



Subject card

Subject name and code	ENVIRONMENTAL CHEMISTRY, PG_00059996						
Field of study	Environmental Engineering						
Date of commencement of studies	February 2024		Academic year of realisation of subject		2023/2024		
Education level	second-cycle studies		Subject group		Obligatory subject group in the field of study 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	1		Language of instruction		English		
Semester of study	1		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Environmental Engineering Technology -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Aneta Łuczkiwicz				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	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		5.0		20.0	55
Subject objectives	The aim of the course is to analyze the chemical processes that occur in water, air, terrestrial and living environments, and the effects of human activity on them. It includes topics such as: atmospheric chemistry, marine and inland water chemistry, environmental monitoring and modelling, pollution tracking, removal and remediation. An interdisciplinary approach, implemented during the lectures and tutorials, is particularly encouraging the students to advanced understanding of the linkages between chemistry and physical or biological processes.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U01] can obtain information from literature, databases and other sources; can integrate the obtained information, interpret and critically evaluate them, draw conclusions, and formulate and comprehensively justify the opinions		The ability to obtain information from literature, databases and other sources, to integrate the obtained information, interpret it and draw conclusions		[SU5] Assessment of ability to present the results of task [SU2] Assessment of ability to analyse information		
	K7_W03		Student is ready to monitor, realistically determine and mitigate the environmental risks connected with chemical processes		[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		
Subject contents	Lectures: Examples of the use of chemicals (in everyday life, in industry, agriculture) - advantages and disadvantages. Hazardous substances in the environment (air, soil, water, food contamination). Ecological and health threats. Micro-pollutants in the environment. Examples of toxic waste disposal, especially in terms of biodegradation. Selected aspects of bioeconomy.. Tutorials: to identify and formulate specifications for simple engineering tasks of a practical nature. The ability to make a critical analysis of the functioning and evaluation of existing technical solutions.						
Prerequisites and co-requisites	<i>Basic concepts of environmental chemistry</i>						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Lectures		60.0%		60.0%		
	Tutorials		60.0%		40.0%		

Recommended reading	Basic literature	Gary W. van Loon, Stephen J. Duffy , Environmental Chemistry: A global perspective, Oxford University, Oxford, 2005. https://www.pdfdrive.com/an-introduction-to-environmental-chemistry-e17374243.html
	Supplementary literature	nie dotyczy
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	