



Subject card

Subject name and code	Monitoring and Analytics of Environmental Pollutants, PG_00065968						
Field of study	Green Technologies						
Date of commencement of studies	February 2027		Academic year of realisation of subject		2027/2028		
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		Polish		
Semester of study	2		ECTS credits		6.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Analytical Chemistry -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Marek Tobiszewski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	45.0	0.0	15.0	75
	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	75		10.0		65.0	150
Subject objectives	Gaining knowledge from monitoring and analytics of environment						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U06] conducts a critical analysis of the functioning of existing technical solutions in the field of environmental protection technology, and a preliminary economic analysis of the engineering activities undertaken		is able to select a standard procedure for a specific analytical problem		[SU4] Assessment of ability to use methods and tools		
	[K7_U02] selects analytical, simulation and experimental methods for research and analysis of environmental pollution using appropriately selected equipment and software		is able to use environmental standards, is able to select standard procedures to determine the compliance of the environmental condition with standards		[SU5] Assessment of ability to present the results of task		
	[K7_K03] understands non-technical aspects and effects of graduates' activities, including the impact on the environment		is able to perfrom synthesis of information and present selected topic from environmental analytics		[SK3] Assessment of ability to organize work		
	[K7_W03] identifies equipment used in environmental pollution analysis, industrial waste purification and neutralization technology, and water and sewage management, necessary for designing and supervising environmentally friendly technologies		Has knowledge on monitoring analytical devices		[SW1] Assessment of factual knowledge		

Subject contents	Course content – lecture Lecture: Aspects of environmental monitoring and analytics Labs: Working with analytical procedures Seimnar: Presentations of contents of scientific review papers		
Prerequisites and co-requisites	finished course on analytical chemistry		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	egzamin	60.0%	50.0%
	ocena prezentacji	60.0%	20.0%
	zaliczenia	60.0%	30.0%
Recommended reading	Basic literature	New horizons and challenges in environmental analysis and monitoring, praca zbiorowa pod red. J. Namieśnika, W. Chrzanowskiego, P. Szpinek, wydawca: Centrum Doskonałości Analityki i Monitoringu Środowiskowego (CEEAM), Wydział Chemiczny PG, Gdańsk 2003 Nowe horyzonty i wyzwania w analityce i monitoringu środowiskowym, praca zbiorowa pod red. J. Namieśnika, W. Chrzanowskiego, P. Szpinek, wydawca: Centrum Doskonałości Analityki i Monitoringu Środowiskowego (CEEAM), Wydział Chemiczny PG, Gdańsk 2003 Ocena i kontrola jakości wyników analitycznych, P. Konieczka, J. Namieśnik, B. Zygmunt, E. Bułska, A. Świtaj-Zawadka, A. Naganowska, E. Kremer, M. Rompa, wydawca: Centrum Doskonałości	
	Supplementary literature	New horizons and challenges in environmental analysis and monitoring, praca zbiorowa pod red. J. Namieśnika, W. Chrzanowskiego, P. Szpinek, wydawca: Centrum Doskonałości Analityki i Monitoringu Środowiskowego (CEEAM), Wydział Chemiczny PG, Gdańsk 2003 Nowe horyzonty i wyzwania w analityce i monitoringu środowiskowym, praca zbiorowa pod red. J. Namieśnika, W. Chrzanowskiego, P. Szpinek, wydawca: Centrum Doskonałości Analityki i Monitoringu Środowiskowego (CEEAM), Wydział Chemiczny PG, Gdańsk 2003 Ocena i kontrola jakości wyników analitycznych, P. Konieczka, J. Namieśnik, B. Zygmunt, E. Bułska, A. Świtaj-Zawadka, A. Naganowska, E. Kremer, M. Rompa, wydawca: Centrum Doskonałości Analityki i	
	eResources addresses		
Example issues/ example questions/ tasks being completed	WHat is peciation? Why extraction is performed? What is biomonitoring?		
Practical activites within the subject	Not applicable		

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