No. 15

Course syllabus for First cycle studies						
1.	**Course title**	Statistics for Engineers				
2.	**Code**	MDE2M3				
3.	**Study Program**	Metallurgical Digital Engineering				
4.	**Study program organizer (unit, institute, department, division)**	**TMF** - Faculty of Technology and Metallurgy, UKIM in Skopje				
5.	**Degree (first, second, third cycle)**	First				
6.	**Academic year/semester**	First Year / Second Semester	7.	**Number of ECTS**	6	
8.	**Instructors**	Assoc. Prof. Dr. Pavel Dimovski				
9.	**Prerequisites for course enrollment**	None				
10.	**Objectives of the course syllabus (competencies):** Introduction to the basics of probability theory and statistics, and use of a data processing software package **Acquired skills (competences):** Basic skills in Mathematics 1, Mathematics 2, Computer science					
11.	**Content of the course:** Data representation. Elements of Probability theory. Random variable, discrete and continuous. Distribution functions. Variance, Standard deviation, Coefficient of variation, Median, and Mode. Practical distributions: Binomial, Poisson, and Normal distribution. Elements of engineering statistics. Data and Data types. Population and Sample. Grouping of Data. Descriptive statistics. Empirical distribution function. Number of degrees of freedom. Graphical representation of data. Correlation. Statistical analysis of measurement errors. Influence of sampling errors. Errors in indirect measurements. Tolerance limit of approximate size.					
12.	**Study methods:** Lectures and exercises, consultations, homework assignments, and independent study.					
13.	**Total available time**		160 hours			
14.	**Allocation of available time**					
15.	**Teaching activities**	15.1.	Lectures - Theoretical Instruction:		30 hours	
		15.2.	**Exercises (Laboratory, Tutorials), Seminars, Teamwork:**		30 hours	
15		15.3	Practical Work:		0 hours	
16.	**Other types of activities**	16.1.	Project Assignments:		20 hours	
		16.2.	Independent Assignments:		20 hours	

		16.3.	Homework:		60 hours
17.	**Grading system**				
	17.1.	Tests (Points):			0
	17.2.	Seminar Work/Project, Written and Oral Presentation (Points):			90
	17.3.	Final Exam (Points):			10
18.	**Grading criteria (points/grade)**	Up to 61 points			5 (five) (F)
		From 61 to 69 points			6 (six) (E)
		From 70 to 79 points			7 (seven) (D)
		from 80 to 89 points			8 (eight) (S)
		From 90 to 95 points			9 (nine) (B)
		from 95 to 100 points			10 (ten) (A)
19.	**Prerequisites for taking the final exam**	Attended the course			
20.	**Language in which lectures are conducted**	Macedonian and English			
21.	**Method for monitoring the quality of lectures**	Self-evaluation, questionnaires			
22.	**LITERATURE**				
	22.1.	Compulsory literature			
		No.	Author	Title	Publisher	Year
		1.	Ц. А. Pajc	Математичка статистика и анализа на податоци	Арс Ламина	2014
		2.	A. Field	Discovering statistics using SPSS	SAGE Publications	2005
		3.	Ц. А. Pajc	Математичка статистика и анализа на податоци	Арс Ламина	2014
	22.2.	Additional literature			
		No.	Author	Title	Publisher	Year
		1.	S. Brandt	Data Analysis, Statistical and Computational Methods for Scientists and Engineers	Springer	1998
		2.				
		3.				