

Subject card

Subject name and code	Bioinorganic chemistry, PG_00049919						
Field of study	Chemistry						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Master's studies		Subject group		Obligatory subject group in the field of study Optional subject group 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	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Bioinorganic Chemistry -> Faculty of Chemistry -> Rector						
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	0.0	0.0	30.0	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		1.0		9.0	40
Subject objectives	introduction of basic and specialized knowledge from biochemistry (in particular information on the role of bioelements and metal compounds in living organisms) the proposed laboratory focuses on performing research using precise scientific equipment, exercises mainly concern the topic of coordination compounds and methods of their identification, allowing to facilitate understanding of processes occurring in organisms;						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[CHEMMU2_K01] Knows the limitations of her/his own knowledge; understands the need for further education and can inspire other people to do so.		Observation of the student in terms of the ability to search for scientific studies of the issues discussed in the classes		[SK2] presentation/project/paper/report [SK4] test/exam - oral or written [SK6] demonstration of practical skills [SK8] observation of student's independent or team work		
	[CHEMMU2_U07] Defines and implements the directions of own further education.		Sudent solves tasks at colloquia and prepares a report on work in the laboratory		[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU4] test/exam - oral or written [SU6] demonstration of practical skills [SU8] observation of student's independent or team work		
	[CHEMMU2_W01] Uses knowledge of spectroscopic methods of chemical compound analysis.		Student solves problems during admission and coursework in the application of modern methods to the analysis of compounds discussed during the coursework; student solves problems with basic and more advanced concepts in the field of bio-organic chemistry		[SW4] test/exam - oral or written [SW3] text preparation/written work [SW5] implementation of a problem task		

Subject contents	During the laboratory classes, a maximum of 6 laboratory exercises are provided based on instructions prepared by the instructor in the field of bio-organic chemistry.		
Prerequisites and co-requisites	basic knowledge of inorganic and coordination chemistry		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	positive assessment from the tests to the experimental part and the reports to the exercises	50.0%	100.0%
Recommended reading	Basic literature	R. Jastrząb, M. T. Kaczmarek, M. Nowak, I. Pospieszna-Markiewicz, M. Skrobańska, M. Zabiszak, "Ćwiczenia laboratoryjne z Chemii Bionieorganicznej", UAM Poznań 2015. R.M. Roat-Malone, Chemia bionieorganiczna, Wydawnictwo Naukowe PWN, Warszawa 2010. A. Bartyzel, M. Makarska-Białokoz, Chemia bionieorganiczna w ćwiczeniach laboratoryjnych. Podręcznik dla studentów chemii środków bioaktywnych i kosmetyków, Wydawnictwo UMCS, Lublin 2010. R. Łyszczek, A. Bartyzel, Z. Rzączyńska, Chemia koordynacyjna w ćwiczeniach laboratoryjnych, Wydawnictwo UMCS, 2006. N. Metzler-Nolte, U. Schatzschneider, "Bioinorganic Chemistry: A Practical Course" Walter de Gruyter GmbH & Co. KG 2009	
	Supplementary literature	Instructions from the teacher	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Discuss the result.		
Work placement	Not applicable		

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