University of Gdańsk

Subject card

Subject name and code	Bioinorganic chemistry, PG_00049919		
Field of study	Chemistry		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2026/2027
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_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
[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_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

<table>
<tr><td>Subject contents</td><td>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.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>basic knowledge of inorganic and coordination chemistry</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>positive assessment from the tests to the experimental part and the reports to the exercises</td><td>50.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>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. Metlzler-Nolte, U. Schatzschneider, "Bioinorganic Chemistry: A Practical Course" Walter de Gruyter GmbH & Co. KG 2009</td></tr>
<tr><td>Supplementary literature</td><td>Instructions from the teacher</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Discuss the result.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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