

COURSE		STEEL STRUCTURES												
LECTURER		Prof. Esad Mešić Ph.D.												
STUDY	STATUS	SEMESTER	NUMBER OF LESSONS L+E	ECTS										
B - CE	Compulsory	5	2+2	6										
OBJECTIVES														
<ul style="list-style-type: none"> □ Introduction to steel as a construction material, its basic properties and possibilities of its application. The course content should enable students to master the principles, calculation methods, and design of steel elements and their connections. 														
LEARNING OUTCOMES														
<ul style="list-style-type: none"> □ Qualification for the design and dimensioning of steel structures. 														
COURSE CONTENT														
<ul style="list-style-type: none"> □ The technology of steelmaking. Steel material properties. Steel products. Design Concepts. Semi-probabilistic concept (EC3). Local buckling and section classification. Design of tension members. Design of restrained beams. Introduction to design of unrestrained beams (lateral-torsional buckling). Design of a compression members. Column design. M and N_c interaction. Connectors. Bolts and preloaded bolts. Welding. Splices and connections. Curves of joint deformability. Rotational stiffness classification of joints. Joint modelling (elastic analysis). Stiffness classification of joints. Strength classification of joints. Ductility classification of joints. Splices of axial members. Beam splices. Angle connections. Simple joints. Flexible end plate simple joint. Fin plate joint. Double angle cleat joint. Simple joint with seat cleat. Moment resisting joints – rigid and semi-rigid (full-strength or partial-strength). Moment resisting beam to beam connection with cover plate. Moment resisting end-plate connection. Completely welded connection. Connection with flange cleats. 														
RECOMMENDED LITERATURE														
<ol style="list-style-type: none"> 1. B.Androić;D.Dujmović;I.Džeba: ČELIČNE KONSTRUKCIJE 1; Zagreb; 2009. 2. Z.Marković:Granična stanja čeličnih konstrukcija prema Evrokodu; Beograd; 2014. 3. EN 1993-1-8:2005; EVROKOD 3; Proračun čeličnih konstrukcija: Deo 1-1; 1-3; 1-8. 														
Examination:														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 70%;">Preparation of an elaborate</td> <td style="width: 30%;">20 points</td> </tr> <tr> <td>I test</td> <td>15 points</td> </tr> <tr> <td>II test</td> <td>15 points</td> </tr> <tr> <td>Written exam</td> <td>25 points</td> </tr> <tr> <td>Oral exam</td> <td>25 points</td> </tr> </tbody> </table>					Preparation of an elaborate	20 points	I test	15 points	II test	15 points	Written exam	25 points	Oral exam	25 points
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<p>For the final part of the exam it is necessary to achieve at least 55% of the points on the elaborate and both tests.</p>														