COURSE DESCRIPTION CARD

<table>
<tr><td colspan="11">Faculty of Civil Engineering and Environmental Sciences</td></tr>
<tr><td colspan="3">Field of study</td><td colspan="5"></td><td colspan="2">Degree level and programme type</td><td></td></tr>
<tr><td colspan="3">Specialization/ diploma path</td><td colspan="5"></td><td colspan="2">Study profile</td><td>Academic profile</td></tr>
<tr><td colspan="3" rowspan="2">Course name</td><td colspan="5" rowspan="2">Basics of modelling in BIM technology</td><td colspan="2">Course code</td><td>IS-FCEE-00237W</td></tr>
<tr><td colspan="2">Course type</td><td>Erasmus</td></tr>
<tr><td colspan="3" 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></td><td></td><td></td><td></td><td>30</td><td></td><td></td><td>No. of ECTS credits</td><td>3</td></tr>
<tr><td colspan="3">Entry requirements</td><td colspan="8">Engineering Graphics 1, Information Technology - BIM fundamentals, Computer aided design, Principles of design</td></tr>
<tr><td colspan="3">Course objectives</td><td colspan="8">To introduce students to the basic principles of modeling architectural objects in BIM techniques. Teaching the use of BIM software in designing architecture. Introduction to BIM methods in modeling and architectural-conceptual design, including modeling and designing of architectural objects in virtual environment. Using BIM model in designing processes of architecture and urban planning.</td></tr>
<tr><td colspan="3">Course content</td><td colspan="8">Specialist workshop: architectural and conceptual design of a simple single-family building in BIM technology. Preparing project documentation in BIM technology. Modelling of architectural form in BIM environment. Developing projections, sections, elevations, architecture visualization. Use of 3d BIM model in architectural and urban planning conceptual design.</td></tr>
<tr><td colspan="3">Teaching methods</td><td colspan="8">Modelling an architectural object on a "case study" basis within a specialty workshop</td></tr>
<tr><td colspan="3">Assessment method</td><td colspan="8">Check reviews, check colloquia, final evaluation of the submitted project</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">The student is able to prepare concepts of spatial development plans for specific urban areas and interpret them for specific needs related to spatial management using BIM technology and standards</td><td>K_GP1_U11</td></tr>
<tr><td>LO2</td><td colspan="8">The student is able to read and prepare planning, urban planning, architectural, construction drawings with a high degree of accuracy in BIM technology</td><td>K_GP1_U04</td></tr>
<tr><td>LO3</td><td colspan="8">The student is able to design and select simple spatial forms in accordance with the principles of universal design in BIM technology in solving design problems</td><td>K_GP1_U15</td></tr>
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LO4	The student is ready to critically evaluate his knowledge of BIM methods in design and received content in spatial planning used in solving cognitive and practical problems in spatial management	K_GP1_K02
Symbol of learning outcome	**Methods of assessing the learning outcomes**	**Type of tuition during which the outcome is assessed**
LO1	Project work review grade, final project grade, design clause grades	SW
LO2	Project work review grade, final project grade, design clause grades	SW
LO3	Project work review grade, final project grade, design clause grades	SW
LO4	Project work review grade, final project grade, design clause grades	SW
Student workload (in hours)		**No. of hours**
Calculation	Participation in the specialist workshop	30
	Preparation for the specialist workshop, homework	40
	Participation in consultations	5
	TOTAL:	**75**

Quantitative indicators	**HOURS**	**No. of ECTS credits**
Student workload – activities that require direct teacher participation	35	1,4
Student workload – practical activities	75	3

Basic references	1. Brad Hardin B., McCool D.,BIM and construction management : proven tools, methods, and workflows, Indianapolis : John Wiley a. Sons, 2015 2. Ślęk R.,ArchiCAD : wprowadzenie do projektowania BIM [Building Information Modeling], Gliwice : Helion, 2013 3. Harty J., Kouider T., Paterson G.,Getting to grips with BIM [Building Information Modelling] : a guide for small and medium-sized architecture, engineering and construction firms, London ; New York : Routledge/Taylor a. Francis Group, 2016
Supplementary references	1. Kasznia D., Magiera J., Wierzowiecki P., BIM w praktyce : standardy, wdrożenie, case study, Warszawa : Wydaw. Naukowe PWN, 2017 2. Tomana M., BIM: innowacyjna technologia w budownictwie : podstawy, standardy, narzędzia, Kraków : PWB Media, 2016

Organisational unit conducting the course	**Department of Building Structures**	**Date of issuing the programme**
Author of the programme	**dr inż. arch. Sławomir Wojtkiewicz, mgr inż. arch. kraj. Kamil Rawski**	**11.02.2019**

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

S – seminar