

## COURSE DESCRIPTION CARD – SPECIMEN

Faculty of Civil Engineering and Environmental Sciences										
Field of study	Spatial management							Degree level and programme type	Bachelor's degree	
Specialization/ diploma path	Common object							Study profile	General-academic	
Course name	3D visualizations – spatial analysis BIM							Course code	GP1S51042	
								Course type	obligatory	
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	5	
					30			No. of ECTS credits	2	
Entry requirements	Computer aided design. Engineering graphics									
Course objectives	Familiarizing students with methods of creating visualization and 3D graphics in a digital computer environment. The course will use software that allows students to create advanced, photorealistic visualizations and three-dimensional scenes on their own. Preparation to conduct scientific research.									
Course content	The importance and capabilities of computer aided creation of three-dimensional visualizations. Familiarization with the basic tools of graphics software to create three-dimensional graphics. Working on layers. Tools and their properties. Techniques of editing objects and methods of preparing materials and textures. Rendering. Introduction to animation. The importance of visualization in scientific research.									
Teaching methods	subject exercises									
Assessment method	Prepare and pass a specialization workshop report									
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study		
LO1	knows issues in the field of computer science, in particular information technology and selected computer programs that support the process of creating 3D models							K_GP1_W02		
LO2	knows graphical techniques to support the presentation of 3d modeling results							K_GP1_W05		
LO3	is able to read and prepare planning, urban planning, architectural, construction and geodesic drawings and present them as a 3d model							K_GP1_U05		

<b>LO4</b>	Is prepared to recognise the importance of 3d modelling knowledge in solving civil engineering problems and to seek expert advice when struggling to solve a problem independently	K_GP1_K03	
<b>Symbol of learning outcome</b>	<b>Methods of assessing the learning outcomes</b>	<b>Type of tuition during which the outcome is assessed</b>	
<b>LO1</b>	Prepare and pass a specialization workshop report	SW	
<b>LO2</b>	Prepare and pass a specialization workshop report	SW	
<b>LO3</b>	Prepare and pass a specialization workshop report	SW	
<b>LO4</b>	Prepare and pass a specialization workshop report	SW	
<b>Student workload (in hours)</b>		<b>No. of hours</b>	
<b>Calculation</b>	Participation in a specialty lab	30	
	Preparation for specialty lab	15	
	Participation in consultations	5	
		<b>TOTAL:</b>	<b>50</b>
<b>Quantitative indicators</b>		<b>HOURS</b>	<b>No. of ECTS credits</b>
<b>Student workload – activities that require direct teacher participation</b>			
<b>Student workload – practical activities</b>			
<b>Basic references</b>	1. Tomaszewska A.: <i>Google SketchUp. Ćwiczenia praktyczne</i> . Helion, Gliwice 2009. 2. Pasek J.: <i>Modelowanie wnętrz 3D z wykorzystaniem bezpłatnych narzędzi</i> . Helion 2011.		
<b>Supplementary references</b>	1. Kacprzyk Z., Pawłowska B.: <i>Komputerowe wspomaganie projektowania. Podstawy i przykłady</i> . Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2012. 2. Foley J.D. i in.: <i>Wprowadzenie do grafiki komputerowej</i> . Wydawnictwo Naukowo-Techniczne, Warszawa 2001.		
<b>Organisational unit conducting the course</b>	Department of Energy Conservation Construction and Geodesy	<b>Date of issuing the programme</b>	
<b>Author of the programme</b>	dr inż. Łukasz Kolendo	07.02.2019	

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

S – seminar

