



Subject card

Subject name and code	BIM for Real Estate and Facility Management, PG_00069057						
Field of study	Geodesy and Cartography						
Date of commencement of studies	February 2026		Academic year of realisation of subject		2026/2027		
Education level	second-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Emilia Miszewska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	30.0	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		0.0		0.0	45
Subject objectives	The aim of the course BIM in Property Management is to introduce students to the use of Building Information Modeling technology for effective planning, monitoring, and maintenance of buildings during their operational lifecycle.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W05] has a well-established knowledge of analytical methods and surveying techniques necessary for creating and solving a variety of problems in geodesy and cartography		Has a well-established knowledge of Building Information Modeling methods and tools that enable the acquisition, analysis, and use of building data for effective property management throughout the entire building lifecycle.		[SW3] Assessment of knowledge contained in written work and projects		
	[K7_U06] creates solutions to complex and unstructured problems taking into account the variability of the environment by synthesising information from different sources, using analytical and simulation methods		Is able to develop solutions to complex and unstructured problems related to property management by synthesizing information from BIM models and other data sources, and by applying appropriate analytical and simulation methods.		[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools		

Subject contents	Course content – lecture		
	Lecture • Introduction to BIM technologies used in property management • Acquisition of data on existing buildings (e.g. 3D scanning) • Creation and updating of models reflecting the actual condition of a building • Use of BIM data in building operation and maintenance processes		
	Course content – laboratory		
	Laboratory • Working with data collected from building measurements • Basic processing of a point cloud • Creation of a simplified building model based on measurement data • Adding information required for property management and presenting it within the model		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	test	60.0%	50.0%
	project	60.0%	50.0%
Recommended reading	Basic literature	1. Anger, A., Łaguna, P., & Zamara, B. (2021). <i>BIM dla managerów</i>. Wydawnictwo Naukowe PWN. 2. Kasznia, D., Magiera, J., & Wierzowiecki, P. (2020). <i>BIM w praktyce. Standardy, wdrożenie, case study</i>. Wydawnictwo Naukowe PWN. 3. Roper, K. O., & Payant, R. P. (2014). <i>The facility management handbook</i> (4th ed.). AMACOM. 4. Teicholz, P. (Ed.). (2013). <i>BIM for facility managers</i>. John Wiley & Sons. 5. Eastman, C., Teicholz, P., Sacks, R., & Liston, K. (2018). <i>BIM handbook: A guide to building information modeling for owners, designers, engineers, contractors, and facility managers</i> (3rd ed.). John Wiley & Sons.	
	Supplementary literature	Normy: ISO 196501 Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) Concepts and principles. ISO 196503 Information management using building information modelling (BIM) Operational phase of the assets. ISO 167391 Industry Foundation Classes (IFC) for data sharing in the construction and facility management industries Part 1: Data schema.	
	eResources addresses		

Example issues/ example questions/ tasks being completed	Sample question: What are the main steps in preparing the setup for terrestrial laser scanning of a building, and why is each step important for the quality of the point cloud? Test based on knowledge from lectures and laboratory classes.
Practical activities within the subject	Not applicable

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