



## Subject card

Subject name and code	Specialist lecture, PG_00060057						
Field of study	Environmental Engineering						
Date of commencement of studies	February 2024	Academic year of realisation of subject			2024/2025		
Education level	second-cycle studies	Subject group			Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Full-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 Sanitary Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Filip Gamoń					
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	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	30	0.0		25.0	55	
Subject objectives	The aim of the subject is to analyze legal norms related to the energy sector, mainly renewable energy sources. Discussing various renewable energy technologies and their impact on the environment. Discussing the possibilities of recovering resources from waste generated as a result of the exploitation of renewable energy technologies in the context of a closed-loop economy.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_K82] is equipped to participate actively in lectures, seminars and laboratory classes conducted in foreign language	The student has the English language skills to actively participate.			[SK2] Assessment of progress of work [SK4] Assessment of communication skills, including language correctness		
Subject contents	Detailed discussion of renewable energy sources, with particular emphasis on those that have potential for use in Poland. Discussion of legal norms concerning renewable energy. General overview of technologies and materials used in renewable energy. Detailed discussion of the possibilities of resource recovery from various renewable energy sources, along with the methods that can be applied for their recovery. Discussion of Poland's energy policy assumptions until 2040.						
Prerequisites and co-requisites	The student should have basic knowledge of the types of renewable energy sources and their potential utilization in the energy sector.						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
		60.0%			100.0%		
Recommended reading	Basic literature	Ryszard Tytko "Renewable energy devices and systems. XVI edition. ECO INVESTMENT SP Z O.O., 2023Nick Jelley "Short course. Renewable energy". PWN Scientific Publishers, 2022Izabela Filipiak, Władysław Mielczarski "Energetyka w okresie transformacji" Wydawnictwo Naukowe PWN, Kraków 2023Document Energy Policy of Poland 2040Scientific articles					

	Supplementary literature	-
	eResources addresses	Podstawowe <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37335">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37335</a> - Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	To introduce Students to renewable energy sources, the technology used to produce them and how to dispose of the materials. Special attention will be paid to the disposal of wind turbines, with a discussion of physical and chemical methods of their disposal. Current investments that are being carried out in Poland in the context of renewable energy sources will be discussed	
Work placement	Not applicable	

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