

COURSE DESCRIPTION CARD

Faculty of Civil Engineering and Environmental Sciences										
Field of study								Degree level and programme type		
Specialization/ diploma path								Study profile	Academic profile	
Course name	Designing of steel structures according to Eurocode 3							Course code	IS-FCEE-00007W	
								Course type	Erasmus	
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	winter	
	30			30				No. of ECTS credits	6	
Entry requirements	Strength of materials, Structural mechanics, General construction									
Course objectives	The aim of education is to get the students theoretical knowledge of the design of Steel Structures according to Eurocode 3									
Course content	Characteristics of steel structures. Steel grades used in construction. Steel selection for constructions. Behaviour of steel under static, thermal and fatigue loads. Limit states of load capacity and structure serviceability. Protection against corrosion and fire. Steel products - rolled sections, cold rolled products, welded elements. Connections used in construction: welding, screws, rivets, fasteners for thin sheets. Requirements design, principles of load capacity assessment. Bending elements: rolled beams, plate girders. Shaping beam connections, design of supports and bearings. Local stability of elements. Tension elements. Compressed elements. Shaping the elements of the columns. Truss design.									
Teaching methods	problem lecture, case study, project preparation									
Assessment method	oral exam, project assessment									
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study		
L01	Student has knowledge regarding the steel structures							K_W05		
L02	Student knows the rules and procedures related to the design of steel structures							K_W13		
L03	Student is able to identify risks to the steel constructions and use effective tools to protect it							K_U08		
L04	Student can make use of appropriate tools and procedures relating to steel buildings							K_U12		
L05	Student is aware of the importance and understanding of the non-technical aspects and effects of engineering activities,							K_K02		

	including its impact on the civil engineering and the associated responsibility for decisions	
L06	Student is able to contribute to the preparation of building projects, taking into account resistance and serviceability of the building elements	K_K05
Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed
L01	oral exam, project assessment	L, P
L02	oral exam, project assessment	L, P
L03	project assessment	P
L04	project assessment	P
L05	project assessment	P
L06	project assessment	P
Student workload (in hours)		No. of hours
Calculation	lecture attendance	30
	participation in classes, laboratory classes, etc.	30
	preparation for classes	60
	participation in student-teacher sessions related to the classes	1
	preparation for and participation in exams	10
	TOTAL:	131
Quantitative indicators		HOURS
Student workload – activities that require direct teacher participation		60
Student workload – practical activities		101
Basic references	1. Trahair, N. S.; Bradford, M. A.; Nethercot, David; Gardner, Leroy Designers' Guide to Eurocode 3: Design of Steel Buildings Second edition 2. Eurocode 3: Design of steel structures - Part 1-1: General rules and rules for buildings 3. IS Eurocode 3: Design of steel structures - Part 1-8: Design of joints	
Supplementary references	Construction and building materials (Journal), ISSN: 0950-0618, Elsevier Publications.	
Organisational unit conducting the course	DEPARTMENT OF BUILDING STRUCTURES	Date of issuing the programme
Author of the programme	PhD. Eng. Miroslaw Broniewicz, Assoc. Professor	25.02.2020

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work,

S – seminar