
		UNIVERSITY OF EAST SARAJEVO Faculty of Mechanical Engineering							
		Study program: Mechanical Engineering							
		1 ST LEVEL OF STUDIES		3 th YEAR					
Course title		Metal cutting tools, jigs & fixtures							
Department		Department of production engineering							
Code			Course status		Semester		ECTS		
MAФ-1-1-MC-06-1-032-6-6-3-2-1			Mandatory		VI		6		
Professor		PhD Aleksandar Kosarac, associate professor							
Teaching assistant		PhD Spasoje Trifkovic, assistant professor							
Number of hours (per week)			Individual student workload (in hours in semester)			Coefficient of student workload S _o			
L	E	LE	L	E	LE	S _o			
3	2	1	3*15*S _o	2*15*S _o	1*15*S _o	1.4			
Total total teaching hours in semester 3*15 + 2*15 + 1*15 = 90 hours				Total student's workload (in hours in semester) 3*15*S _o + 2*15*S _o + 1*15*S _o = 126 hours					
Total course workload: 90 + 126 = 216 hours in semester									
Student learning objectives		Acquisition of basic theoretical and practical knowledge in the field of design, calculation and construction of jigs and fixtures, and basic knowledge in the field of design, construction, selection and exploitation of cutting tools.							
Conditionality		No conditioning							
Teaching methods		Lectures, laboratory exercises, homework, consultations, tests, partial exams, final exam.							
Content of the course by weeks		1. Introduction, role, and classification of jigs and fixtures 2. Principle of the location of the workpiece in jigs and fixtures 3. Basic elements of jigs and fixtures (working principles screw clamps and cam-action clamps). Basic elements of automated clamp jigs and fixtures 4. Elements for controlling the location and guiding the cutting tool for a specific operation 5. CNC fixtures 6. Workpiece location error due to fixture geometric errors 7. Selected chapters on cutting tools: basic classification and types of cutting tools 8. Introduction to the designing and constructing of cutting tools. Cutting tools materials. 9. Kinematics of metal cutting 10. Cutting tool classification 11. Design of cutting tools for turning, drilling, milling, broaching, grinding, and gear cutters 12. Basics of tribological processes on cutting tools 13. Sharpening of cutting tools 14. Design of cutting tools for flexible manufacturing systems 15. Computer-aided design of cutting tools							
Required literature									
Authors		Name of the publication, publisher			Year		Pages		
Тановић Љ., Јовичић М.		АЛАТИ И ПРИБОРИ -Пројектовање, прорачуни и конструкције помоћних прибора, Машински факултет, Београд			2011.		-		
Тадић, Б., Вукелић, Ђ., Јурковић, З.		Алати и прибори, Факултет инжењерских наука, Крагујевац			2013.				
Additional literature									
Authors		Name of the publication, publisher			Year		Pages		
Јовичић, М., Кршљак, Б.		Основе конструкције алата и прибора, Научна књига, Београд			1980.		-		
Вукеља, Д.		Конструкција алата за обраду резањем, Грађевинска књига, Београд,			1982.				
Obligations, forms of knowledge check and assessment		Type of student evaluation				Points		Percentage	
		Pre-exam obligations							
		Attendance at lectures / exercises				5		5%	
		Homework				30		30%	
		Colloquium I, II				30		30%	
		Final exam							

	Final exam	35	35%
	Total	100	100 %
Web page			
Date of certification			