

## COURSE DESCRIPTION CARD

Faculty of Civil Engineering and Environmental Sciences									
Field of study								Degree level and programme type	
Specialization/ diploma path								Study profile	Academic profile
Course name	Noise pollution							Course code	IS-FCEE-00062W
								Course type	Erasmus
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	Semester	winter
	15				15			No. of ECTS credits	3
Entry requirements	Physics, General Chemistry, Mathematics								
Course objectives	Understanding the phenomena associated with sound propagation. Impact of acoustic systems and building materials on room acoustics. Measurements and calculations of basic quantities acoustic characterizing the environment and the room. Assessment of the building in terms of sound insulation of building partitions - the ability to make a building acoustic certificate.								
Course content	Basic concepts in physics covering phenomena related to the formation and propagation of acoustic waves. Wave equation. Acoustic field, reverberation time. Room acoustics. Recipes on noise protection in residential and public buildings. Sound absorbing materials and systems. Acoustic insulation of building partitions. Vibration isolation. Passive and active damping. Vibration and noise suppressors in environmental engineering installations.								
Teaching methods	informative lecture, specialist workshop								
Assessment method	lecture - two written tests, specialist workshop - project implementation and oral answer								
Symbol of learning outcome	Learning outcomes							Reference to the learning outcomes for the field of study	
LO1	The student knows the advanced topics in mathematics, physics, chemistry, biology, which are the basis of processes occurring in noise pollution.							IS1_W02	
LO2	The student knows the basic methods of physical and chemical analyzes, processes and phenomena occurring in the noise at an advanced level.							IS1_W02 IS1_W04	
LO3	The student is able to use scientific, popular-scientific and industry literature, subject standards, legal acts, online databases in both Polish and a foreign language; properly use the information obtained.							IS1_U14	

<b>L04</b>	The student is able to design, in accordance with the initial assumptions, noise protection systems adequate to the needs and possibilities, using appropriately selected technologies, methods, tools and materials.	IS1_U10	
<b>L05</b>	The student has the skills to consciously apply non-technical aspects of engineering activities and to take into account its impact on the environment, and the associated responsibility for decisions.	IS1_K06	
<b>Symbol of learning outcome</b>	<b>Methods of assessing the learning outcomes</b>	<b>Type of tuition during which the outcome is assessed</b>	
<b>L01</b>	written tests, project defense	L, SW	
<b>L02</b>	written tests, project defense	L, SW	
<b>L03</b>	project implementation	SW	
<b>L04</b>	project implementation	SW	
<b>L05</b>	project implementation and defense	SW	
<b>Student workload (in hours)</b>		<b>No. of hours</b>	
<b>Calculation</b>	participation in lectures	10	
	participation in a specialist workshop	10	
	preparation for a specialist workshop and implementation of project tasks	25	
	preparation for the lecture test	25	
	participation in consultations	5	
<b>Quantitative indicators</b>		<b>HOURS</b>	<b>No. of ECTS credits</b>
<b>Student workload – activities that require direct teacher participation</b>		25	1
<b>Student workload – practical activities</b>		65	2,5
<b>Basic references</b>	LinkCunniff, Patrick F. Tytuł LinkEnvironmental noise pollution / Patrick F. Cunniff. Wydano New York : Wiley J., 1977.		
<b>Supplementary references</b>			
<b>Organisational unit conducting the course</b>	Department of Technology in Environmental Engineering	<b>Date of issuing the programme</b>	
<b>Author of the programme</b>	Msc Eng Ewa Szatyłowicz	01.12.2019	

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work,

S – seminar

