University of Gdańsk

Subject card

Subject name and code	Introduction to biochemistry, PG_00052574						
Field of study	Wstęp do biochemii (Wykład)						
Date of commencement of studies	October 2023		Academic year of realisation of subject	2024/2025			
Education level	Bachelor's studies		Subject group				
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	2.0			
Learning profile	academic		Assessment form	exam			
Conducting unit	Department of General and Medical Biochemistry -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Ewa Laskowska					
	Teachers	prof. dr hab. Ewa Laskowska					
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		0.0	0.0	30	
Subject objectives	Understanding the structure and functions of macromolecules (proteins, nucleic acids, carbohydrates, lipids) and small-molecule compounds found in the cell.2. Understanding of basic biochemical processes.						

<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>[GBEL3_W01] A graduate has an advanced knowledge and understanding of: the structure and properties of the main types of biological macromolecules; the molecular mechanisms of basic metabolic pathways and genetic information flow; the sources of genetic variation in organisms and the mechanisms of evolution. They can explain the principles of inheritance, the differences in structure and function between prokaryotic and eukaryotic cells, as well as the structure and functional relationships at the cellular and tissue levels.</td><td>Describes the structure and properties of the basic types of biological macromolecules, molecular mechanisms of basic metabolic pathways</td><td>[SW4] test/egzamin - ustny lub pisemny</td></tr>
<tr><td>[GBEL3_U01] The graduate is able to: independently perform practical tasks in the biological and related sciences, formulate research problems, analyse their results and draw conclusions.</td><td>Is able to independently perform simple practical tasks in the field of biological sciences.</td><td>[SU4] test/egzamin - ustny lub pisemny</td></tr>
<tr><td>[GBEL3_U03] The graduate is able to: use research apparatus and tools and, following the correct sequence of operations, carry out simple physical, biological or chemical observations and measurements in laboratory work in the biological sciences</td><td>Dotyczy ćwiczeń</td><td>[SU8] obserwacja samodzielnej lub zespołowej pracy studenta</td></tr>
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<tr><td>Subject contents</td><td>Structure of proteins, nucleic acids, carbohydrates and lipids. Functions of selected proteins. Enzymes: kinetics, catalytic and regulatory strategies. Main metabolic pathways: glycolysis and gluconeogenesis, citric acid cycle, oxidative phosphorylation, pentose phosphate pathway. Metabolism of amino acids, nucleotides and lipids.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Knowledge of the structure of basic inorganic and organic compounds, chemical bonds, mechanisms of basic chemical reactions, energetics of chemical reactions, hydrophobic interactions, acids and bases, pH, units of measurement, concentration units of solutions.</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>test with closed and open-ended questions</td><td>51.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>Biochemistry.Tymoczko John L. Berg Jeremy M. Stryer Lubert Gatto Gregory, Macmillan Education, Macmillan Learning

Berg J. M., Stryer L. , Tymoczko J. L., Biochemistry: A Short Course, Macmillan Education, Macmillan Learning</td></tr>
<tr><td>Supplementary literature</td><td>Harpers Illustrated Biochemistry. Rodwell Victor W. Bender David A. Botham.</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></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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