University of Gdańsk

Subject card

Subject name and code	Inorganic chemistry, PG_00080830		
Field of study	Chemical Business		
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	1.0
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	dr Aleksandra Tesmar	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	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	8.0	25

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_U03] Plans, selects the appropriate research and measuring equipment and performs simple chemical experiments; analyses the results and draws conclusions based on them.	Plans, selects appropriate research and measurement equipment and apparatus, and performs chemical experiments; analyzes the results and formulates conclusions based on them.	[SU5] implementation of a problem task
[BCHINŻ_U08] Uses the chemical nomenclature and engineering terminology properly.	Appropriately uses chemical nomenclature and engineering terminology.	[SU3] text preparation/written work
[BCHINŻ_W02] Enumerates basic laws and theories in chemistry, physics and mathematics necessary to formulate and solve simple engineering tasks.	Enumerates basic laws and theories in chemistry, physics and mathematics necessary to formulate and solve simple engineering tasks	[SW3] text preparation/written work
[BCHINŻ_U02] Uses basic methods, techniques and tools in formulating and solving engineering tasks in the field of chemistry.	Applies methods, techniques and tools in formulating and solving engineering tasks in the field of chemistry.	[SU8] observation of student's independent or team work
[BCHINŻ_U09] Using the acquired knowledge, skills and various sources of scientific information independently prepares written papers and oral presentations.	Using the acquired knowledge, skills and various sources of scientific information, he independently prepares written works and oral presentations.	[SU3] text preparation/written work
[BCHINŻ_K04] Demonstrates responsibility for the safety of her/ his own and others' work.	Demonstrates responsibility for the safety of one's own and others' work.	[SK6] demonstration of practical skills
[BCHINŻ_W10] Applies safety and hygiene principles when working on a test and measurement stand or in the field.	Knows and understands the principles of safety and hygiene when working at a research and measurement station or in the field.	[SW3] text preparation/written work

Subject contents

A. Problems covered in the lecture: origin of the elements and their distribution in the Earth's crust, classification of the elements - the modern periodic table of the elements (position of an element in the periodic table and its structure and chemical properties; periodicity of physical and chemical properties of the elements), chemical bonds and structure of compounds; classification of inorganic compounds, review of the basic groups of the elements: Hydrogen, Lithium, Beryllium, Boron, Carbon, Nitrogen, Oxygen, Halogen, Helium, Elements of side groups (structure and properties of elements of main and side groups resulting from their structure: ionic, molecular, atomic and metallic); properties of compounds resulting from the type of bonds, polarity of molecules, ability to form hydrogen bonds; oxidation-reduction properties of inorganic compounds as a consequence of the oxidation degrees of elements and pH of the environment; circulation of selected elements in nature; Coordination compounds - basic concepts; coordination compounds in the biological environment and in industry; organometallic compounds - formation, properties and structure; lanthanides and actinides - characterisation of the properties of f-block elements, lanthanide contraction; applications of inorganic chemistry in various industries and in human health care.

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. Bielański Podstawy chemii nieorganicznej, PWN 2002 J. D. Lee Zwięzła chemia nieorganiczna, PWN 1997 L. Jones, P. Atkins Chemia ogólna, PWN 2004 B. Literatura uzupełniająca L. Pajdowski Chemia ogólna, PWN 1999
Supplementary literature	brak
eResources addresses	

Example issues/ example questions/ tasks being completed

brak

Work placement

Not applicable

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