

Course Name: DESIGN AND CONSTRUCTION OF STEEL STRUCTURES				
Course Code	Course Status	Semester	ECTS Credits	Number of classes
	Compulsory	I	5	2P+1V+1L
Study programmes: Postgraduate master academic studies - study programme Civil Engineering - Structures; 4 semesters / 120 ECTS credits.				
Conditioned by other courses: No prerequisites, except courses Steel Structures I & II from undergraduate studies.				
Aims of the course: Getting knowledge in steel structures design and construction.				
Learning outcomes: After passing this exam, student will be able to: 1. Know basic structural systems in steel structures and apply them rationally in appropriate domains. 2. Elaborate conceptual design – arrangement of structural elements – of steel industrial halls and steel buildings. 3. Design basic structural elements of steel industrial halls and steel buildings.				
Teacher and assistant: Assoc.Prof. Duško Lučić, Dr-Ing. – teacher Mladen Muhadinović, MSc; Petar Subotić, MSc – assistants				
Methods of teaching and learning: Lectures, exercises, laboratory exercises, consultations, semester project.				
Course content:				
I teaching week	Introduction. Use of steel structures. General rules of structural design. Structural elements of industrial hall.			
II teaching week	Arrangement of structural elements in industrial hall, considering techno-technological requirements. General rules of industrial hall design. Approximate dimensions of structural elements. .			
III teaching week	Loads – permanent and imposed loads.			
IV teaching week	Loads – snow, temperature, crane loads.			
V teaching week	Loads – wind loads.			
VI teaching week	Roof and wall cladding. Stressed-skin method. Purlins.			
VII teaching week	Design of frame girders.			
VIII teaching week	Design of lattice girders.			
IX teaching week	Design of lattice girders.			
X teaching week	General rules of multistorey buildings design.			
XI teaching week	Design of multistorey frames of large dimensions.			
XII teaching week	Basic elements of quality standards in steel structures construction (RL, CC, DSL, IL, EXC). Assembly of structures.			
XIII teaching week	In situ teaching – excursion to the construction site.			
XIV teaching week	Semester project presentation and defence.			
XV teaching week	Semester wrap-up and final preparation for the examination.			
Student's obligations: Attending of lectures and exercises, elaboration of semester project.				
STUDENTS LOAD				
<u>Per week</u>	<u>In semester</u>			
5 credits x 40/30 = <u>6.67 hours</u> Structure: 2 hours lectures 2 hours exercises 2.67 hours individual work, including consultations	Teaching and final exam: (6.67 hours) x 16 = <u>106.67 hours</u> Necessary preparations before semester (administration, enrolment etc) 2 x (6.67 hours) = <u>13.33 hours</u> Total load for the course: <u>5x30 =150 hours</u> Additional work for exam preparation in the additional exam session, including passing of correctional exam <u>between 0 and 30 hours</u> (remaining time from the previous issues to the final load for the course of 150 hours) Load structure: 106.67 hours (teaching) + 13.33 hours (preparation) + 30 hours (additional work)			
Literature:				
<ol style="list-style-type: none"> 1. Steel buildings in europe, Single-Storey Steel Buildings, Part 1 - 11, European project "Facilitating the market development for sections in industrial halls and low rise buildings (SECHALO) RFS2-CT-2008-0030", Internet publication. 2. Steel buildings in europe, Multi-Storey Steel Buildings, Part 1 - 10, European project "Facilitating the market development for sections in industrial halls and low rise buildings (SECHALO) RFS2-CT-2008-0030", Internet publication. 3. B. Zarić, B. Stipanić, D. Buđevac: Čelične konstrukcije u građevinarstvu, Građevinska knjiga, Beograd, 1989. 4. D. Buđevac: Čelične konstrukcije u zgradarstvu, Građevinska knjiga, Beograd, 1992. 5. M. Debeljković: Čelične konstrukcije u industrijskim objektima, Građevinska knjiga, Beograd, 1995. 6. MEST EN 1990, MEST EN 1991, MEST EN 1993. 				
Examining system and grading:				
Maximum number of points in semester: 100. The structure of examination and points is as follows:				
<ul style="list-style-type: none"> - semester project: up to 30 points; - tests: up to 10 points; - final exam: up to 60 points. 				
Defence of semester project is in oral form. Tests and final exam are in written form. Following grading system is applied: A for ≥ 90 points, B for $80 \leq \text{points} < 90$, C for $70 \leq \text{points} < 80$, D for $60 \leq \text{points} < 70$, E for $50 \leq \text{points} < 60$, F for < 50 points. Positive grade is obtained for min 50 points. F = failed.				
Special notes for the course:				
Data prepared by teacher: Prof. Duško Lučić, Dr-Ing.				
Note: Additional information on course may be obtained from course teacher, assistant, head of the study programme and vice-dean for teaching.				