

	Course Name:	Steel Structures II		
Course code	Item Status	Semester	Number of ECTS credits	Number of lessons (weekly)
PL11ČK2	Required	VIII	6	2P+2V

Study programs for which it is organized: Faculty of Polytechnics, postgraduate level	
Subject to other subjects: None.	
Steel Structures I deals with the bases necessary for the knowledge of the basic settings of the modern way of design, taking into account the fundamental principles of higher education and further professional development in practice. The first principle is that students of specialist studies find modern bases for the design of steel structures as a highly creative activity. The second principle, which is also included, is the presentation of certain problems related to designers in practice in a way that enables their further professional development.	
Learning objectives : Acquiring basic knowledge of the design of steel structures.	
Learning Outcomes: Students who successfully complete this course will be able to:	
1. Analyzes and sizes complex elements of steel structures, including sheet metal girders and truss systems, using modern calculation methods;	
2. Designs joints and extensions of steel structures using mechanical and welded connections in accordance with applicable standards;	
3. Applies the principles of stability, bearing capacity and interaction of actions in the design of steel elements and systems.	
Name and Surname of Teacher and Associate: Assoc. Prof. dr. Dragomir Miljanic	
Method of teaching and mastering the material: lectures, exercises, seminar work.	
WORK PLAN	
Sunday:	Name of methodological units for lectures (P), exercises (V) and other teaching content (O); Planned form of examination (Pz)
Preparatory Sunday	Introduction, preparation and enrollment of the semester.
And Sunday	P/V Introduction to the subject. Design of full sheet metal supports - the first part. Introduction. Shear lag. Squeezing out of normal voltages. Load capacity check. Effective characteristics in elements without longitudinal stiffeners.
II	P/V Design of full sheet metal supports - the second part. Effective characteristics in elements with longitudinal stiffeners.
III	P/V Checking the load capacity of a solid sheet metal carrier.
IV	P/V Design of solid sheet metal supports - the third part. Squeezing out of the shear. Budget load capacity on shear protrusion. The contribution of the ribs. Contribution of legs. Carrying capacity on the fact of transverse forces. Interaction of facts.
V	P/V Checking the load capacity of a solid sheet metal bracket - continued.
VI	P/V Checking the load capacity of a solid sheet metal bracket - continued.
VII	P/V Budget bearing capacity of the truss elements.
VIII	P/V Budget bearing capacity of the truss elements.
IX	P/V Design of connections and extensions with mechanical fasteners.
X	P/V Design of connections and extensions with welded joints.
XI	P/V Basic principles of hall design, Transport within the hall
XII	P/V Main Pillars, Main Girders, Multi-Gird Hall Main Girder System, Roof Girder, Rafters, Lattice Girders, Horn Connection for Main Girder
XIII	P/V Elements for the realization of hall stabilization, Couplings and stiffening, Crane tracks, Roof covering and façade cladding
XIV	P/V Preparation for the final exam
XV	P/V Preparation for the final exam
XVI	PCS Final exam.
XVII	Make-up exam period
Obligations of the student during classes: lectures, exercises, seminar work.	
Email Consultation: Yes	
Student workload	

<p>Sunday:</p> <p style="text-align: center;"><u>6 credits x 40/30 = 8 hours</u></p> <ul style="list-style-type: none"> - <u>2 hours of lectures</u> - <u>I'd like to see 2 hours</u> <p><u>4 hours of self-study, including consultations.</u></p>	<p>During the semester:</p> <p style="text-align: center;"><u>Total load for the case 6x30 = 180h</u></p> <p style="text-align: center;"><u>Structure:</u></p> <p style="text-align: center;"><u>Classes and final exam: 8 hours x 16 weeks = 128 hours</u></p> <p style="text-align: center;"><u>Necessary preparations before the start of the semester (administration, enrollment, certification): 8hx2=16h</u></p> <p><u>Supplementary work for preparation and passing the exam in the remedial period: 0-36h</u></p>
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Literature:

1. MEST EN 1993-1-1 — Eurocode 3 — Design of steel structures — Part 1-1: General rules and rules for buildings 2. MEST EN 1990 — Eurocode 0 — Basics of structural design 3. MEST EN 1993-1-10 — Eurocode 3 — Design of steel structures — Part 1-10: Toughness of materials and thickness properties 4. N. Trahair , M. Bradford, et al: The behavior and design of steel structures to EC3 (internet edition) 5. LS Da Silva, R. Simoes, H. Gervasio: Design of steel structures EC3: Part 1-1-General rules and rules for buildings 6. L. Gardner, D. Nethercot : Designers guide to Eurocode 3: Design of steel buildings (internet edition) 7. Z. Marković: Limit states of steel structures, Faculty of Civil Engineering, Belgrade, in 2014

Forms of assessment and assessment:

Seminar paper 50%, exam 50%.

<i>Rating</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
<i>Number of points</i>	<i>90-100</i>	<i>80-89</i>	<i>70-79</i>	<i>60-69</i>	<i>50-59</i>