



Subject card

Subject name and code	, PG_00061958										
Field of study	Environmental Engineering										
Date of commencement of studies	October 2024	Academic year of realisation of subject		2025/2026							
Education level	second-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	2	Language of instruction		Polish							
Semester of study	4	ECTS credits		2.0							
Learning profile	general academic profile		Assessment form		assessment						
Conducting unit	Department of Sanitary Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology										
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Ewa Zaborowska								
	Teachers										
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM				
	Number of study hours	10.0	10.0	0.0	0.0	0.0	20				
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	20		3.0		29.0	52				
Subject objectives	The aim of the course is to acquaint with the methodology of energy assessment of buildings, optimization of energy demand and activiteis towards at improving the energy efficiency of buildings. Practical calculation exercises.										
Learning outcomes	Course outcome		Subject outcome			Method of verification					
	[K7_W11] has knowledge to analyze, evaluate and optimize processes, objects and systems of environmental engineering and knows the principles of rational energy management and resources		Has knowledge to make calculations, analyse, evaluate and optimize the energy performance of a building and knows the principles of rational energy management.			[SW3] Assessment of knowledge contained in written work and projects					
	K7_U12		Is able to analyze, in technical and economical terms, the solutions affecting energy performance of buildings			[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information					
	K7_U04		Is able to prepare and present a presentation on the implementation of the task and lead a discussion on the presentation			[SU5] Assessment of ability to present the results of task					
Subject contents	Course content – lecture Legal regulations and policies aimed at improving the energy efficiency of buildings, ways to improve the energy performance of buildings, energy performace certificate. Usable / final / primary energy, indicators, procedures, calculation methodology, sensitivity analysis, optimization. Practical aspects of the energy performance of buildings, other than technical conditions (CO2 emission, costs of energy). Implementation of the analysis of the energy performance of a building , study of the impact of selected building parameters and equipment on the results, presentation of results, discussion.										

Prerequisites and co-requisites					
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade		
	Tutorial	50.0%	60.0%		
	Test	50.0%	20.0%		
	Presentation and discussion	50.0%	20.0%		
Recommended reading	Basic literature	1. Acts and regulations regarding the energy performance of buildings. 2. Energy politics of Poland. 3. National energy and climate plan. 4. National plan to increase the number of buildings with low energy consumption. 5. Standards related to the topic, set in the regulations.			
	Supplementary literature	1. Related documents, legal regulations and standards. 2. Articles in scientific and technical journals. 3. Websites of manufacturers and enterprises associated with energy, heat and fuels.			
	eResources addresses				
Example issues/ example questions/ tasks being completed	Calculations of the energy performance of a building, variant analysis. Presentation in the scope of analysis and evaluation of results.				
Practical activites within the subject	Not applicable				

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