

Add. 3		Course program for the first, second and third degree of studies			
1.	Course title	Modern materials and heat treatment			
2.	Code	294			
3.	Study group(s)	MJSE, DS			
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	Prof. Jovan Gochev, Ph.D			
9.	Preconditions for enrolling the course	Materials in mechanical engineering 1- passed Materials in mechanical engineering 2- passed MJSF: Joining techniques - signature DS: Welding technology - signature			
10.	Purpose of the course program (competences): Prepares students to select and use modern materials in mechanical engineering. Introduction and application of heat treatment processes to improve characteristics of materials.				
11.	Contents of the course program: Special materials for specific conditions of exploitation, steel, molded, colored, ceramics and composites. Application of heat treatment in all previously mentioned materials. Heat treatment of welded joints. Basic and profound knowledge of corrosion.				
12.	Study methods: Interactive lectures, auditory and/or laboratory practice, individual and/or team work on project assignments, individual study.				
13.	Total available time period	6ECTSx30 hours =180 hours			
14.	Available time assessment	30+15+15+30+90=180 hours			
15.	Educational activity module	15.1.	Teaching lectures	30 hours	
		15.2.	Practice, seminars, team work	15 hours	
16.	Other activity module	16.1.	Project assignments	15 hours	
		16.2.	Selfrunning assignments	30 hours	
		16.3.	Home studying	90 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	Active during lectures and laboratory practices			
20.	Language used for performing the teaching	Macedonian language			
21.	Method used for following the teaching quality	Questioners and other forms of continues evaluation			

22.	References				
22.1.	Main references				
	No.	Author	Title	Publisher	Year
	1.	проф. д-р Тодор Аџиев	Машински материјали		1995
	2.	Друштво за унапредување на заварувањето	Термичка обработка на заварени споеви		1995
	3.				
22.2.	Additional references				
	No.	Author	Title	Publisher	Year
	1.	Завод за заварување		Материјали и нивно однесување при заварување	2004
	2.				
	3.				