



Subject card

Subject name and code	CAD. Integrated Architectural Design, PG_00055703						
Field of study	Architecture						
Date of commencement of studies	October 2021		Academic year of realisation of subject			2022/2023	
Education level	first-cycle studies		Subject group			Optional subject group Subject group related to scientific research in the field of study	
Mode of study	Full-time studies		Mode of delivery			blended-learning	
Year of study	2		Language of instruction			Polish	
Semester of study	3		ECTS credits			2.0	
Learning profile	general academic profile		Assessment form			assessment	
Conducting unit	Department Of Urban Architecture And Waterscapes -> Faculty Of Architecture -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. arch. Robert Juchnevič				
	Teachers		dr inż. arch. Robert Juchnevič dr inż. arch. Jarosław Bąkowski dr hab. inż. arch. Maria Helenowska-Peschke mgr inż. arch. Kacper Radziszewski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	0.0	0.0	30
	E-learning hours included: 15.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		2.0		18.0	50
Subject objectives	During the course, students will learn about: the concept of integrated design and the use of modern digital tools in an integrated design process. During the course, students will prepare architectural project that can be reused in: environmental analyzes, traditional architectural design documentation and architectural visualization.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K6_U02] is able to design an architectural object or a simple urban complex that meets the aesthetic and technical requirements		The student understands the advantages of using the concept of integrated design. Student is able to create an integrated model of a single-family building. Student is able to reuse an integrated model through entire design process.			[SU1] Assessment of task fulfilment	
	[K6_U03] is able to prepare a graphic, written and oral presentation of your own design concepts in the field of architecture and urban planning, meeting the requirements of a professional record appropriate for architectural and urban design		The student is able to define the key features of the concept of integrated design. Student is able to choose proper tools to implement this concept.			[SU4] Assessment of ability to use methods and tools	

Subject contents	The classes will use the Autodesk Revit in the concept of integrated design. Discussion about the concept of integrated design and digital tools dedicated to it. Overview of the IFC standardized format. Overview of Autodesk Revit and workflow methods. Development of a model of a simple sample building. Overview of graphic properties of component objects. Preparing projections, elevations, cross-sections, site plan. Overview of the basics of creating families. Development of simple parametric family. Introduction to rendering techniques in Revit and external rendering engines (Enscape,Vray, Lumion). Discussion of the possibility of publishing the project to archiving formats. Discussion of the possibility of conducting environmental analyzes based on the modelnormalized. Creating an integrated model of your own design. Development of comprehensive documentation of the conceptual design.		
Prerequisites and co-requisites	Basic skills of any CAD drawing program. Basic skills of any 3d modeling program. Basic skills of any raster graphics editing program. Ability to use the PG eLearning platform.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		40.0%	70.0%
		40.0%	30.0%
Recommended reading	Basic literature	Books: Eastman C.M., BIM handbook : a guide to building information modeling for owners, managers, designers, engineers, and contractors, Wiley 2008. Webpages: https://www.autodesk.com/autodesk-university https://www.youtube.com/channel/UC0y73dD7p4gjV2x9etleL4w https://www.chaosgroup.com/vray/revit/tutorial-videos	
	Supplementary literature	Books: A. Tedeschi, AAD, Algorithms-aided design: parametric strategies using Grasshopper, 2014.	
	eResources addresses	Adresy na platformie eNauczanie: SAOZ-2022-2023 Projektowanie zintegrowane 3 - Moodle ID: 25856 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=25856	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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