

**Subject card**

<b>Subject name and code</b>	General chemistry, PG_00198275						
<b>Field of study</b>	Genetics and Experimental 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>				credit	
<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>	0.0	0.0	30.0	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>	Laboratory exercises: Experimental knowledge of selected properties of matter and the operation of the laws of chemistry. Developing the ability to plan, implement and draw conclusions from a scientific experiment. Acquiring the ability to use basic laboratory techniques and safe work with hazardous substances.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GBEL3_K08] The graduate is prepared to: takes responsibility for equipment/materials entrusted to it and respects 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.	[SK2] presentation/project/paper/report [SK3] text preparation/written work [SK8] observation of student's independent or team work
	[GBEL3_K05] The graduate is prepared to: responsibility for their own and others' safety at work	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 Safety Data Sheets Hazardous Substances.	[SK2] presentation/project/paper/report [SK3] text preparation/written work [SK8] observation of student's independent or team 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.	[SW2] presentation/project/paper/report [SW3] text preparation/written work
	[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.	[SW2] presentation/project/paper/report [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.	[SU2] presentation/project/paper/report [SU3] text preparation/written work [SU8] observation of student's independent or team 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.	[SU2] presentation/project/paper/report [SU3] text preparation/written work [SU8] observation of student's independent or team work
Subject contents	Laboratory exercises: Laboratory tasks related to the topic of the lecture.		
Prerequisites and co-requisites	lack		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	positive grades in all entrance written tests	51.0%	80.0%
	developing and presenting the results in writing and obtaining partial passes for all experimental tasks	51.0%	20.0%
	performing all exercises provided for in the study program	100.0%	0.0%

Recommended reading	Basic literature	1. Jones L., Atkins P. 2020. Chemia ogólna. PWN, Warsaw 2. Lee J. D. 1994. Związki 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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