Annex No. 3		**Second Cycle Studies Course Programme**			
1.	Course Title	Statistical Quality Control			
2.	Code	STM516			
3.	Organizer of the study programme (university unit i.e. institute, chair, department)	Ss. Cyril and Methodius University in Skopje Faculty of Economics - Skopje			
4.	Level (first, second, third cycle)	Second Cycle Studies			
6.	Academic year	First year (summer semester)	7.	Number of ECTS credits	6
8.	Professor	Prof. Vesna Bucevska, PhD			
9.	Preconditions for enrolment	Completed first cycle of studies with at least 240 credits and have basic knowledge of econometrics.			
10.	Course Objectives (Competencies): After taking this course, students should be able to: 1. Understand the principles of modern statistical methods for quality control and improvement; 2. Use standard statistical quality control tools to analyze product data to determine whether or not processes are "under control"; 3. Gain a knowledge of contemporary business issues such as TQM and Six Sigma; 4. Explain optional statistical methods when traditional SPC practices have failed or are inadequate; 5. Understand the uses and benefits of advanced control charts and be able to construct and interpret them; 6. Correctly describe how statistical quality control methods result in improvements in product and service quality reductions in manufacturing and service costs and increases in company efficiency and competitiveness; 7. Using computers, students will be able to prepare high quality graphical and tabular presentations of quality control data in standard quality control chart forms; 8. Understand the role that SPC plays in the overall control strategy for a process and company.				

11.	Course content:
	   1. QUALITY IMPROVEMENT IN MODERN BUSINESS ENVIRONMENT
	   2. BASIC CONCEPTS IN STATISTICS AND PROBABILITY
	   3. METHODS AND PHILOSOPHY OF STATISTICAL PROCESS CONTROL (SPC)
	   4. CONTROL CHARTS FOR VARIABLES
	   5. CONTROL CHARTS FOR ATTRIBUTES
	   6. SPECIAL CONTROL CHARTS
	   7. PROCESS CAPABILITY AND PRE-CONTROL: PROCESS AND MEASUREMENT SYSTEM CAPABILITY ANALYSIS
	   8. FURTHER TOPICS IN CONTROL CHART AND APPLICATIONS
	   9. MULTIVARIATE PROCESS MONITORING AND CONTROL ACCEPTANCE SAMPLING PLANS				

12.	Learning methods: • Lectures and exercises in the multimedia center of the TEMPUS project "Statistical Methods for Business and Economics" at the Faculty of Economics at UKIM using appropriate computer packages (EViews); • Individual consultations with doctoral students; • Preparation of scientific and professional papers with appropriate application of econometric methods and use of appropriate computer software, their public presentation and discussion of the research results; • Preparation of an essay on a given topic; • Colloquia / tests to check the acquired knowledge.				
13.	Total hours	6ECTS x 30 classes = 180 classes			
14.	Allocation of hours per activity	24+16+40+10+90 = 180 classes			

15.	Types of teaching activates	15.1.	Lectures	24 classes
		15.2.	Exercises (Seminars)	16 classes
16.	Other types of activities	16.1.	Project tasks	40 classes
		16.2.	Independent tasks	10 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 points
	17.2.		Project work presentation (written and oral), computer exercise	30 points
	17.3.		Attendance and class participations	10 points
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.	Montgomery, D. C.	*Introduction to Statistical Quality Control 8th ed.*	Wiley	2019
2.	Montgomery, D. C.	*Student Solutions Manual to accompany Introduction to Statistical Quality Control*	Wiley	2013

22.2. Additional literature

No.	Author	Title	Publisher	Year
1.	Oakland J., Oakland R. J.	*Statistical Process Control 7th ed.*	Routledge	2018
2.	Sower, V.	*Statistical Process Control for Managers, Second Edition*	Business Expert Press	2017
3.	Mitra, A.	Fundamentals of Quality Control and Improvement, 5th ed.	Wiley	2021