



Subject card

Subject name and code	, PG_00059118						
Field of study	Podstawy BIM (Building Information Modeling)						
Date of commencement of studies	October 2022		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study		
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	4		Language of instruction		Polish		
Semester of study	7		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Mechanics of Materials and Structures -> Faculty of Civil and Environmental Engineering -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Dawid Bruski				
	Teachers		Jakub Zembruski dr inż. Bartosz Sobczyk dr inż. Dawid Bruski				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	5.0	0.0	15
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/2025/course/view.php?id=1415						
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	15		1.0		34.0	50
Subject objectives	To provide foundational knowledge of Building Information Modeling (BIM) technology, applicable to future professional practice. To teach the basics of creating simplified BIM models of buildings. To develop skills in creating, modifying, and processing BIM model data for conducting basic analyses, generating schedules, floor plans, visualizations, and animations.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U06] knows and applies the basic provisions of construction law, water law and environmental law	Knows the basic legal and regulatory requirements for design documentation and understands the principles for preparing design documentation within a BIM environment.	[SU1] Ocena realizacji zadania
	[K6_U01] has the ability to self-education, can obtain information from literature, databases and other sources, uses information technology, Internet resources; can integrate the obtained information, make their interpretation, as well as draw conclusions and formulate and justify opinions	The student is capable of creating and modifying BIM models of objects, utilizing data from the models to generate reports, analyze them and interpret them. Can locate and integrate information resources (family libraries, standards), use scheduling and basic analysis tools, and import/export BIM model data. The student also understands the principles of interoperability between different software applications	[SU1] Ocena realizacji zadania [SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu [SU4] Ocena umiejętności korzystania z metod i narzędzi
	[K6_W08] has elementary knowledge of construction: including building materials, their strength, construction mechanics and building physics, moisture migration in buildings, heat transfer through building partitions	Knows the basic properties of building materials and their impact on a building's performance within a BIM model. Understands the role of structural elements (e.g., foundations, walls, columns, slabs, roofs) and can identify and describe them in a BIM model.	[SW1] Ocena wiedzy faktograficznej
Subject contents	Course content – lecture Wprowadzenie do programu Revit. Modelowanie domu jednorodzinnego (fundamenty, ściany, okna, drzwi, schody, stropy, dach). Zestawienia, oznaczenia i opisy, wymiarowanie oraz przygotowanie arkuszy rysunkowych. Modelowanie otoczenia, zestawienia materiałów i kosztorysowanie, wizualizacje projektu. Course content – project Introduction to Autodesk Revit. Modeling a single-family house (foundations, walls, windows, doors, stairs, slabs, roof). Schedules, tags and notes, dimensioning, and sheet setup. Site/terrain modeling; material takeoffs and cost estimation; suspended ceilings and reflected plans; project visualizations.		
Prerequisites and co-requisites	Knowledge of Computer Aided Design (CAD)		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	60.0%	100.0%
Recommended reading	Basic literature	1. Bednarczyk i inni, BIM Standard PL, Warszawa 2020 (dostępny w sieci Internet) 2. Kasznia D., Magiera J., Wierzowiecki P., BIM w praktyce, standardy, wdrożenia, case study, Wydawnictwo Naukowe PWN, Warszawa, 2017. 3. Anger A., Łaguna P., Zamara B., BIM dla managerów, Wydawnictwo Naukowe PWN, Warszawa, 2021. 4. Tomana A., Bim Innowacyjna Technologia w Budownictwie. Podstawy, standardy, narzędzia, Kraków 2015. 5. Autodesk - Revit, dokumentacja on-line, 6. Eastman, C., Teicholz, P., Sacks, R., & Liston, K. 2011. BIM handbook: A guide to building information modeling for owners, managers, designers, engineers and contractors. Indianapolis, IN: Wiley.	
	Supplementary literature	-	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Design of a small facility - BIM model, schedules, analyses, visualizations, and animations.		
Practical activities within the subject	Not applicable		

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