

**Subject card**

Subject name and code	Nuclear chemistry, PG_00016490						
Field of study	Chemistry						
Date of commencement of studies	October 2023	Academic year of realisation of subject				2024/2025	
Education level	Bachelor's studies	Subject group				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				2.0	
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		prof. dr hab. Bogdan Skwarzec				
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		15.0	50
Subject objectives	The aim of the course is to familiarize chemistry students with the content of lectures and auditorium exercises in nuclear chemistry and to consolidate the knowledge resulting from the physical and chemical processes occurring in the atomic nucleus.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
			1. knows and understands the basic concepts of nuclear chemistry and radiochemistry 2. knows and understands the basic concepts related to the structure of the atomic nucleus, elementary particles and processes occurring in the nucleus 3. has knowledge about natural and artificial radioactive elements and their occurrence in nature, 4. knows the concept of radiation dose and distinguishes its types and units, 5. has knowledge about the use of radionuclides in science, technology and medicine,			[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SU4] test/exam - oral or written [SK4] test/exam - oral or written	
Subject contents	structure of matter and elementary particles, radioactivity, process of formation of chemical elements, natural and artificial radioactive elements, radiogenic heat of the Earth, nuclear energy, interaction of ionizing radiation with matter, radiation chemistry and radiolysis of water, dosimetry, radiometric and radiochemical methods, isotope separation and labeling methods compounds, use of radionuclides in science, technology and medicine.						
Prerequisites and co-requisites	knowledge of the theory of the structure of matter and atoms of chemical elements  lecture on the basics of chemistry and physics						

