

**Subject card**

<b>Subject name and code</b>	General chemistry, PG_00203321						
<b>Field of study</b>	Medical Biology						
<b>Date of commencement of studies</b>	October 2026	<b>Academic year of realisation of subject</b>				2026/2027	
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>				Obligatory subject group in the field of study	
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>				at the university	
<b>Year of study</b>	1	<b>Language of instruction</b>				Polish	
<b>Semester of study</b>	1	<b>ECTS credits</b>				3.0	
<b>Learning profile</b>	academic	<b>Assessment form</b>				exam	
<b>Conducting unit</b>							
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		prof. dr hab. Jolanta Kumirska				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	30		8.0		37.0	75
<b>Subject objectives</b>	Lecture: To present students the general properties of matter and the basic chemical laws governing the phenomena occurring in nature.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLMEDL3_W15] has an advanced knowledge and understanding of the principles of evaluating processes and phenomena occurring in a living organism, using physical or chemical measurements	Student describes the basic methods of testing the properties of chemical substances.	[SW4] test/exam - oral or written
	[BIOLMEDL3_W09] identifies the tools of mathematics necessary to understand the laws of nature and to describe the processes of life	Student defines the most important chemical laws and concepts governing phenomena occurring in nature. It indicates the relationship between the structure of the atom and the properties of the element and its position in the periodic table. Student lists the most important types of chemical bonds. Student describes the structure of gases, liquids and solids in terms of the kinetic-molecular model of matter. Student defines molar and percentage concentration. Student describes the most important aspects of energy, kinetics and reaction equilibrium. Student describes the acid-base properties of aqueous solutions using the concept of pH. Student explains the basic concepts of oxidation-reduction reactions and electrochemical phenomena.	[SW4] test/exam - oral or written
	[BIOLMEDL3_W18] knows the principles of occupational health and safety and ergonomics	Student lists the principles of safe handling of hazardous substances. Student lists the most important elements of laboratory equipment and describes their applications for specific activities.	[SW4] test/exam - oral or written
Subject contents	Lecture: Atomistic structure of matter. Periodic table of elements. Chemical bonds. Kinetic-molecular models of states of matter. Solutions, solution concentrations. Energetic effects of chemical reactions. The speed of a chemical reaction. Equilibrium reactions. Acids and bases, pH concept, acid-base equilibria in aqueous solution. Oxidation and reduction reactions. Basics of electrochemistry.		
Prerequisites and co-requisites	lack		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam with open questions, closed questions and computational tasks.	51.0%	100.0%
Recommended reading	Basic literature	1. Jones L., Atkins P. 2020. Chemia ogólna. PWN, Warsaw. 2. Lee J. D. 1994. Związła chemia nieorganiczna. PWN, Warsaw. 3. Pauling L., Pauling P. 1997. Chemia. PWN, Warsaw.	
	Supplementary literature	1. Bielański A. 2012. Podstawy chemii nieorganicznej. Tom 1, 2. PWN, Warsaw.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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