University of Gdańsk

Subject card

Subject name and code	Inorganic chemistry, PG_00103620		
Field of study	Environmental Protection		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
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 Polish
Semester of study	2	ECTS credits	2.0
Learning profile	academic	Assessment form	exam
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	dr hab. Joanna Makowska	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15	2.0	33.0	50

Subject objectives	familiarization with the basic types of inorganic compounds and methods of balancing chemical reaction equations introduction to the basics of chemical calculations developing the ability to independently experiment and solve problems when conducting a chemical experiment.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OŚL3_K02] Works individually demonstrating initiative and independence in actions, and effectively cooperates in a team, performing various roles in it.	Works individually, showing initiative and independence in actions, interacts effectively in a team, performing various roles in it.	[SK4] test/exam - oral or written
[OŚL3_U07] Uses basic laboratory techniques, conducts field research and performs qualitative and quantitative analyses and draws conclusions on this basis for practical purposes.	Applies basic laboratory techniques, conducts field research and performs qualitative and quantitative analyses, and formulates conclusions on this basis for practical purposes.	[SU4] test/exam - oral or written
[OŚL3_K04] Demonstrates responsibility for the safety of her/ his own and others' work and for the workplace, and correctly follows the rules of conduct in emergencies.	Demonstrates responsibility for the safety of one's own work and that of others, and correctly follows the rules of conduct in emergency situations.	[SK4] test/exam - oral or written
[OŚL3_W13] Defines the basic principles of occupational safety, ergonomics and hygiene.	Defines the basic principles of safety, ergonomics and occupational hygiene.	[SW4] test/exam - oral or written
[OŚL3_U02] Plans, selects appropriate research and measuring equipment and devices, performs physicochemical measurements and experiments; analyses the results and draws conclusions based on them.	Plans, selects appropriate research and measurement equipment and apparatus, performs physico-chemical measurements and experiments; analyzes the results and formulates conclusions based on them.	[SU4] test/exam - oral or written
[OŚL3_W01] Discusses the basic concepts of mathematics, physics, chemistry and biology. Describes physical, chemical and biological phenomena occurring in nature as well as geological, geomorphological and climatic conditions of the functioning of nature.	It discusses at an advanced level the concepts of mathematics, physics, chemistry and biology, describes the physical, chemical and biological phenomena occurring in nature as well as the geological, geomorphological and climatic conditions of the functioning of nature.	[SW4] test/exam - oral or written
[OŚL3_U09] Prepares in Polish/ English a short description of research, observation or problem task carried out during classes using appropriate scientific terminology.	Prepares a short description in Polish/English of research, observations or problem tasks carried out during classes, using appropriate scientific terminology.	[SU4] test/exam - oral or written

Subject contents

Course contents

Topics of the lecture: periodicity and the chemistry of the elements, physicochemical properties of inorganic and coordination compounds. The following items are included: periodicity, chemical bonding, coordination compounds, types of chemical reactions, properties of chemical elements and their compounds. The groups of elements are presented in the following order: group 1, group 2, group 13, group14, group 15, group 16, group 17, group 18, and d-elements (groups 3-12; first transition row, second transition row, and third transition row).

Topics of auditory classes: basic types of inorganic compounds, balancing redox reactions, equilibria in the solutions of electrolytes.

Topics of lab classes: investigation of physicochemical properties of the elements, inorganic and coordination compounds based on chemical experiments.

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 Praca zbiorowa Ćwiczenia laboratoryjne z chemii ogólnej. I. Część teoretyczna - skrypt UG Praca zbiorowa Ćwiczenia laboratoryjne z chemii ogólnej. II. Część doświadczalna - skrypt UG
	Supplementary literature	A.2. studiowana samodzielnie przez studenta A. Bielański Podstawy chemii nieorganicznej J. D. Lee Zwięzła chemia nieorganiczna L. Jones, P. Atkins Chemia ogólna B. Literatura uzupełniająca L. Pajdowski Chemia ogólna M. J. Sienko, R. A. Plane Chemia. Podstawy i zastosowania
	eResources addresses	
Example issues/ example questions/ tasks being completed	brak	
Work placement	Not applicable	

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