

Subject card

Subject name and code	Inorganic chemistry, PG_00082083						
Field of study	Chemistry						
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	2		ECTS credits		3.0		
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						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	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		40.0	75
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_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.	[SU4] 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.	[SK4] test/exam - oral or written
	[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.	[SW4] test/exam - oral or written
	[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.	[SW3] text preparation/written work
	[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.	[SK4] test/exam - oral or written
	[CHEML3_U03] Selects the appropriate equipment and laboratory apparatus for conducting uncomplicated chemical experiments.	Selects appropriate equipment and laboratory equipment for conducting chemical experiments.	[SU3] text preparation/written work
	[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_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.	[SK4] test/exam - oral or written
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, group 14, 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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