



Subject card

Subject name and code	Biological methods for evaluation of environmental pollution, PG_00048558						
Field of study	Chemical Technology						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group			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	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Analytical Chemistry -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Błażej Kudłak					
	Teachers	dr hab. inż. Błażej Kudłak dr inż. Izabela Koss-Mikołajczyk dr inż. Paweł Filipkowski					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0 Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=4288						
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	2.0		43.0		75
Subject objectives	The aim of course is to present student the most current knowledge in the area of biomonitoring and bioanalytics of environmental pollutants and methods and their validation schemes in the field of applicability of widely understood biological system in risk and exposure assessment of living organisms and ecosystems.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_W12	student has knowledge on English nomenclature in the area of interest			[SW1] Assessment of factual knowledge		
	K6_K02	student understands results of chemical engineer's impact on environment and its responsibilities			[SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice		
	K6_W03	student is able to identify and describe utilisation of biological methods in assessing environmental pollution and its environmental burden			[SW1] Assessment of factual knowledge		
Subject contents	<ul style="list-style-type: none">- toxicology- bioassays- bioanalytics- biomonitoring- immunoanalytics- endocrine disrupting compounds- challenges and trends in development of bioanalytics- hygiene and workplace safety						
Prerequisites and co-requisites	<ul style="list-style-type: none">- knowledge from I level of studies- biochemical and toxicological knowledge						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	test and report after every laboratory	60.0%	40.0%
	written exam	60.0%	60.0%
Recommended reading	Basic literature	- will be delivered after every lecture by lecturer	
	Supplementary literature	-	
	eResources addresses	Adresy na platformie eNauczenie:	
Example issues/ example questions/ tasks being completed	Give definitions of: - bioassays, - acute/chronic toxicity, - bioremediation, - biotest/bioindicator - synergism/antagonism/additivity, - present measures of toxicity.		
Work placement	Not applicable		