University of Gdańsk

Subject card

Subject name and code	Biometals, PG_00050883		
Field of study	Chemistry		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	postgraduate 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	2	Language of instruction	Polish none
Semester of study	3	ECTS credits	1.0
Learning profile	academic	Assessment form	
Conducting unit	Katedra Chemii Bionieorganicznej -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Mariusz Makowski	
	Teachers		

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

Additional information:
Lecture with multimedia presentation

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

make students familiar with problems combinig chemistry, biology and medicine

introduction of fundamental knowledge in particular from biochemistry (such as a role of bioelements and metaloproteins in living organisms.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[CHEMMU2_U04] Applies acquired knowledge of chemistry and related scientific disciplines.	A student It reads and analyzes information presented in the form of: diagram, diagram, drawing; it completes the missing information on the based on table, graph, diagram, drawing and text; processes information according to the given principles: constructs schemes of biochemical processes; formulates descriptions of presented phenomena, processes: describes in words or with the help of a drawing (scheme) course, phenomena or processes; perceives causal relationships effects occurring in biochemical processes depending on the conditions, in which take place complicated reactions; explains the course of phenomena encountered in everyday life, using chemical knowledge in correlation with other sciences interprets information and formulates conclusions and justifies opinions	[SU4] test/exam - oral or written
[CHEMMU2_W04] Applies the acquired knowledge to an in-depth description of the properties of chemical connections, methods of their synthesis and analysis.	A student knows and understands laws, concepts and phenomena at the border of three fields: chemistry, biology and medicine;	[SW4] test/exam - oral or written
[CHEMMU2_W05] Has extended knowledge in the field of the specialisation studied.	A student uses the terminology and chemical symbolism associated with the role of metals in biology, medicine and the environment; understands the phenomena and biochemical processes.	[SW4] test/exam - oral or written
[CHEMMU2_K01] Knows the limitations of her/his own knowledge; understands the need for further education and can inspire other people to do so.	A student understands the need for further education. is able to formulate questions precisely, to deepen your own understanding of a given subject or to find missing elements of reasoning; understands and appreciates the importance of honesty intellectual in his own actions and those of others; behaves ethically; understands the need for popular presentation of selected issues to non-specialists chemistry; can independently search for information in literature, also foreign language;	[SK4] test/exam - oral or written

Subject contents

Topics of the lecture: chemistry of selected metal elements and their importance in biology, medicine and the environment. Absorption, storage and their functions in bacteria, plants and living organisms.

Prerequisites and co-requisites

recommended but not mandatory: inorganic chemistry, coordination chemistry

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
8-20 questions, each rated at 1 point.	50.0%	100.0%

Recommended reading	Basic literature	A. Literature required for the final passing of classes (exam): A. 2. studied independently by a student L. Stephen, B. Jeremy Basics of Bioorganic Chemistry R. M. Roat-Malone Bioinorganic Chemistry: A Short Course E. Ochiai Bioinorganic Chemistry: a survey
	Supplementary literature	B. Supplementary literature Scientific publications given by the lecturer
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	For the treatment of what diseases are the compounds of gold and lithium used? Give one example of such a relationship.	
Work placement	Not applicable	

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