



## Subject card

Subject name and code	, PG_00048775						
Field of study	Green Technologies						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2023/2024		
Education level	first-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	4		Language of instruction		English		
Semester of study	7		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Marek Tobiszewski				
	Teachers		dr hab. inż. Marek Tobiszewski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	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		40.0	75
Subject objectives	The aim of the course is to familiarize the student with legal regulations and the monitoring system of various components of the environment.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W03] has a basic knowledge of soil, air and water pollutants, design and supervision of environmentally friendly technologies and technologies which do not produce waste, knows technology of cleaning and neutralization of industrial waste and wastewater management, has a basic understanding of the theoretical basis of methods and types of apparatus used in chemical analysis of environmental pollutants		Has knowledge of the use of standard procedures for the determination of environmental pollutants		[SW1] Assessment of factual knowledge		
	[K6_U04] capable of formulating and solving design tasks in the field of environmental technology to recognize their non-technical aspects, including environmental, economic and legal. Is capable of applying the principles of occupational health and safety. Is able to make initial assessment of engineering solutions and actions		Is able to design an environmental monitoring system to solve the assumed problem.		[SU2] Assessment of ability to analyse information		
Subject contents	1. introduction to environmental monitoring 2. sampling plans 3. Monitoring of the atmospheric air 4. Water monitoring 5. Monitoring the quality of the soil						
Prerequisites and co-requisites	Completed courses in analytical chemistry and environmental chemistry.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	50.0%	50.0%
	lecture	50.0%	50.0%
Recommended reading	Basic literature	Pobieranie próbek środowiskowych do analizy / Jacek Namieśnik, Jerzy Łukasik, Zygmunt Jamrógiewicz, 1995, Gdańsk	
	Supplementary literature	none	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	1. What is the role of environmental monitoring? 2. What is the principle of PM10 and PM2.5 determination? 3. Describe the structure and main tasks of State Environmental Monitoring.		
Work placement	Not applicable		