		Second Cycl	e Studies Subjec	t Prog	ramme					
1.	Title of subject		ics							
2.	Code		STM 512							
3.	Study programme		Statistical methods for business and economics							
	Organizer of the study pro	ogramme	Ecoulty of Ecor							
4.	(university unit i.e., institu	ute, chair,	Faculty of Economics - Skopje Ss. Cyril and Methodius University in Skopje							
	department)	Ss. Cyrn and Methodius University in Skopje								
5.	Level (first, second, third	cycle)	Second cycle							
6.			First year /		Number of ECTS					
	Academic year / semester		1st semester	7.	credits	6				
			(winter)							
8.	Professor		Associate Prof. Igor Ivanovski, PhD							
9.	Preconditions for enrolme	ent	Completed first cycle of studies with obtained minimum of 240 credits							
	Course Objectives (Competencies):									
	After completing the course, students should be able to:									
10.	1. to use the theory of probability in solving problems in the field of economics and finance									
10.	2. the use the statistical inference;									
	3. to use statistical hypotheses testing;									
		models to build	the interdepende	ncies be	etween economic and fi	nancial variables.				
	Course contents:									
	1. Probability									
	2. Random variable	and probability	y distributions							
	3. Expectations									
	4. Special distribut									
11.	5. Statistical inferen	nce								
	6. Point estimation									
	7. Distributions of		s							
	8. Confidence bour									
	9. Hypotheses testing									
		10. Categorical data and nonparametric methods								
	11. Statistical model		41							
12.	Learning methods: interact		in presentations,	problen	il solving exercises, teal	in projects,				
13.	Total hours	individual tasks, and home learning.								
15.			ϵ ECTS = 20	100000	-100 hours					
	I coming mothed a interest	stive lestures	6 ECTS x 30	classes	= 180 hours					
	Learning methods: interactions problem		6 ECTS x 30 0	classes	= 180 hours					
14.	with presentations, proble	em solving	24+16+40+10							
14.	with presentations, proble exercises, team projects, i	em solving	24+16+40+10							
14.	with presentations, proble	em solving individual tasks,	, 24+16+40+10			24 hours				
	with presentations, proble exercises, team projects, i and home learning.	em solving individual tasks, 15.1.	24+16+40+10 Lectures	+90=18	80 hours	24 hours				
14. 15.	with presentations, proble exercises, team projects, i	em solving individual tasks, 15.1.	24+16+40+10 Lectures Tutorials (labo	+90=18		24 hours 16 hours				
	with presentations, proble exercises, team projects, i and home learning.	em solving Individual tasks, es 15.1. 15.2.	24+16+40+10 Lectures Tutorials (labo teamwork	+90=18	80 hours	16 hours				
15.	with presentations, proble exercises, team projects, i and home learning.Types of teaching activiti	$\frac{\text{em solving}}{\text{individual tasks}}$ es $\frac{15.1.}{15.2.}$	24+16+40+10 Lectures Tutorials (labo teamwork Project assign	+90=18 pratory, ments	80 hours auditory), seminars,	16 hours 40 hours				
	with presentations, proble exercises, team projects, i and home learning.	em solving individual tasks, es 15.1. 15.2. 16.1. 16.2.	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass	+90=18 pratory, ments	80 hours auditory), seminars,	16 hours 40 hours 10 hours				
15.	 with presentations, proble exercises, team projects, i and home learning. Types of teaching activiti Other types of activities 	em solving individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3.	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study	+90=18 pratory, <u>ments</u> ignmen	80 hours auditory), seminars, ts	16 hours 40 hours 10 hours 90 hours				
15. 16.	 with presentations, proble exercises, team projects, i and home learning. Types of teaching activities Other types of activities Assessment methods: compared to the second se	em solving Individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3. nbination of test	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study	+90=18 pratory, <u>ments</u> ignmen	80 hours auditory), seminars, ts	16 hours 40 hours 10 hours 90 hours 10 = 100 points				
15.	with presentations, proble exercises, team projects, i and home learning. Types of teaching activities Other types of activities Assessment methods: con 17.1.	em solving Individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3. nbination of test	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study ts, individual and	+90=18 pratory, <u>ments</u> ignmen	80 hours auditory), seminars, ts	16 hours 40 hours 10 hours 90 hours 10 = 100 points 50 points				
