University of Gdańsk

Subject card

Subject name and code	Bioorganic chemistry, PG_00054415		
Field of study	Chemistry		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	exam
Conducting unit	Laboratory of Bioorganic Chemistry -> Department of Molecular Biochemistry -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Anna Łęgowska	
	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

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

to acquaint students with all issues mentioned in the course contents.

to introduce students to the basic groups of natural organic compounds, learning about their structure and biological activity

<table>
<tr><td>Learning outcomes</td><td>
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<tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr>
<tr><td>[CHEMMU2_K01] Knows the limitations of her/his own knowledge; understands the need for further education and can inspire other people to do so.</td><td>Being aware of the need for continuous self-education,
Understanding the need for systematic learning,
Showing critical thinking when accepting information, especially easily available in mass media
Being aware of the need for objective self-assessment</td><td>[SK4] test/exam - oral or written</td></tr>
<tr><td>[CHEMMU2_W05] Has extended knowledge in the field of the specialisation studied.</td><td>Providing examples of biosynthesis of short peptides containing non-proteinogenic amino acids. Understanding the influence of natural compounds on processes occurring in living organisms. Explaining the definition of peptide toxins</td><td>[SW4] test/exam - oral or written</td></tr>
<tr><td>[CHEMMU2_W04] Applies the acquired knowledge to an in-depth description of the properties of chemical connections, methods of their synthesis and analysis.</td><td>Providing definitions and presenting chemical structures of alkaloids, steroids, vitamins. Describing biological activity of natural products. Identifying non-proteinogenic amino acids, including antimetabolites.</td><td>[SW4] test/exam - oral or written</td></tr>
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<tr><td>Subject contents</td><td>Structure and biological function of selected groups of organic compounds of natural origin: alkaloids, steroids, vitamins. Natural non protein amino acids, occurrence and biological functions. Plant and animal toxins. Non-ribosomal peptide synthesis.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>organic chemistry (bachelor degree)</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>written exam requiring answers to 4-6 questions, duration 1,5 hours</td><td>51.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
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<tr><td>Basic literature</td><td>A. Kołodziejczyk Naturalne związki organiczne

P. Moszczyński, R. Pyć Biochemia witamin</td></tr>
<tr><td>Supplementary literature</td><td>I.T. Timbrell Paradoks trucizn

academic textbooks for bioorganic chemistry</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>Present the structure and biological functions of steroid compounds biosynthesized in the liver.

Draw the general structural formula of tocopherols and discuss the roles they play in the human body.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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