

	UNIVERSITY OF EAST SARAJEVO					
	Faculty of Mechanical Engineering					
	Study program: Mechanical Engineering/ Engineering design and applications mechanics					
		2 ST LEVEL OF STUDIES	1 ST YEAR			
Course title		MODERN METHODS OF PRODUCT DEVELOPMENT				
Department		Department of Mechanical constructions and Engineering Design				
Code		Course status		Semester		ECTS
-		Mandatory		II		6
Professor		PhD Biljana Marković, full professor				
Teaching assistant		M. Sc. Aleksija Đurić - teaching assistant				
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	0	3*15*S _o	2*15*S _o	0*15*S _o	1.4
Total total teaching hours in semester 3*15 + 2*15 + 0*15 = 75 hours			Total student's workload (in hours in semester) 3*15*S _o + 2*15*S _o + 0*15*S _o = 105 hours			
Total course workload: 75 + 105 = 180 hours in semester						
Student learning objectives		<p>The main goal of this course is to acquire basic knowledge of modern methods in product development and technical systems, from basic principles in product development, to rapid prototyping, including numerical analysis and optimization methods of machine structures</p> <p>During the course, the student acquires: a broad overview of all current, currently available methods of product development, understands the purpose of application, choice, as well as the method of application, transmissions and shortcomings, and basic strategies for optimizing machine structures.</p>				
Conditionality		No conditioning				
Teaching methods		Lectures, exercises, graphic exercises, computer exercises, colloquiums				
Content of the course by weeks		<p><u>Theoretical classes:</u></p> <ul style="list-style-type: none"> - Basic principles of product development, new trends in product development, - Product life, - Procedures and stages of product development: sequential and integrated approach to product development, process flow constructions, types of constructions, - Customer requirements management (QFD) methods, method display, application, application example, quality house, - ECO design, basic terms and definitions, task and approaches, integration of ISO 14001 and Eco standards design, ecological labels, example of application of Eco design, - Rapid prototyping, significance and development, definition and basic processes, types technology, software tools, 3D printers and scanners, application examples, further development of RP technologies, - Light constructions (LW / light weight design), definitions, basic concepts, motives of application, methods, strategies, material selection, application examples. - Other methods of product development, basic characteristics and conditions of application, - Comparison of methods, advantages and disadvantages, adequate application, - Optimization of machine structures, settings, models, conditions, programming, numerical solution, numerical methods, <p><u>Practical teaching</u></p> <p>It consists of exercises (auditory or laboratory) and project assignment</p>				
Required literature						
Authors		Name of the publication, publisher			Year	Pages
						-
Additional literature						
Authors		Name of the publication, publisher			Year	Pages
						-
Obligations, forms of knowledge check and assessment		Type of student evaluation			Points	Percentage
		attendance at lectures / exercises			2,5+2,5	5%
		Colloquium I and II			15+20	35%

	Seminar paper	30	30%
	final exam (oral / written)	30	30%
	Total	100	100 %
Web page	http://www.maf.ues.rs.ba/PDF_za_sajt/Elaborat%20%20ciklus%20Masinski%20fakultet%20IS%20KONA%20CAN.pdf (in Serbian language)		
Date of certification			