GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	CAD. Integrated Architectural Design, PG_00055703		
Field of study	Architecture		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2023/2024
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	at the university
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		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. arch. Robert Juchnevič	
	Teachers	dr hab. inż. arch. Maria Helenowska-Peschke dr inż. arch. Jarosław Bąkowski Artur Dubis mgr inż. arch. Kacper Radziszewski dr inż. arch. Robert Juchnevič	

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: 0.0						

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_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
[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

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%	30.0%
	40.0%	70.0%

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/UC0y73dD7p4gjV2x9etIeL4w 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-2023-2024 Projektowanie zintegrowane 3 - Moodle ID: 32530 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32530 SAOZ-2023-2024 Projektowanie zintegrowane 3 - Moodle ID: 32530 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32530 SAOZ-2023-2024 Projektowanie zintegrowane 3 - Moodle ID: 32530 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32530

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable