

Subject card

Subject name and code	General chemistry, PG_00053380						
Field of study	Chemical Business						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
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		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Laboratory of Physicochemistry of Coordination Complexes -> Department of General and Inorganic Chemistry -> Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Dariusz Wyrzykowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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		5.0		15.0	50
Subject objectives	- to consolidate basic theoretical knowledge of general chemistry - introduction to important problems of modern general chemistry - introduction to the most important contemporary issues in inorganic chemistry which represent progress in this field - develop the ability to experiment independently						
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.		[SU1] oral statement/conversation/discussion		
	[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	Subject passing criteria	Passing threshold	Percentage of the final grade
		51.0%	100.0%
Recommended reading	Basic literature	A. Literatura wymagana do ostatecznego zaliczenia zajęć (zdania egzaminu): A.1. wykorzystywana podczas zajęć Praca zbiorowa Obliczenia z chemii ogólnej - skrypt UG, Gdańsk 2011 Praca zbiorowa - Ćwiczenia laboratoryjne z chemii ogólnej. I Część teoretyczna Praca zbiorowa - Ćwiczenia laboratoryjne z chemii ogólnej. II Część doświadczalna	
	Supplementary literature	A. Bielański Podstawy chemii nieorganicznej J. D. Lee Zwięzła chemia nieorganiczna, PWN 1997 L. Jones, P. Atkins Chemia ogólna, PWN 2004	
	eResources addresses		
Example issues/ example questions/ tasks being completed	brak		
Work placement	Not applicable		

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