predicting macro, micro-economic and financial phenomena. The course focuses on the following topics in econometrics: Linear multiple regression; Generalized method of moments; Method of Maximum Likelihood; Capital assets price model; Instrumental variables; Models of simultaneous equations; Vector autoregressive models (VAR; ARCH / GARCH) models; Models with panel data and Models with binary dependent variables.</p> <p>By studying course, students will be able to conduct their own empirical research and understand contemporary empirical economic and business literature. The course concentrates on the practical application of econometric methods by reviewing the relevant methodology, its application, and possible alternative modeling approaches. The lectures are supported by computer exercises using econometric packages on which students can gain practical experience in applied econometric analysis.</p>				
12.	Learning methods: Lectures with presentations, interactive lectures, team work, guest lecturer, exercises, case studies, preparation and presentation of a project task.				
13.	Total hours	7.5 ECTS x 30 classes = 225 classes			

14.	Allocation of hours per activity	60+30+30+15+90 = 225 classes				
15.	Types of teaching activates	15.1.	Lectures	60 classes		
		15.2.	Exercises (Seminars)	30 classes		
16.	Other types of activities	16.1.	Project tasks	30 classes		
		16.2.	Independent tasks	15 classes		
		16.3	Home study	90 classes		
17.	Grading method: 60+30+10=100 points					
	17.1.	Tests (Domain, Essay, Multiple choice exam, Case)	60%			
	17.2.	Seminar work / project (presentation: written and oral), laboratory exercises	30%			
	17.3.	Attendance and class participations	10%			
	17.4.	/	/			
18.	Grading scale	less than 50 points	5 (five) (F)			
		from 51 to 60 points	6 (six) (E)			
		from 61 to 70 points	7 (seven) (D)			
		from 71 to 80 points	8 (eight) (C)			
		from 81 to 90 points	9 (nine) (B)			
		from 91 to 100 points	10 (ten) (A)			
19.	Preconditions for taking the final exam	Realized activities from points 15 and 16				
20.	Language	Macedonian (or English)				
21.	Evaluation method	Internal evaluation and survey				
22.	Literature					
	22.1.	Compulsory literature				
		No.	Author	Title	Publisher	Year
		1.	Asteriou, Dimitrios and S. G. Hall	<i>Applied Econometrics, 4<sup>th</sup> ed</i>	London : Red Globe Press	2021
		2.	Chris Brooks	<i>Introductory Econometrics for Finance, 4th ed.</i>	Cambridge University Press	2019
		3.	Весна Буцевска	<i>Економетрија со примена на EViews</i>	Економски факултет, Скопје	2016
	22.2.	Additional literature				
		No.	Author	Title	Publisher	Year
		1.	Angrist, Joshua David, and Jörn-Steffen Pischke.	<i>Mostly Harmless Econometrics: An Empiricist's Companion.</i>	Princeton University Press	2009
		2.	Chung-ki Min	<i>Applied Econometrics A Practical Guide</i>	Routledge	2019
3.		Enders, W.	<i>Introduction to Applied Econometrics</i>	Belmont, CA: Thomson Brooks/ Cole	2005	

		4.	Kratzig, M. and H. Lutkepohl	<i>Applied Econometric Time Series</i> “, 2nd edition	John Wiley & Sons, Inc.	2007
		5.	Tsay, R.S.	<i>Analysis of Financial Time Series</i> , 3 <sup>rd</sup> ed.	John Wiley, New York	2010
		6.	Wooldrige , Jeffrey M.	<i>Econometric Analysis of Cross Section and Panel Data</i>	The MIT Press	2010
		7.	Гуџарати, Д. Н	<i>Основи на економетријата, 4то издание</i>	НАМПРЕС (превод од англиски, проект на Влада на Република Македонија)	2012