GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Elective subject, PG_00054612		
Field of study	Spatial Development		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2021/2022
Education level	first-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	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Technical Fundamentals of Architecture Design -> Faculty of Architecture		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Andrzej Kulowski	
	Teachers	prof. dr hab. inż. Andrzej Kulowski	

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						
	Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=8587 Adresy na platformie eNauczanie:						

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	0.0	0.0	15

Subject objectives	
	Awareness of noise hazard in spatial planning issues Knowledge about the commitment of local authorities to consider noise protection when planning, including Poland's international obligations in this regard. Understanding the relationship between the extent of noise hazard to the site and the degradation of the site's function. Ability to determine the scope of studies on environmental hazards associated with noise and use them

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U05] correctly interprets natural phenomena, and when formulating and solving engineering tasks related to spatial management, notices their systemic and non-technical aspects related to the natural environment	Analyzes studies in the field of spatial management with the awareness of legal regulations regarding the threat to the environment by noise. Understands and is able to apply the regulations concerning acoustic protection of the environment. Understands the purposefulness of changes in the regulations on environmental acoustics in the context of development trends in the field of spatial planning and related disciplines. Is able to follow changes in the legal status regarding environmental acoustics.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
[K6_W04] has basic knowledge in the field of pro-ecological design and knows the principles of sustainable development of cities and regions; has knowledge of the natural foundations of spatial management and the impact of natural conditions on the processes of economic development on a local, regional and national scale	Analyzes studies in the field of spatial management with the awareness of legal regulations regarding the threat to the environment by noise. Understands and is able to apply the regulations concerning acoustic protection of the environment. Understands the purposefulness of changes in the regulations on environmental acoustics in the context of development trends in the field of spatial planning and related disciplines. Is able to follow changes in the legal status regarding environmental acoustics.	[SW1] Assessment of factual knowledge

Subject contents

1. Impact of noise and vibration on humans. 2. Subjective and objective assessment of noise and vibration. 3. Parameters of sound evaluation, sound spectrum, decibel. 4. European Union directives and harmonization of regulations in EU countries in the field of environmental protection against noise. 5. Legal status as regards the permissible level of noise and vibrations in the environment. 6. Noise propagation in open space. Transport, industrial and domestic noise. 7. Acoustic screens. 8. Noise of wind electro-farms. 9. Airplane noise, limited use area. 10. Parameters and standards of acoustic climate. Acoustic zones of cities. 11. Noise maps, the use of noise maps in planning activities. 12. Acoustics in planning documents - Environmental report, Project Information Card, Local Spatial Development Plan. 13. Noise protection program in the Tri-City. 14. Elements of building acoustics - building protection against external noise.

Prerequisites and co-requisites

Assessment methods and criteria

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

Recommended reading

Basic literature	Sadowski J., "Podstawy akustyki urbanistycznej". Arkady, Warszawa 1982 Sadowski J., "Akustyka architektoniczna". PWN, Warszawa 1976. Sadowski J., "Akustyka w urbanistyce, architekturze i budownictwie". Arkady, Warszawa 1971.
Supplementary literature	Ciesielski J., Kawecki J., Maciąg E., Ocena wpływu wibracji na budowle i ludzi w budynkach. Instytut Techniki Budowlanej, Warszawa 1993
eResources addresses	

Example issues/ example questions/ tasks being completed

Give an example of the scope of expertise regarding the assessment of environment acoustic hazards .

Explain the relationship between the degree of terrain noise hazard and the degradation of terrain functions.

List sample project studies on environmental acoustics.

Work placement

Not applicable