

**Subject card**

<b>Subject name and code</b>	Introduction to biochemistry, PG_00203337						
<b>Field of study</b>	Medical Biology						
<b>Date of commencement of studies</b>	October 2026	<b>Academic year of realisation of subject</b>			2027/2028		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	2	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	3	<b>ECTS credits</b>			3.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			exam		
<b>Conducting unit</b>	Department of General and Medical Biochemistry -> Faculty of Biology -> Rector						
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		prof. dr hab. Ewa Laskowska				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM		
	<b>Number of study hours</b>	30	4.0	41.0	75		
<b>Subject objectives</b>	<p>1. Understanding the structure and functions of macromolecules (proteins, nucleic acids, carbohydrates, lipids) and small-molecule compounds found in the cell.</p> <p>2. Understanding basic biochemical processes.</p>						
<b>Learning outcomes</b>	<b>Course outcome</b>	<b>Subject outcome</b>			<b>Method of verification</b>		
	[BIOLMEDL3_W10] has an advanced knowledge and understanding of the physicochemical and biological basis of health sciences	Understands and describes the biochemical basis of health sciences.			[SW4] test/exam - oral or written		
	[BIOLMEDL3_W02] has an advanced knowledge and understanding of the structure and properties of basic types of biological macromolecules, molecular mechanisms of the pathways of basal metabolism and flow of genetic information, and sources of variation in organisms; explains the rules of inheritance	Describes the structure and properties of basic types of biological macromolecules and the molecular mechanisms of basic metabolic pathways.			[SW4] test/exam - oral or written		
	[BIOLMEDL3_U11] is able to use language specialized for medical biology in a way that is clear and accessible to both specialists and non-specialists alike	Is able to use specialized language for medical biology (with particular emphasis on biochemical terms) in a way that is understandable and accessible to both specialists and non-specialists.			[SU4] test/exam - oral or written		

Subject contents	<p>The following topics will be discussed during the lecture:</p> <p>Structure of proteins, nucleic acids, carbohydrates and lipids.</p> <p>Function of selected proteins. Enzymes-kinetics, catalytic and regulatory strategies.</p> <p>Main metabolic pathways: glycolysis and gluconeogenesis, citric acid cycle, oxidative phosphorylation, pentose phosphate pathway. Metabolism of amino acids, nucleotides and lipids.</p>		
Prerequisites and co-requisites	<p>Completion of courses covering general and organic chemistry. 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.</p>		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test with closed and open-ended questions	51.0%	100.0%
Recommended reading	Basic literature	<p>Biochemistry. Tymoczko John L. Berg Jeremy M. Stryer Lubert Gatto Gregory, Macmillan Education, Macmillan Learning Berg J. M., Stryer L., Tymoczko J. L., Biochemia. Krótki kurs. PWN Warszawa 2013 Biochemistry: A Short Course,</p>	
	Supplementary literature	<p>Harpers Illustrated Biochemistry. Rodwell Victor W. Bender David A. Botham,</p>	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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