

1.	Course	Statistical Methods in Research			
2.	Code	INF-G33			
3.	Study programme	Informatics			
4.	Study programme organized by	Faculty of Computer Science and Engineering			
5.	Cycle	Third - PhD			
6.	Academic year / semester winter/summer/elective	first/second	7.	ECTS credits	4
8.	Teacher	Prof. D-r Zhaneta Popeska, Prof. D-r Marija Mihova			
9.	Prerequisites	Basic knowledge of statistics on the level of introductory course of the first cycle.			
10.	<p>Course programme goals (competences): To introduce students with several important methods of applied statistics. The goals are to learn how to translate the problem in the language of statistics, how to build a statistical model for data analysis and how to interpret and validate results. The targeted students are the one that require knowledge of statistics for their dissertation. Teaching will be supported using software packages and relevant examples. Mathematics will be a minimum, but it is expected that the students have the basic background knowledge of statistics.</p>				
11.	<p>Course syllabus: Methods of collecting data and deiging the study and experiments. Methods for processing and analysis of categorical data. Regression methods (determining correlation between variables) and multidimensional statistical techniques with special emphasis on linear regression, analysis of variance, design of experiments, logistic regression, survival analysis and simple time series. Review of commonly used nonparametric methods.</p>				
12.	<p>Teaching methods: Classes supported with slide presentations, interactive teaching, lab equipment and other software packages, teamwork, case studies, invited guest lecturers, presentations of project works, e-learning materials, forums and consultations</p>				
13.	Total fund of work hours	7,5 EKTC x 30 h = 225 h			
14.	Available hours distribution	45+30+150 = 225			
15.	Teaching activities	15.1.	Theoretical classes	30 h	
		15.2.	Practical classes (labs, exercises), seminars, team work	30 h	
16.	Other activities	16.1.	Project tasks	30 h	
		16.2.	Self study	10 h	
		16.3.	Homework	20 h	
17.	Grading				
	17.1.	Tests		50 points	

	17.2.	Seminar work/ project (presentation: written and oral)	45points
	17.3.	Active participation	5 points
18.	Grading criteria (points/grade)	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)
19.	Conditions for attending the final exam	Successful completion of activities 15.1 and 15.2	
20.	Language	Macedonian or English	
21.	Quality assessment	Internal evaluation and student pools	

22.	Literature					
	22.1.	Compulsory				
		No.	Author	Title	Publisher	Year
		1.	Alan Agresti	An Introduction to Categorical Data Analysis, Second edition	JohnWiley & Sons	2007
		2.	Brian S. Everitt, Torsten Hothorn	An Introduction to Applied Multivariate Analysis with R	Springer	2011
			Wolfgang Karl Härdle, Lèopold Simar	Applied Multivariate Statistical Analysis, Third edition	Springer	2012
	22.2.	Additional				
		No.	Author	Title	Publisher	Year
		1.	Wojtek Krzanowski	Principles of Multivariate Analysis	OUP Oxford	2000
		2.	Barbara G. Tabachnick, Linda S. Fidell	Using multivariate statistics	Allyn and Bacon	2001