15. 16.	with presentations, proble exercises, team projects, i and home learning. Types of teaching activities Other types of activities Assessment methods: con 17.1. 1 17.2. F	em solving Individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3. nbination of test Fests Project assignment	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study ts, individual and	+90=18 pratory, ments ignmen group a	80 hours auditory), seminars, ts	16 hours 40 hours 10 hours 90 hours 10 = 100 points 50 points 40 points				
15. 16.	with presentations, proble exercises, team projects, i and home learning. Types of teaching activities Other types of activities Assessment methods: con 17.1. 1 17.2. F	em solving Individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3. nbination of test Fests Project assignment	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study ts, individual and	+90=18 pratory, ments ignmen group a	80 hours auditory), seminars, ts assessments 50+40 +	16 hours 40 hours 10 hours 90 hours 10 = 100 points 50 points 40 points 10 points				
15. 16.	with presentations, proble exercises, team projects, i and home learning. Types of teaching activities Other types of activities Assessment methods: con 17.1. 1 17.2. F	em solving Individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3. nbination of test Fests Project assignment	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study ts, individual and ents class participation	+90=18 pratory, ments ignmen group a ns unc	80 hours auditory), seminars, ts assessments 50+40 + ler 50 points	16 hours 40 hours 10 hours 90 hours 10 = 100 points 50 points 40 points 10 points 50 (five) (F)				
15. 16. 17.	with presentations, proble exercises, team projects, i and home learning. Types of teaching activities Other types of activities Assessment methods: con 17.1. 17.2. 17.3.	em solving Individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3. nbination of test Fests Project assignment	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study ts, individual and ents class participation	pratory, ments ignmen group a unc from 51	80 hours auditory), seminars, ts assessments 50+40 + ler 50 points to 60 points	16 hours 40 hours 10 hours 90 hours 10 = 100 points 50 points 40 points 10 points 5 (five) (F) 6 (six) (E)				
15. 16.	with presentations, proble exercises, team projects, i and home learning. Types of teaching activities Other types of activities Assessment methods: con 17.1. 1 17.2. F	em solving Individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3. nbination of test Fests Project assignment	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study ts, individual and ents class participation f	h+90=18 pratory, ments ignmen group a group a ns unc from 51 from 61	80 hours auditory), seminars, ts assessments 50+40 + ler 50 points to 60 points to 70 points	16 hours 40 hours 10 hours 90 hours 10 = 100 points 50 points 40 points 50 (five) (F) 6 (six) (E) 7 (seven) (D)				
15. 16. 17.	with presentations, proble exercises, team projects, i and home learning. Types of teaching activities Other types of activities Assessment methods: con 17.1. 17.2. 17.3.	em solving Individual tasks, es 15.1. 15.2. 16.1. 16.2. 16.3. nbination of test Fests Project assignment	24+16+40+10 Lectures Tutorials (labo teamwork Project assign Individual ass Self-study ts, individual and ents class participation f	H+90=18 pratory, ments ignmen group a group a s unc rom 51 rom 61 rom 71	80 hours auditory), seminars, ts assessments 50+40 + ler 50 points to 60 points	16 hours 40 hours 10 hours 90 hours 10 = 100 points 50 points 40 points 10 points 5 (five) (F) 6 (six) (E)				

19.	Preconditions for taking the final exam			Realized activities from items 15 and 16							
20.	Language			Macedonian/ English							
21.	Evaluation method			Student questionnaire and other methods for continual selfevaluation							
	Literature										
	22.1.	Mandatory literature									
		No.	Author		Title	Publisher	Year				
		1.	Janev, D.		Mathematics for	Faculty of	2007				
					economists	Economics -					
						Skopje					
		2.	2. Azzalini, A.		Statistical	Chapman &	1996				
					Inference: based	Hall					
					on the likelihood						
22.		Berger		la, G. and	G. and Statistical		2002				
					Inference						
	22.2.	Additional literature									
		No.	Author		Title	Publisher	Year				
		1.	Youn	g G.A. and R.L.	Essentials of	Addison-	2002				
			Smith	l	Statistical	Wesley					
					Inference						
		2.	Moore, D.S. and		Introduction to	W.H. Freeman	2005				
			G.P. 1	McCabe	the Practice of						
					Statistics						