University of Gdańsk

Subject card

Subject name and code	General chemistry, PG_00207387		
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	3.0
Learning profile	academic	Assessment form	exam
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	30.0	0.0	0.0	0.0	0.0	30

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	30	3.0	42.0	75

Subject objectives

To present students the general properties of matter and the basic chemical laws governing phenomena occurring in nature.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLL3_K02] is ready to take care for her/his own safety and that of others, identifying threats and taking appropriate action, as well as use verified equipment and materials responsibly, ensuring their proper use	The student is prepared to ensure their own safety and the safety of others when working in a chemical laboratory, identify hazards and take appropriate action, and use laboratory equipment and materials responsibly.	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written
[BIOLL3_U01] is able to use basic research techniques and tools appropriate for the biological sciences and perform physical, chemical and biological observations and measurements in the laboratory and in the field, individually and in a team, while organizing her/his work appropriately and in a maintained way	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.	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
[BIOLL3_W04] knows and understands at an advanced level the experimental methods and techniques used in biological sciences, as well as the principles of evaluation and analysis of natural processes and phenomena using physical and chemical measurements and IT tools for data processing and interpretation	The student knows and understands experimental methods and the principles of performing and analyzing physical and chemical measurements, and is able to use information technology tools to process, analyze, and interpret experimental results.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion

<table>
<tr><td>Subject contents</td><td colspan="3">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.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">lack</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>The condition for admission to the exam is obtaining positive grades in the auditorium and laboratory exercises</td><td>0.0%</td><td>0.0%</td></tr>
<tr><td>Written exam with open questions, closed questions and calculation tasks. The exam is graded in accordance with the guidelines contained in the UG Study Regulations.</td><td>51.0%</td><td>100.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">1. Jones L., Atkins P. 2020. Chemia ogólna. PWN, Warszawa
2. Lee J. D. 1994. Zwięzła chemia nieorganiczna. PWN, Warszawa
3. Pauling L., Pauling P. 1997. Chemia. PWN, Warszawa</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">1. Bielański A. 2012. Podstawy chemii nieorganicznej. Tom 1, 2. PWN, Warszawa</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3"></td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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