University of Gdańsk

Subject card

Subject name and code	General chemistry, PG_00203419						
Field of study	Medical Biology						
Date of commencement of studies	October 2026		Academic year of realisation of subject	2026/2027			
Education level	Bachelor's studies		Subject group	Obligatory subject group 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	1		ECTS credits	1.0			
Learning profile	academic		Assessment form	credit			
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Jolanta Kumirska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	0.0	0.0	0.0	15
	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	15		2.0		8.0	25
Subject objectives	Auditorium exercises: Developing the ability to apply acquired knowledge to solve specific problems i tasks.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_W06] idefines the key laws and principles of physics and chemistry that underpin biological processes, describes the properties of elements and chemical compounds, and has an advanced knowledge and understanding of the physicochemical and biological foundations of health sciences	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.	[SW3] text preparation/written work
[BIOLMEDL3_U01] is able to use and operate basic research equipment and tools employed in molecular-biochemical analysis or neurobiology and, following the correct sequence of steps, carries out simple physical, biological or chemical observations and measurements in laboratory work in the field of biological or medical sciences	Student plans, performs and carries out research experiments, organizes and analyzes the experimental results, draws correct conclusions based on them, presents the experimental results in writing. Student draws and uses laboratory equipment in accordance with its intended purpose. Student conducts calculations using the known chemical laws.	[SU1] oral statement/conversation/ discussion [SU3] text preparation/written work
[BIOLMEDL3_U10] learns independently and in a focused manner, and is able to set priorities and organise the work of a small team, as well as work effectively within a team	The student is able to independently organize their work when carrying out tasks in general chemistry, set priorities, and work effectively with team members.	[SU1] oral statement/conversation/ discussion [SU3] text preparation/written work
[BIOLMEDL3_W10] has an advanced understanding of the principles of assessing processes and phenomena occurring within the body, using physical or chemical measurements, and possesses advanced knowledge of experimental methods and the key techniques of the biological sciences that may be applied in medical biology and diagnostics	The student knows and understands the principles of performing and interpreting physical and chemical measurements, as well as the basic experimental methods used to analyze processes and properties of biological systems.	[SW3] text preparation/written work
[BIOLMEDL3_W12] is familiar with the principles of occupational safety, health, and ergonomics, as well as the legal, organizational, and ethical considerations involved in the professional practice of a neurobiologist or molecular-biochemical analyst	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.	[SW3] text preparation/written work

Subject contents

Auditorium exercises: Atomic, molecular and molar mass. The relationship of the structure of the atom with its position in the periodic table and the properties of the element. Chemical equation of the reaction, balancing, stoichiometric calculations. Molar and percentage concentration, density of solutions. Calculations related to ionic equilibria in solution: dissociation, hydrolysis, pH.

Prerequisites and co-requisites

lack

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
more than 50% in both written tests, positive assessment of the student's work in classes	51.0%	100.0%

Recommended reading

Basic literature	1. Jones L., Atkins P. 2020. Chemia ogólna. PWN, Warsow 2. Lee J. D. 1994. Zwięzła chemia nieorganiczna. PWN, Warsow 3. Pauling L., Pauling P. 1997. Chemia. PWN, Warsow
Supplementary literature	1. Bielański A. 2012. Podstawy chemii nieorganicznej. Tom 1, 2. PWN, Warsow
eResources addresses	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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