Subject card

Subject name and code	CAD. Integrated Architectural Design, PG_00060340					
Field of study	Architecture					
Date of commencement of studies	October 2023		Academic year of realisation of subject		2023/2024	
Education level	second-cycle studies		Subject group		Obligatory subject group in the field of study	
					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	1		Language of instruction		English	
Semester of study	1		ECTS credits		3.0	
Learning profile	general academic profile		Assessment form		assessment	
Conducting unit	Department of Visual Techniques -> Faculty of Architecture					
Name and surname of lecturer (lecturers)	Subject supervisor		mgr inż. arch. Dariusz Cyparski			
	Teachers		mgr inż. arch. Dariusz Cyparski			

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	45.0	0.0	0.0	45
	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	45	5.0	25.0	75

Subject objectives	The aim is to build the students' knowledge about the possibilities of using of Building Information Modelling (BIM) and communication techniques in spatial planning practice, to develop basic skills in the area of digital visualization of the built environment and in preparing graphic presentations using AutoDesk REVIT computer software. It incorporates the features, commands, and techniques for creating BIM models, importing, exchanging parametric data, editing and printing.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_K07] is aware of the challenges, opportunities and demands related to the application of the digital technologies in urban planning and architectural design	is aware of the challenges, opportunities and requirements related to the use of digital technologies in urban planning and architectural design	[SK5] Assessment of ability to solve problems that arise in practice
	[K7_K06] is ready to respond to the current digital culture and the growing role of virtual reality and gamification in the field of the management of the urban environment, designing architectural objects, and the protection of cultural heritage	is ready to respond to contemporary digital culture and the growing role of virtual reality and gamification in the area of urban environment management, design of architectural facilities and protection of cultural heritage	[SK5] Assessment of ability to solve problems that arise in practice
	[K7_U06] is able to apply the practical and professional skills necessary for the process of designing, managing and curating the digital urban, architectural and heritage content and to produce high level digital presentation based on different media	is able to apply practical and professional skills necessary in the process of designing, managing and caring for digital urban, architectural and heritage content and to create high-level digital presentations based on various media	[SU3] Assessment of ability to use knowledge gained from the subject
	[K7_W07] has knowledge of the complexity of digital context of architectural design and visual representation of urban, architectural and cultural heritage objects	has knowledge of the complex digital context of architectural design and the visual representation of urban, architectural and cultural heritage objects	[SW3] Assessment of knowledge contained in written work and projects

Subject contents	Describe BIM (Building Information Modelling) in Revit Architecture.Bi-directional associativity and parametric relationships.Understand the Revit User Interface.Start projects using Revit templates, view and navigate a Revit model.Set up and modify interactive construction grids.Create an interactive levels and floor plans, use editing tools.Link a CAD file to REVIT and maintain a connection between the file and the model.Work with component families and parametric objects.Use dimensions and constraints.Create a shape of the building using tools such as: Mass & Form, Connect Forms.Create building elements from Mass Instances.Create floors, add roofs and curtain walls, and work with building model.Place Mullions on a curtain grid system.Create Multi-story Stairs and Shaft Openings.Create a Section View.Control object visibility in elevations, section and 3D views.Work with drawing sheets and titleblocks.Generate a single sheet file that contains multiple views.Save for an online viewing, save to PDF (Portable Document Format).
Prerequisites and co-requisites	Basic knowledge of CAD software and/or 3D modeling techniques in any software.

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		60.0%	100.0%

Recommended reading	Basic literature	User manuals available from the help menu of the program and user online manuals on: www.autodesk.com
	Supplementary literature	Mastering Autodesk Revit 2020. Robert Yori, Marcus Kim, Lance Kirby
		Revit 2020 for Architecture. Wing, Eric
		Revit® 2020 for Architecture: No Experience Required by John Wiley & Sons
	eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	• Link a CAD file to REVIT project, adjust the scale, maintain a connection between the file and the model, • Set up interactive construction grids and levels, • Draw and build 3D forms using AutoCAD Reference Lines, • Join multiple forms into One Solid Geometry (Mass) and generate Mass Floors, • Build Elements from Mass Instances such us Curtain Grid System, Floors, Roofs.
Work placement	Not applicable