University of Gdańsk

Subject card

Subject name and code	Inorganic chemistry, PG_00082084		
Field of study	Chemistry		
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	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 dr hab. Aleksandra Dąbrowska	

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	33.0	50

Subject objectives	consolidation of basic theoretical knowledge in the field of inorganic chemistry introduction to important problems of contemporary inorganic chemistry presentation of the most important contemporary issues in inorganic chemistry that constitute progress in this field developing the ability to independently experiment and interpret the obtained results and solve problems when conducting chemical experiments

Learning outcomes

Course outcome	Subject outcome	Method of verification
[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.	[SW4] test/exam - oral or written
[CHEML3_K05] Observes established procedures in laboratory work and is responsible for the safety of her/his and others' work.	Follows established procedures in laboratory work and is responsible for the safety of his/her work and that of others.	[SK1] oral statement/conversation/ discussion
[CHEML3_K06] Raises her/his professional and personal competences by using information provided in various sources.	Improves your professional and personal competences by using information provided from various sources.	[SK5] implementation of a problem task
[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_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.	[SW1] 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_K02] Works individually demonstrating initiative and independence of activity and cooperates in a team fulfilling various roles in it.	Works individually, showing initiative and independence, and cooperates in a team, taking on various roles.	[SK8] observation of student's independent or team work
[CHEML3_W03] Explains the relationship between the structure of matter and its observed properties.	It explains at an advanced level the relationships between the structure of matter and its observed properties.	[SW1] oral statement/ conversation/discussion

Subject 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, valence bond theory, hybridization and molecular geometry; molecular orbital theory; solid state bonds: ionic, covalent, metallic; metals, semiconductors and insulator; coordination compounds.

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. Bielański Podstawy chemii nieorganicznej, PWN 2002 J. D. Lee Zwięzła chemia nieorganiczna, PWN 1997 L. Jones, P. Atkins Chemia ogólna, PWN 2004 L. Pajdowski Chemia ogólna, PWN 1999
Supplementary literature	none
eResources addresses	

Example issues/ example questions/ tasks being completed	none
Work placement	Not applicable

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