	UNEVERSITY OF EAST SARAJEVO Faculty of Mechanical Engineering ***Study program: Mechanical Engineering/ Engineering design and applications mechanics*** 2ST LEVEL OF STUDIES | 1ST YEAR	

Course title	**LIGHTWEIGHT DESIGN**
Department	Department of Mechanical constructions and Engineering Design

Code	**Course status**	**Semester**	**ECTS**
-	Mandatory	I	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	Introducing students to the properties and types of lightweight structures, improvements that can be achieved by using strategies and applying lightweight design in practice. Enabling students to understand the possibilities of applying the design of light structures, as well as ways to reduce the weight of the structure, not only by choosing adequate materials, but also by knowing the rules in the design of such structures. At the end of this course, students are trained to understand modern methods in construction, with an emphasis on understanding the basic principles and rules of application of light design in construction.
Conditionality	No conditioning
Teaching methods	Lectures, exercises, graphic exercises, computer exercises, colloquiums
Content of the course by weeks	*Theoretical classes* Modern methods in construction. The role and importance of lightweight design in product development. The concept and definition of LW (lightweight) design, ie. lightweight design. Motives and goals of light construction design application. Areas of application and trends in application. Lightweight construction design strategies. Selection of adequate materials in the design of lightweight structures. Characteristics of materials used in light constructions. Development of lightweight structures. *Practical classes* - creation, calculation and simulations in the design of light constructions, on concrete examples. Auditory exercises, group and individual consultations. (Areas the same as for lectures)

Required literature

Authors	**Name of the publication, publisher**	**Year**	**Pages**
			-

Additional literature

Authors	**Name of the publication, publisher**	**Year**	**Pages**
			-

	Type of student evaluation	**Points**	**Percentage**
Obligations, forms of knowledge check and assessment			
	attendance at lectures / exercises	5+5	10%
	Colloquium I and II	20+20	40%
	Practical works	20	20%
	final exam (oral / written)	30	30%
	Total	100	100 %

Web page	http://www.maf.ues.rs.ba/PDF_za_sajt/Elaborat%202%20ciklus%20Masinski%20fakultet%20IS%20KONACAN.pdf (in Serbian language)
Date of certification	