

<b>Annex No. 3</b>		<b>Second Cycle Studies Course Programme</b>			
1.	Course Title	<b>Financial Econometrics</b>			
2.	Code	STM 517			
3.	Study programme	Statistical Methods for Business and 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			
5.	Level (first, second, third cycle)	Second cycle			
6.	Academic year / semester	First year / Second (summer) semester	7.	Number of ECTS credits	6
8.	Professor	Prof. Vladimir Filipovski, PhD Prof. Dragan Tevdovski, Ph.D.			
9.	Preconditions for enrolment	Completed first cycle studies with at least 240 ECTS credits			
10.	<p><b>Course Objectives (Competencies):</b> Students will acquire knowledge and skills to:</p> <ul style="list-style-type: none"> <li>• differentiate between models of statistical processes,</li> <li>• use univariate autoregressive moving average models,</li> <li>• use multivariate autoregressive models – vector autoregressive models (VAR),</li> <li>• test the stationarity of financial time series,</li> <li>• analyze the models of long-term equilibrium between financial series by using cointegrated variables and VAR</li> <li>• analyze the volatility of financial variables and the autocorrelation in financial time series by the autoregressive conditional heteroscedastic (ARCH) models.</li> </ul>				
11.	<p>Course contents:</p> <p>Autoregressive processes in financial time series</p> <ul style="list-style-type: none"> <li>• Partial autocorrelation function</li> <li>• Autoregressive moving average (ARMA) processes</li> <li>• Forecasting with ARMA models</li> <li>• Vector autoregressive (VAR) models</li> </ul> <p>Long-run relationships in finance</p> <ul style="list-style-type: none"> <li>• Stationarity and unit root tests</li> <li>• Cointegration</li> <li>• Error correction equilibrium models</li> <li>• Johansen technics for testing and estimation based on Vector autoregressive models</li> </ul> <p>Modelling volatility and correlation</p> <ul style="list-style-type: none"> <li>• Autoregressive models of volatility</li> <li>• Autoregressive conditional heteroscedastic models of volatility (ARCH models)</li> <li>• Generalized autoregressive conditional heteroscedastic models of volatility (GARCH models)</li> <li>• Different variations of GARCH models</li> </ul>				
12.	Learning methods: interactive lectures, quizzes, projects, films, supported with LCS and PowerPoint.				

13.	Total hours	6 ECTS x 25 classes = 150 classes				
14.	Allocation of hours per activity	40+10+25+30+45=150 classes				
15.	Types of teaching activates	15.1.	Lectures	40 classes		
		15.2.	Exercises (Seminars)	10 classes		
16.	Other types of activities	16.1.	Project assignments	25 classes		
		16.2.	Individual assignments	30 classes		
		16.3.	Home study	45 classes		
17.	Grading method: 60+30+10=100 points					
	17.1.	Tests (Domain, Essay, Multiple choice exam, Case)	60%			
	17.2.	Individual assignment / project (presentation)	30%			
	17.3.	Attendance and class participations	10%			
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.	Chris Brooks	<i>Introductory Econometrics for Finance</i>	Cambridge University Press	2014
		2.	Taylor S. G.	<i>Asset Price Dynamics Volatility and Prediction</i>	Princeton University Press	2005
	22.2.	Additional literature				
		No.	Author	Title	Publisher	Year
		1.	Tsay, R. S.	<i>Analysis of Financial Time Series (Financial Econometrics)</i>	John Wiley & Sons	2005
		2.	Cambell, J. Y., Lo, A. W., MacKinlay, A. Craig	<i>The Econometrics of Financial Markets</i>	Princeton University Press	1997

		3.		Selected articles and case studies		
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