Add. 3	Course program for the first, second and third degree of studies				
1.	Course title	Tools and systems tools			
2.	Code	107			
3.	Study group(s)	PI			
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 degree)	First			
6.	Academic year / semester	winter	7.	Number of ECTS credits	6
8.	Professor	Professor Mikolaj Kuzinovski, PhD			
9.	Preconditions for enrolling the course	not have			
10.	Purpose of the course program (competences): Getting of the knowledge in the areas of: the cutting and structural features of the tools and systems tools, technological conditionality and applicability of the cutting tools in the production processes, and the use of electronic databases for selection of cutting tools.				
11.	Contents of the course program: Introduction to the field of cutting tools and systems tools which are used in machining process. Materials for cutting tools. Introduction with the characteristic sizes of cutting tools and geometry of cutting edge. Tool wear and tool life. Workability. Forces, stiffness, strength and vibration. Regeneration of the tools. Classification of the tools. Clamping system for cutting inserts. Mechatronic cutting tools. Tools for high speed processing. Basis for the design and manufacture of the standard and special cutting tools. Performance analysis of the cutiing tools using computer methods and the use of electronic databases of manufacturers cutting tools.				
12.	Study methods: Interactive teaching, auditory and /or laboratory practical, individual and / or team working on the project assignments, self-study.				
13.	Total available time period	6 ECTS x 30 hours = 180 hours			
14.	Available time assessment	30 + 30 + 30 + 30 + 60 = 180 hours			
15.	Educational activity module	15.1.	Teaching lectures	30 hours	
		15.2.	Practice, seminars, team work	30 hours	
16.	Other activity module	16.1.	Project assignments	30 hours	
		16.2.	Selfrunning assignments	30 hours	
		16.3.	Home studying	60 hours	
17.	Evaluation methods				
	17.1.	Tests	70 points		
	17.2.	Projects	20 points		
	17.3.	Activity and participation	10 points		
18.	Evaluation criteria (points and marks)	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.	Signature and final exam requirements	The realized activities 15.2; 16.1 and 16.2			
20.	Language used for performing the teaching	Macedonian language			
21.	Method used for following the teaching quality	The polling and other forms of continuous evaluation			

22.	References					
	22.1.	Main references				
		No.	Author	Title	Publisher	Year
		1.	M. Kuzinovski	Tools and systems tools (reproduced lectures)	Faculty of mechanical engineering-Skopje	2012
		2.	Hoffman E.	Fundamentals of Tool Design	SME, USA	2003
		3.		Software and databases on tools (CoroGuide, Cimsource, Plura, Iscar ...)		
	22.2.	Additional references				
		No.	Author	Title	Publisher	Year
		1.				