



## Subject card

Subject name and code	Physics of Building Structures II , PG_00044327						
Field of study	Civil Engineering						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2024/2025		
Education level	second-cycle studies	Subject group			Optional subject group		
Mode of study	Part-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 Building Structures and Material Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	mgr inż. Sławomir Dobrowolski					
	Teachers	mgr inż. Sławomir Dobrowolski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15	5.0		30.0		50
Subject objectives	Learning the principles of ensuring thermal and humidity comfort. Basics of designing almost zero-energy and passive buildings. Moisture related problems. Thermal and humidity diagnostics of buildings. Fundamentals of acoustics.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W09] knows advanced methods of building physics with applications in heat and moisture migration in buildings, energy demand for buildings and its acoustics	Understanding and mastering the processes of heat and mass transfer at an extended level. The influence of these processes on the level of energy efficiency of buildings. Getting to know the principles of thermal and humidity diagnostics of buildings. Understands the basic concepts of building acoustics.					
	[K7_W01] has knowledge of higher mathematics, physics and chemistry, which is a base of subjects, such as construction theory and advanced material technology	The ability to apply the basics of thermodynamics to the assessment of heat and mass transfer processes in buildings.					
	[K7_U12] can calculate and analyse the energy balance of a building	Ability to verify the energy balance of the building and mass flow calculations.					
Subject contents	Thermal and humidity comfort in buildings. General principles for the design, construction and commissioning of nearly zero-energy and passive buildings. Damp in buildings. Methods of analyzing the movement of moisture in buildings. Basic issues of building acoustics. Basics of thermal and humidity diagnostics of buildings.						
Prerequisites and co-requisites	Basic building physics course.						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Passing test	60.0%			100.0%		
Recommended reading	Basic literature	Each textbook containing a description of issues in the field of building physics as well as thermal and humidity diagnostics.					
	Supplementary literature	Each textbook containing a description of issues in the field of building physics as well as thermal and humidity diagnostics.					

	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	