University of Gdańsk

Subject card

Subject name and code	General chemistry, PG_00053405		
Field of study	Chemistry		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	undergraduate 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 Polski
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Pracownia Fizykochemii Związków Kompleksowych -> Katedra Chemii Ogólnej i Nieorganicznej -> Faculty of Chemistry -> Rektor		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Dariusz Wyrzykowski	
	Teachers	dr inż. Krzysztof Żamojć prof. dr hab. Ewa Siedlecka dr Aleksandra Bielicka-Giełdoń	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	45.0	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	2.0	3.0	50

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
[CHEML3_W13] Enumerates and describes the basic legal and ethical aspects related to scientific, research and didactic work.	Lists and describes the basic legal and ethical aspects related to scientific, research and teaching work.	[SW1] oral statement/ conversation/discussion
[CHEML3_W14] Recalls and explains the basic concepts and principles in the field of intellectual and industrial property protection, copyright and patent law.	Summons and explains basic concepts and principles in the field of intellectual and industrial property protection, copyright and patent law.	[SW1] oral statement/ conversation/discussion
[CHEML3_U01] Identifies, analyses and solves problems in the field of broadly understood chemistry on the basis of the acquired knowledge.	Identifies, analyzes and solves problems in the field of broadly understood chemistry based on acquired knowledge.	[SU1] oral statement/conversation/ discussion
[CHEML3_U08] Presents in an understandable way the basic facts about chemistry using a scientific language typical of chemical sciences.	It presents chemistry facts in an accessible way, using scientific language typical of chemical sciences.	[SU1] oral statement/conversation/ discussion
[CHEML3_W08] Demonstrates knowledge of basic computational methods to solve problems in chemistry, physics, mathematics.	Demonstrates knowledge of computational methods for solving problems in chemistry, physics and mathematics.	[SW1] oral statement/ conversation/discussion
[CHEML3_U03] Selects the appropriate equipment and laboratory apparatus for conducting uncomplicated chemical experiments.	Selects appropriate equipment and laboratory equipment for conducting chemical experiments.	[SU1] oral statement/conversation/ discussion
[CHEML3_K03] Establishes priorities in the right way for the implementation of tasks specified by herself/himself and/or by others.	Sets appropriate priorities for the implementation of tasks specified by himself and/or others.	[SK1] oral statement/conversation/ discussion
[CHEML3_W12] Characterises the basic principles of health and safety at work in a chemical laboratory; knows and describes the hazards associated with working with hazardous substances, ways to counteract these hazards and rules of conduct during an accident.	Characterizes the principles of occupational health and safety in a chemical laboratory; knows and describes the threats related to working with hazardous substances, methods of counteracting these threats and rules of conduct in the event of an accident.	[SW4] test/exam - oral or written
[CHEML3_W01] Enumerates basic laws and theories in chemistry, physics, mathematics and biology.	Lists laws and theories in chemistry, physics, mathematics and biology.	[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 lows, 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	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	L. Pajdowski Chemia ogólna, PWN 1999
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	brak	
Work placement	Not applicable	

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