

Subject card

Subject name and code	General chemistry, PG_00196802						
Field of study	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	Faculty of Chemistry -> Rector						
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
	[BIOLL3_U01] The graduate is able to use basic apparatus and research tools and follow the correct sequence of operations in laboratory and field work	Student plans, performs and carries out research experiments, organizes and analyzes the experimental results, draws correct conclusions based on them, and presents the experimental results in writing. Student selects and uses laboratory equipment in accordance with its intended purpose. Conducts calculations using the known chemical laws.	[SU3] text preparation/written work
	[BIOLL3_W09] The graduate knows and understands at an advanced level the most important laws and rules of physics and chemistry underlying biological processes and the properties of chemical elements and compounds	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. 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 equilibrium of reactions. 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
	[BIOLL3_W13] The graduate knows and understands at an advanced level the principles of evaluating processes and phenomena using physical and/or chemical measurements	Student describes the basic methods of testing the properties of chemical substances.	[SW3] text preparation/written work
	[BIOLL3_K06] The graduate is prepared to take responsibility for the entrusted equipment/materials and for his/her own work and the work of others	Student shows responsibility for the entrusted equipment and reagents, ensures cleanliness and order at the workplace. Student takes tests and colloquiums and submits reports within the prescribed deadlines.	[SK1] oral statement/conversation/discussion [SK3] text preparation/written work
	[BIOLL3_K05] The graduate is prepared to take responsibility for the safety of his/her and that of others, as well as to recognize hazardous situations and take appropriate action	Student follows the rules of safe conduct in a chemical laboratory in such a way as not to pose a threat to one's own health, the health of others and the environment. Student uses the information contained in the Material Safety Data Sheets.	[SK1] oral statement/conversation/discussion [SK3] text preparation/written work
	[BIOLL3_W17] The graduate is familiar with the principles of safety and hygiene at work and with the principles of savoir-vivre in social and professional life	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 tests, positive assessment of the student's work in classes and homework.	51.0%	100.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> 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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