

Subject card

Subject name and code	Introduction to biochemistry, PG_00154256						
Field of study	Medical Biology						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026		
Education level	undergraduate 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	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		3.0		
Learning profile	academic		Assessment form				
Conducting unit	Katedra Biochemii Ogólnej i Medycznej -> Faculty of Biology						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Ewa Laskowska				
	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	1. Understanding the structure and functions of macromolecules (proteins, nucleic acids, carbohydrates, lipids) and small-molecule compounds found in the cell. 2. Understanding basic biochemical processes.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLMEDL3_K05] jest odpowiedzialny za bezpieczeństwo pracy własnej i innych oraz potrafi rozpoznać sytuacje zagrożenia i podjąć odpowiednie działania	Nie dotyczy wykładu	[SK4] test/exam - oral or written
	[BIOLMEDL3_K07] Is responsible for the equipment/materials entrusted to him and his own work and respects the work of others	Nie dotyczy wykładu	[SK4] 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	Nie dotyczy wykładu	[SU4] 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
	[BIOLMEDL3_W10] understands and describes 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] describes 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
Subject contents	The following topics will be discussed during the lecture: Structure of proteins, nucleic acids, carbohydrates and lipids. Function 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.		
Prerequisites and co-requisites	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.		
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	Biochemistry.Tymoczko John L. Berg Jeremy M. Stryer Lubert Gatto Gregory, Macmillan Education, Macmillan LearningBerg J. M., Stryer L. , Tymoczko J. L., Biochemia. Krótki kurs. PWN Warszawa 2013Biochemistry: A Short Course,	
	Supplementary literature	Harpers Illustrated Biochemistry. Rodwell Victor W. Bender David A. Botham,	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		