COURSE DESCRIPTION CARD – SPECIMEN

<table>
<tr><td colspan="10">Faculty of Civil and Environmental Sciences</td></tr>
<tr><td>Field of study</td><td colspan="6">Civil Engineering</td><td>Degree level and programme type</td><td>Bachelor's degree</td></tr>
<tr><td>Specialization/ diploma path</td><td colspan="6">Building Structures</td><td>Study profile</td><td>Academic profile</td></tr>
<tr><td rowspan="2">Course name</td><td colspan="6" rowspan="2">Designing of steel structures according to Eurocode 3</td><td>Course code</td><td>IS-FCEE-00007W</td></tr>
<tr><td>Course type</td><td>Erasmus</td></tr>
<tr><td rowspan="2">Forms and number of hours of tuition</td><td>L</td><td>C</td><td>LC</td><td>P</td><td>SW</td><td>FW</td><td>S</td><td>Semester</td><td>winter</td></tr>
<tr><td>30</td><td></td><td></td><td>30</td><td></td><td></td><td></td><td>No. of ECTS credits</td><td>6</td></tr>
<tr><td>Entry requirements</td><td colspan="9">Strength of materials, Structural mechanics, General construction</td></tr>
<tr><td>Course objectives</td><td colspan="9">The aim of education is to get the students theoretical knowledge of the design of Steel Structures according to Eurocode 3</td></tr>
<tr><td>Course content</td><td colspan="9">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.</td></tr>
<tr><td>Teaching methods</td><td colspan="9">problem lecture, case study, project preparation</td></tr>
<tr><td>Assessment method</td><td colspan="9">oral exam, project assessment</td></tr>
<tr><td>Symbol of learning outcome</td><td colspan="8">Learning outcomes</td><td>Reference to the learning outcomes for the field of study</td></tr>
<tr><td>LO1</td><td colspan="8">Student has knowledge regarding the steel structures</td><td>K_W05</td></tr>
<tr><td>LO2</td><td colspan="8">Student knows the rules and procedures related to the design of steel structures</td><td>K_W13</td></tr>
<tr><td>LO3</td><td colspan="8">Student is able to identify risks to the steel constructions and use effective tools to protect it</td><td>K_U08</td></tr>
<tr><td>LO4</td><td colspan="8">Student can make use of appropriate tools and procedures relating to steel buildings</td><td>K_U12</td></tr>
<tr><td>LO5</td><td colspan="8">Student is aware of the importance and understanding of the non-technical aspects and effects of engineering activities,</td><td>K_K02</td></tr>
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	including its impact on the civil engineering and the associated responsibility for decisions	
LO6	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**
LO1	oral exam, project assessment	L, P
LO2	oral exam, project assessment	L, P
LO3	project assessment	P
LO4	project assessment	P
LO5	project assessment	P
LO6	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**	**No. of ECTS credits**
Student workload – activities that require direct teacher participation	60	2,4
Student workload – practical activities	101	4,0

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