

Subject card

Subject name and code	Nuclear chemistry, PG_00016490						
Field of study	Chemistry						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2027/2028		
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		
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		dr Grzegorz Olszewski				
	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		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		
	[CHEML3_W01] Enumerates basic laws and theories in chemistry, physics, mathematics and biology.	Knows laws and theories in chemistry, physics, mathematics and biology.			[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion		
	[CHEML3_W05] Has basic knowledge of the chemical specialisation studied.	Has knowledge in the field of studied chemical speciality.			[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion		
	[CHEML3_W03] Explains the relationship between the structure of matter and its observed properties.	Explains the relationship between the structure of matter and its properties			[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion		
	[CHEML3_W10] Enumerates and describes the basic aspects of the construction, operation and use of measuring apparatus and equipment used in experimental works in the field of chemistry and related sciences.	Knows the structure, operation and application of measuring equipment used in experimental work in the field of chemistry and related sciences.			[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion		
[CHEML3_W09] Describes the practical applications of IT tools (computer programmes) for chemical calculations and data analysis.	chemicznych Describes the practical use of IT tools for chemical calculations			[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion			
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	<p>knowledge of the theory of the structure of matter and atoms of chemical elements</p> <p>lecture on the basics of chemistry and physics</p>								
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="448 389 798 427">Subject passing criteria</th> <th data-bbox="802 389 1141 427">Passing threshold</th> <th data-bbox="1145 389 1489 427">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 427 798 461">written exam</td> <td data-bbox="802 427 1141 461">51.0%</td> <td data-bbox="1145 427 1489 461">100.0%</td> </tr> </tbody> </table>	Subject passing criteria	Passing threshold	Percentage of the final grade	written exam	51.0%	100.0%		
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Example issues/ example questions/ tasks being completed	<p>The main elementary particles</p> <p>Radioactive decay</p> <p>Radiation doses</p>								
Work placement	Not applicable								

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