

Add. 3		Course program for the first, second and third level (cycle) of studies			
1.	Course title	Programming for Engineering			
2.	Code	161			
3.	Study group(s)	Mechatronics			
4.	The organizer of the study program (unit, institute, department)	Institute of Mechanics; Department of Mathematics and Informatics			
5.	Level (first, second, third)	First			
6.	Academic year / semester	Third / summer	7.	ECTS credits	6
8.	Instructor	Nikola Tuneski			
9.	Prerequisites	completed: Mathematics 1; lectures from: Mathematics 2, Structural programming			
10.	Course objectives (competences): Introduction to the structure and some toolboxes of MATLAB (Symbolic Math, Curve Fitting and Optimization).				
11.	Course content: Programming using MATLAB functions. Introduction with commands from symbolic mathematics, creating plots, approximation and optimization.				
12.	Study methods: lectures, laboratory practice, self running project, homework, self-learning				
13.	Total hours	6 ECTS x 30 hours = 180 hours			
14.	Hours allocation per activity:	30+30+40+0+80 = 180 hours			
15.	Lectures/Lab	15.1.	Lectures	30 hours	
		15.2.	Lab (student work)	30 hours	
16.	Project Work/Assignments	16.1.	Project assignments	40 hours	
		16.2.	Individual assignments	0 hours	
		16.3.	Self-learning	80 hours	
17.	Points/Marks:				
	17.1.	Tests	50 points		
	17.2.	Projects	40 points		
	17.3.	Attendance	10 points		
18.	Grading scale	Under 50		5 (five) (F)	
		51 - 60 points		6 (six) (E)	
		61 - 70 points		7 (seven) (D)	
		71 - 80 points		8 (eight) (C)	
		81 - 90 points		9 (nine) (B)	
		91 - 100 points		10 (ten) (A)	
19.	Prerequisites for taking the final exam	activity 17.3			
20.	Language of Instruction	Macedonian			
21.	Course evaluation	Student questionnaire			

22.	Textbooks				
	Instruction materials				
22.1.	No.	Author	Title	Publisher	Year
	1.	N. Tuneski, E. Celakoska	Introduction to MATLAB	Faculty of Mechanical Engineering – Skopje	2010
	2.	P. Venkataraman	Applied Optimization with Matlab Programming	John Wiley & Sons, NY	2002
22.2.	Supplemental Instruction Materials				
	No.	Author	Title	Publisher	Year
	1.	D. Cakmakov	Computers, algorithms, programming	Ss. Cyril and Methodius University	2006
	2.	A. Gilat	MATLAB: An Introduction with Applications (serb. transl.)	Wiley	2004