

## Subject Title: Light weight Constructions

Course Basic Information			
Academic Unit:	Faculty of Civil Engineering		
Course Name:	Light weight Construction		
Level:	MSc		
Course Status:	Elective		
Year of Study:	1 <sup>st</sup> year, II- semester		
Number of Hours per Week:	2+1		
ECTS Credits:	3 ECTS		
Time /Venue:	According to timetable		
Course Teacher:	Prof.Asoc. Cene Krasniqi		
	Mr.sci Ali Sh Muriqi		
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Course Description			
	<p>The course "Light weight metallic constructions" includes:            In general lecture hours handle with themes of 'Light weight constructions' with a specific focus on specifications of design, calculation and exploitation.            The exercises part deals with the design of a given structure, light weight construction for roof and mid floor, proposal of several variants for execution, constructive systems, roof or mid floor light weight constructions with dead loads and life loads, and a technical description with argumentation of the chosen variant, drawing of the disposition.            Statical calculation and dimensions design of the chosen construction, calculation of joints and drawing of constructive details. Drafting the plan for the preparation in the plant, the mode of transport and the plan of assembly, testing of the facility, monitoring and maintenance.</p>		
Course Objectives:	Object of study: mainly to apply knowledge from lecture and exercise parts for designing (main design draw up) buildings for roof with typical forms and system presented during the lecture.		
Learning Outcomes:	<p>At the end of this course, the student should be able to:</p> <ol style="list-style-type: none"> <li>1. Depending on the needs, to have skills as a beginner to participate actively and in groups for the project.</li> <li>2. To know and be able to determine the shape and dimensions of the construction system.</li> <li>3. To be able to choose the appropriate construction system according to the span (space) and what it is intended</li> <li>4. For the data mentioned above, to perform static calculations and sizing with the details necessary for execution.</li> </ol>		
Student Workload (Consistent with the Learning Outcomes)			
Activity	Hours	Day/ Week	Total

Lectures	2	15	30
Theory/ Lab Work	1	15	15
Practical Work			
Contact Hours with Teacher /Consultations during Office Hours	2	5	10
Field Work			
Colloquium, Seminars	1	4	4
Homework	1	6	6
Self-study Time (in the Library or at Home)	2	2	4
Final Exam Preparation	1	4	4
Evaluations (Tests, Quiz, Final exam)	1	2	2
Projects, Presentations, etc.			
<b>Total</b>			<b>75</b>
<b>Teaching Methodology:</b>	<i>Lecture, a design project for each student, discussions in group and individual for students projects</i>		
<b>Evaluation Methods:</b>	<p><i>for evaluation should be taken into account: percentage of participation, parcial/intermediar estimation for final estimation.</i></p> <p>One of estimation method is as follows: <b>frequent presence:</b> <b>10%</b>  <b>participation in site visit</b> <b>5%</b>  <b>seminar work</b> <b>15%</b>  <b>Final exam</b> <b>70%</b>  <b>Total</b> <b>100%</b></p>		
<b>Basic Literature:</b>	<ol style="list-style-type: none"> <li>1. A.Vokshi-- Disertacioni i doktoratures</li> <li>2. Bungale S. Taranath-Steel, concrete &amp; composite design of tall buildings 1998</li> <li>3. V.Georgievski- Lake metalne konstrukcije,</li> <li>4. A.Filipovski- Aluminiumski konstrukcii vo gradezhnitvoto,2012</li> </ol>		
<b>Additional Literature:</b>	<p>Eurocodes 9: Design of aluminium structures, 2004</p> <p>Eurocodes 3, design of steel construction, 2004</p> <p>Makelainen &amp; P.Hassinen "Light - Weight steel and aluminium structures, ICSAS '99</p>		

<b>Course Plan:</b>	
<b>Week</b>	<b>Title of the Lecture</b>
<i>Week 1:</i>	Structure of the construction
<i>Week 2:</i>	Situation in the use of spatial systems
<i>Week 3:</i>	Forms of spatial systems
<i>Week 4:</i>	Types, characteristics of spatial systems in use
<i>Week 5:</i>	Types of joints
<i>Week 6:</i>	Rough static calculation
<i>Week 7:</i>	Constant strength and strain on traction
<i>Week 8:</i>	Constant difference in the intensity of forces on the diagonal
<i>Week 9:</i>	Methods for static structure calculation
<i>Week 10:</i>	Degree of static non Definity
<i>Week 11:</i>	Natural distribution of forces on the filling bars.
<i>Week 12:</i>	The phenomenon of the deformable system
<i>Week 13:</i>	The effect of system symmetry
<i>Week 14:</i>	Redistribution of impacts before loss of stability
<i>Week 15:</i>	Possibilities of construction and assembly of spatial beams

**Academic Policies and Rules of Civility:**

professor quote criterium of presence to lecture and exercice, in particular participation and cooperation during exercice and discipline rules; silence during lesson, turn off cellular, entrance in class in time,...etc.)