

Subject card

Subject name and code	Chemical and radiochemical environmental analysis, PG_00082497						
Field of study	Chemical Business						
Date of commencement of studies	February 2025		Academic year of realisation of subject			2025/2026	
Education level	Master's studies		Subject group			Obligatory subject group in the field of study Optional subject group	
Mode of study	full-time studies		Mode of delivery			at the university	
Year of study	2		Language of instruction			Polish Polish language	
Semester of study	3		ECTS credits			3.0	
Learning profile	academic		Assessment form			credit	
Conducting unit	Laboratory of Environmental Analytics and Radiochemistry -> Department of Environmental Chemistry and Radiochemistry -> Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Bogdan Skwarzec				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	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		40.0	75
Subject objectives	The aim of the course is to familiarize students with radiochemical methods of environmental samples						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BCHMU2_W01] Knows and understands complex physicochemical processes and is able to analyse their course in connection with other fields of science.	knows and understands complex physicochemical processes	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
	[BCHMU2_U02] Is able to define her/his interests, develop them within the chosen direction and in connection with the subject of her/his master's thesis by implementing the process of self-education and planning her/his professional career.	is able to define his/her interests and develop them within the chosen field	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
	[BCHMU2_U01] Is able to, on the basis of her/his knowledge, propose a solution to problems in chemistry, taking into account the economic aspect by using advanced measurement techniques.	can, based on his knowledge, propose solutions to chemistry problems, taking into account the economic aspect	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
	[BCHMU2_K04] Is willing to properly assess the acquired knowledge, respect and disseminate it in order to solve specific cognitive and practical issues.	is ready to properly evaluate the acquired knowledge	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written
[BCHMU2_W05] Knows and understands the main trends in the development of chemistry combined with economics as two interpenetrating scientific disciplines.	knows and understands the main directions of development of chemistry in connection with economics	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion	
Subject contents	natural and artificial radioactivity radiochemical methods determination and separation of radionuclides in environmental samples		
Prerequisites and co-requisites	analytical chemistry and basics of radiochemistry		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written exam	51.0%	100.0%
Recommended reading	Basic literature	Bogdan Skwarzec, Environmental radiochemistry, UG Publishing House, 2021	
	Supplementary literature	not applicated	
	eResources addresses		
Example issues/ example questions/ tasks being completed	List radioanalytical methods Discuss the determination of radionuclides in environmental samples		
Work placement	Not applicable		

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