Attachment No. 3		Course program for the first cycle of studies			
1.	Course title	Biostatistics			
2.	Code	DMMBS2			
3.	Study program	Dentistry - integrated first and second cycle of studies			
4.	Organizer of the study program (unit, i.e., institute, department, division)	University "Ss. Cyril and Methodius" in Skopje. Faculty of Medicine - Skopje, Department of Epidemiology with Statistics and IT			
5.	Degree (first, second, third cycle)	Integrated first and second cycle studies			
6.	Academic year/semester	Year	2	Semester	4
7	Course workload expressed in ECTS credits	3			
8.	Teacher	Prof. Dr. Beti Zafirova-Ivanovska - Teacher in charge Prof. Dr. Vesna Velikj-Stefanovska Prof. Dr. Irina Pavlovska			
9.	Language in which the curriculum is conducted	English			
10.	Necessary prerequisites for taking and passing the course	None			
11.	Course objectives (competences) and learning outcomes:	Objectives of the subject program (competences): 1. Acquiring knowledge about the basics of medical statistics, terms, units of measurement. 2. Acquiring theoretical and practical knowledge for the analysis of statistical series by applying adequate statistical methods. 3. Acquiring theoretical and practical knowledge in the field of demographic and vital statistics, as well as the application of the acquired knowledge in practice. 4. Acquiring theoretical and practical knowledge of the foundations, concepts, and			

		application of medical IT.		
12.	Detailed course content by chapter and units, with the learning outcomes for each chapter	Theoretical teaching - lectures Descriptive analysis (statistical survey plan; methods of collecting, grouping, and displaying data; use of relative numbers; analysis of statistical mass structure by numerical marks; sample method) 1 class Frequency and probability distribution (estimate of sample parameters; standard error of average and proportion) 1 class Hypotheses (t-test) 1 class Variance analysis 1 class Pearson Chi-square – test 1 class Regression analysis and linear correlation 1 class Correlation measures based on ranked data 1 class Non-parametric tests – dependent samples 1 class Examination of occurrence dynamics 1 class Survival time analysis 1 class Demographic statistics, 2 classes Vital statistics, 2 classes Medical IT 1 class Total: 15 classes Practical teaching - exercises Ratios, proportions, rates, indices, 3 classes Dynamics indices 2 classes Arithmetic median, standard deviation, coefficient of variation 2 classes Modus and median 2 classes Estimation of sample parameters 2 classes Student t-test 2 classes Pearson Chi-square test 2 classes Correlation 2 classes Evaluation of proportions of the overall statistical mass based on a sample 3 classes Time series linear trend 2 classes Seasonal index 2 classes Practical application of terms from demographic and vital statistics, 3 classes Medical IT 3 classes Total 30 classes		
13	Interrelation of subjects	Connection to all subjects		
14.	Detailed description of the teaching and working methods for the subject	Interactive teaching, exercises		
15.	Total Available Time	90 classes		
16.	Forms of teaching activities	16.1.	Lectures- theoretical teaching. classes	15
		16.2.	Exercises (laboratory, auditorium), seminars, teamwork: classes	30
		16.3.	Practice: classes	
17.	Other forms of activities	17.1.	Project assignments: classes	
		17.2.	Independent assignments: classes	
		17.3.	Home study - assignments	45
18	Signature requirements	Absence from up to two exercises		
19	Method of grading			
	19.1.	Tests: points		min. -max. Continuous assessment points * 18 - 30 A continuous knowledge test (colloquium) consists of 1 written test
	19.2.	Seminar work/project, written and oral presentation: points		
	19.3.	Final exam: points		min-max.

				Oral part points 42 – 70	
20	Evaluation criteria (points/grade)		up to 59 points	5 (five) F	
			from 60 to 68 points	6 (six) E	
			from 69 to 76 points	7 (seven) D	
			from 77 to 84 points	8 (eight) C	
			from 85 to 92 points	9 (nine) B	
			from 93 to 100 points	10 (ten) A	
21.	Method of monitoring the quality of teaching		Self-evaluation by students, assistant control during the practical teaching and assessment of the achieved student success, as well as the pass rate of students who have passed the subject		
22.	Literature				
	22.1.	Required literature			
		Ord. number	Author	Title	Publisher	Year
		1.	Danilovski D., Orovchanec N., Vasilevska K., Taushanova B., Velikj Stefanovska V., Isjanovska R., Zafirova Ivanovska B., Zdravkovska M., Pavlovska I.	Biostatistics practicum	University "Ss. Cyril and Methodius", Faculty of Medicine	2012
		2.	Danilovski D., Orovchanec N., Vasilevska K., Taushanova B., Velikj Stefanovska V., Isjanovska R., Zafirova Ivanovska B., Zdravkovska M., Pavlovska I.	Biostatistics	University "Ss. Cyril and Methodius", Faculty of Medicine	2012
	22.2.	Additional literature				
		Ord. number	Author	Title	Publisher	Year
		1.	James F. Jaeckel, David L. Katz, Joan J. Elmore, Dorothea M. J. Wilde	Epidemiology, biostatistics, and preventive medicine	Tabernakul	2010