1	Subject	**BIOSTATISTICS**			
2	Code	DBS211			
3	Study Program	Study Program of Integrated studies in dental medicine			
4	Organizing Institution (Unit, Institute, Chair, Department)	UKIM-Faculty of Medicine Department of epidemiology and biostatistics with medical informatics			
5	Educational degree (first or second cycle)	Integrated study			
6	Study year/semester	2/4	7	Number of credits	3
8	Teacher	Prof. Dr. Vesna Velikj Stefanovska Prof. Dr. Dragan Danilovski Prof. Dr. Biljana Tausanova Prof. Dr. Rozalinda Isjanovska Prof. Dr. Beti Zafirova Ivanovska Prof. Dr. Irina Pavlovska			
9	Preconditions	Signatures of first and second semester courses			
10	Teaching goals: 1. Acquiring knowledge of the basics of medical statistics, terminology, measuring units. 2. Acquiring theoretical and practical knowledge of analyses of statistical series through implementation of appropriate statistical methods. 3. Acquiring theoretical and practical knowledge of demographic and vital statistics and implementation of acquired knowledge in practice. 4. Acquiring theoretical and practical knowledge of the basis, concepts and application of medical informatics.				

11	**Brief content**	
	Theoretical course	Class
	Descriptive analysis (plan of statistical research, methods of collection, grouping and presentation of data; use of relative numbers; analyses of structure of statistical mass according to numerical characteristics)	2
	Sampling methods	1
	Distribution of frequency and probability (estimation of parameters of samples; standard error of mean and proportion	1
	Hypothesis (t – test)	1
	Analysis of variance	1
	Pearson X^2 - test	1
	Regression analysis and linear correlation	1
	Measures of correlation based on ranked data	1
	Non parameter tests – dependant samples	1
	Research of dynamics of occurrences	1
	Survival analyses	1
	Demographic statistics	1
	Vital statistics	1
	Medical informatics	1
	Total	15
	Practical lessons:	Class

	Retio, rates, proportions			2
	Index of dynamics, coefficient of variation			2
	Mean and standard deviation			3
	Modus and median			3
	Student t-test			3
	X^2 - test			2
	Correlation			3
	Assessment of parameters of a sample			3
	Linear trend of time series analysis			3
	Season index			2
	Practical application of terms of demographic and vital statistics			2
	Medical informatics			2
	Total			30
12	Methods of studying: class room oriented lectures, interactive lectures, group work, practical training, seminar paper			
13	Total available time		90 classes	
14	Organization of the course		15 classes - theoretical course, 30 classes- practical course, 45 classes - home individual learning and other activities	
15	Forms of teaching activities	15.1.	Theoretical course	15 classes
		15.2.	Practical course, seminars	Practical course- 30 classes
16	Other forms of activities	16.1.	Project tasks	/
		16.2.	Individual tasks	/
		16.3.	Individual (home) learning	45 classes
17	Method of assessment	17.1.	Tests	min. - max. 18 - 30 points from two continuous tests of knowledge One mid-term test carries 9 – 15 points
		17.2.	Active participation, seminar paper/project (oral/written presentation)	Teoretical courses 1-5 points Participation on theoretical courses: 40%-50% = 1 point 51% - 60% = 2 points 61% - 70% = 3 points 71%-80% = 4 points 81% - 100% = 5 points Practical courses 5 – 10 points
		17.3.	Final (oral) exam	min. - max. 36 – 55 points
18	Grading criteria (points / grade)	Up to 59 points		5 (five) (F)
		from 60 to 67 points		6 (six) (E)

		from 68 to 75 points	7 (seven) (D)
		from 76 to 84 points	8 (eight) (C)
		from 85 to 93 points	9 (nine) (B)
		from 94 to 100 points	10 (ten) (A)
19	Requirement for signature and taking the final exam	To obtain a signature, the student needs to acquire minimum points from attendance theoretical and practical courses. To take the final exam, the student must pass the continuous tests or acquire a minimum of 30% of total number of points in the continuous tests, whereas during the exams session the student shall take the previously failed continuous tests, and then shall take the final exam. The assessment of the subject is established according to the table of marks, based on the sum of points from all activities, continuous tests and final exam.	
20	Language of the course	English	
21	Method for evaluation of the quality of education	Anonymous student's evaluation of the subject, teachers and collaborators involved in the educational activities	

22 **Literature**

22.1. **Mandatory textbooks**

No.	Author	Title	Publisher	Year
1	Danilovski D., Taushanova B., Velic Stefanovska V., Isjanovska R., Zafirova Ivanovska M., Pavlovska I.	Biostatistics – handbook for students on biomedical science	University "Ss. Cyril and Methodius" Medical faculty	2019
2	Danilovski D., Orovcanec N., Vasilevska K., Taushanova B., Velic Stefanovska V., Isjanovska R., Zafirova Ivanovska B., Zdravkovska M., Pavlovska I.	Biostatistics	University "Ss. Cyril and Methodius" Medical faculty	2012

22.2. **Additional literature**

No.	Author	Title	Publisher	Year
	James F. Jeckel, David L. Kac, Joan J. Elmor, Dorothea M. J. Wild	Epidemiology, biostatistics and preventive medicine	Tabernakul	2010