

Subject card

Subject name and code	General chemistry, PG_00053378						
Field of study	Chemical Business						
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 Subject group related to scientific research 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			4.0	
Learning profile	academic		Assessment form			exam	
Conducting unit	Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Joanna Makowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	45.0	0.0	0.0	0.0	0.0	45
	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	45		8.0		47.0	100
Subject objectives	- to consolidate basic theoretical knowledge of inorganic chemistry - to introduce important problems of modern inorganic chemistry - introduction to the most important contemporary issues in inorganic chemistry which constitute progress in this field - to develop the ability to conduct experiments independently, to interpret the results obtained and to solve problems while conducting chemical experiments						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[BCHINŻ_U08] Uses the chemical nomenclature and engineering terminology properly.		Appropriately uses chemical nomenclature and engineering terminology.			[SU8] observation of student's independent or team work	
	[BCHINŻ_W02] Enumerates basic laws and theories in chemistry, physics and mathematics necessary to formulate and solve simple engineering tasks.		Lists the laws and theories in chemistry, physics and mathematics necessary to formulate and solve simple engineering tasks.			[SW4] test/exam - oral or written	
	[BCHINŻ_W03] Describes the techniques of higher mathematics and IT tools necessary to describe and model chemical phenomena and technological processes.		It describes at an advanced level the techniques of higher mathematics and IT tools necessary to describe and model chemical phenomena and technological processes.			[SW1] oral statement/ conversation/discussion	

Subject contents	Topics of the lecture: atomistic theory of matter (atomic nucleus, isotopes, electronic structure of atoms, quantum numbers, atomic orbitals), basic chemical terms and laws, periodic table of elements, chemical equations (including redox reactions), chemical bonds, basic types of inorganic compounds, stoichiometry, solutions and their concentrations, thermochemistry, kinetics and chemical equilibrium, theories of acids and bases, electrolytic dissociation, pH scale, pH of solutions of strong and weak acids and bases, buffer solutions, hydrolysis, elements of electrochemistry. Topics of auditory classes: basic chemical terms and laws, basic types of inorganic compounds, balancing redox reactions, stoichiometry, the concentrations of the solutions, kinetics and chemical equilibrium, equilibria in the solutions of electrolytes.								
Prerequisites and co-requisites									
Assessment methods and criteria	<table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td></td><td>51.0%</td><td>100.0%</td></tr></table>	Subject passing criteria	Passing threshold	Percentage of the final grade		51.0%	100.0%		
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Recommended reading	Basic literature	A. Bielański Podstawy chemii nieorganicznej J. D. Lee Związła chemia nieorganiczna, PWN 1997 L. Jones, P. Atkins Chemia ogólna, PWN 2004							
	Supplementary literature	L. Pajdowski Chemia ogólna, PWN 1999							
	eResources addresses								
Example issues/ example questions/ tasks being completed	brak								
Work placement	Not applicable								

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