



## Subject card

Subject name and code	, PG_00048775						
Field of study	Green Technologies and Monitoring						
Date of commencement of studies	October 2019	Academic year of realisation of subject			2022/2023		
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 type and method 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_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		
	[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		
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		
	lecture		50.0%		50.0%		
	project		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	
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> <li>1. What is the role of environmental monitoring?</li> <li>2. What is the principle of PM10 and PM2.5 determination?</li> <li>3. Describe the structure and main tasks of State Environmental Monitoring.</li> </ol>	
Work placement	Not applicable	