University of Gdańsk

Subject card

Subject name and code	Organic chemistry, PG_00203329						
Field of study	Medical Biology						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's 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	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		3.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Laboratory of Carbohydrate Chemistry -> Department of Organic Chemistry -> Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Janusz Madaj				
	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		4.0		41.0	75
Subject objectives	introducing students to basic issues in organic chemistry familiarizing students with the basic types of organic compounds and their basic biological role introducing students to the basics of spectroscopy learning the basics of independently conducting chemical experiments						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_W15] has an advanced knowledge and understanding of the principles of evaluating processes and phenomena occurring in a living organism, using physical or chemical measurements	Acquires basic knowledge of organic chemistry, from the structure and nomenclature of organic compounds through basic spectroscopic methods to the occurrence of exemplary compounds in nature	[SW4] test/exam - oral or written
[BIOLMEDL3_W10] has an advanced knowledge and understanding of the physicochemical and biological basis of health sciences	Acquires basic knowledge of organic chemistry, from the structure and nomenclature of organic compounds through basic spectroscopic methods to the occurrence of exemplary compounds in nature	[SW4] test/exam - oral or written
[BIOLMEDL3_W09] identifies the tools of mathematics necessary to understand the laws of nature and to describe the processes of life	Acquires basic knowledge of organic chemistry, from the structure and nomenclature of organic compounds through basic spectroscopic methods to the occurrence of exemplary compounds in nature	[SW4] test/exam - oral or written
[BIOLMEDL3_W18] knows the principles of occupational health and safety and ergonomics	The student determines the basic principles occupational health and safety	[SW4] test/exam - oral or written
[BIOLMEDL3_K05] jest odpowiedzialny za bezpieczeństwo pracy własnej i innych oraz potrafi rozpoznać sytuacje zagrożenia i podjąć odpowiednie działania	is careful when handling substances chemicals.	[SK4] test/exam - oral or written
[BIOLMEDL3_K03] is aware of his/her own limitations and knows when to seek expert assistance	Understands the need for further education; follows established procedures in laboratory work;	[SK4] test/exam - oral or written
[BIOLMEDL3_K01] understands the need for lifelong learning and to update his/her knowledge of medical biology and related disciplines	Understands the need for further education	[SK4] test/exam - oral or written
[BIOLMEDL3_U12] has the ability to present his own ideas and adequate argumentation in the context of selected theoretical and practical perspectives of medical biology	predicts, verifies and criticizes the results experiments; formulates opinions on basic chemical issues while expressing them carefully and critically	[SU4] test/exam - oral or written
[BIOLMEDL3_U01] uses basic apparatus and research tools and, maintaining the correct sequence of operations, performs simple physical, biological or chemical observations and measurements in laboratory work in the biological or medical sciences	recognizes basic laboratory equipment and uses it to conduct simple chemical experiments	[SU4] test/exam - oral or written
[BIOLMEDL3_U05] synthesises data from different sources and draws appropriate conclusions from them	Describes the properties of selected elements and their compounds using chemical equations; uses basic formulas of stoichiometry and solution concentrations for chemical calculations; solves chemical tasks of medium difficulty	[SU4] test/exam - oral or written

Subject contents

Lecture topics: Basic knowledge about selected groups of organic compounds, alkanes, alkenes, aromatic compounds, alcohols, aldehydes, ketones, ethers, amines, carboxylic acids, esters of organic and inorganic acids, heterocyclic compounds, amino acids, monosaccharides, oligosaccharides and polysaccharides, amino acids and proteins, constitutional and configurational isometry, absolute configuration of the chiral carbon atom, acidity and basicity of organic compounds, oxidation and reduction of compounds organic compounds, solubility of organic compounds in water and other less polar and polar solvents.

Prerequisites and co-requisites

Basic knowledge of general and analytical chemistry

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
written exam with open questions (tasks).	51.0%	100.0%

Recommended reading	Basic literature	Organic Chemistry, 4th Edition, Paula Yurkanis Bruice Organic Chemistry, 5th Edition, L. G. Wade General, Organic, and Biological Chemistry, 5th Edition, H. Stephen Stoker Morrison R., Boyd R. 1999. Chemia organiczna. PWN, Warszawa. McMurry John, Chemia organiczna, Wydawnictwo Naukowe PWN Kupryszewski G., Sobocińska M., Walczyna R. 1988. Podstawy preparatyki związków organicznych. Wyd. Gdańskie, Gdańsk. Walczyna R., Sokołowski J., Kupryszewski G. 1996. Analiza związków organicznych. Wyd. UG, Gdańsk
	Supplementary literature	non
	eResources addresses	
Example issues/ example questions/ tasks being completed	Consistent with the content of the lecture.	
Work placement	Not applicable	

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