University of Gdańsk

Subject card

Subject name and code	General chemistry, PG_00198274						
Field of study	Genetics and Experimental 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 and tasks.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GBEL3_W02] A graduate has an advanced knowledge and understanding of:: knowledge of mathematics, physics and chemistry to the extent necessary for understanding biological phenomena and processes and their application in research methodology.	Student defines the most important chemical laws and concepts governing phenomena occurring in nature. Student 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. Student describes the basic methods of testing the properties of chemical substances.	[SW3] text preparation/written work
[GBEL3_U03] The graduate is able to: use research apparatus and tools and, following the correct sequence of operations, carry out simple physical, biological or chemical observations and measurements in laboratory work in the biological sciences.	Student selects 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
[GBEL3_U01] The graduate is able to: independently perform practical tasks in the biological and related sciences, formulate research problems, analyse their results and draw conclusions.	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.	[SU1] oral statement/conversation/ discussion [SU3] text preparation/written work
[GBEL3_W09] A graduate has an advanced knowledge and understanding of: 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.	[SW3] text preparation/written work
[GBEL3_U08] The graduate is able to: study the literature independently and plan your own career path.	The student understands the importance of chemical sciences for the development of biological sciences, is able to independently study the literature and improve his knowledge and skills in this field.	[SU1] oral statement/conversation/ discussion [SU3] text preparation/written work
[GBEL3_U05] The graduate is able to: communicate in English at B2 level, Knows and uses English-language specialist vocabulary in the biological and medical sciences and the legal and economic aspects of research commercialisation in everyday professional/scientific activities.	Student knows and uses basic English-language specialist vocabulary in the field of chemical sciences.	[SU1] oral statement/conversation/ discussion [SU3] 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
minimum 51% in both written tests, positive assessment of the student's work in classes and homework.	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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