

Add. 3		Course program for the first, second and third level (cycle) of studies			
1.	Course title	Modeling tools with shaping			
2.	Code	216			
3.	Study group(s)	PE			
4.	The organizer of the study program (unit, institute, department)	Faculty of Mechanical Engineering - Skopje, Ss. Cyril and Methodius University in Skopje			
5.	Level (first, second, third)	First			
6.	Academic year / semester	Summer	7.	ECTS credits	6
8.	Instructor	Prof D-r Jasmina Caloska			
9.	Prerequisites	N/A			
10.	Course objectives (competences): Introduction to the principles of integrated product and process development, application of innovative technologies of virtual engineering, virtual reality concept and its application in production.				
11.	Course content: Basic principles of integrated development of products and processes, innovative technologies of virtual engineering, CAD / CAM / CAE systems for processing tools with shaping, numerical simulation of the processes of plastic deformation machining, construction and design tools for machining by molding with optimization of the technological parameters				
12.	Study methods: Interactive lectures, exercises auditory and / or laboratory, individual and / or team working on project assignments, self-study.				
13.	Total hours	6 ECTS x 30 hours = 180 hours			
14.	Hours allocation per activity:	30 + 30 + 30 + 30 + 60 = 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	30 hours	
		16.2.	Individual assignments	30 hours	
		16.3.	Self-study	60 hours	
17.	Points/Marks:				
	17.1.	Tests	70 points		
	17.2.	Projects	20 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	Realized activity 16.2			
20.	Language of Instruction	Macedonian			
21.	Course evaluation	Student questionnaire			
22.	Textbooks				
	22.1.	Instruction materials			
		No.	Author	Title	Publisher

		1.	J. Caloska	Modeling tools with shaping	Faculty of Mechanical Engineering - Skopje	2010
		2.				
		3.				
		Supplemental Instruction Materials				
		No.	Author	Title	Publisher	Year
	22.2.	1.	Vesna Mandić	Virtual Engineering	/	2007
		2.	Milan Jurković	Mathematical modeling and optimization of machining systems	Technical Faculty, Rijeka, Croatia	2004
		3.	Vukoča Boljanović	Sheet metal forming processes and die design	Industrial Press, New York	2004