

Subject card

Subject name and code	Protein Structure and Function, PG_00183148						
Field of study	Biology						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's studies		Subject group				
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		English		
Semester of study	6		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
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	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		10.0		25.0	50
Subject objectives	The overall goal of this course is to gain recent knowledge on 1) the structure and function of proteins; 2) mechanisms responsible for maintaining protein homeostasis in the cell.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
			Knowledge Knows and understands the structure and functioning of proteins at an advanced level (B_W02). Skills Learns independently, in a targeted manner (B_U08) Can use biochemical terms in a way that is comprehensible and accessible for specialists, as well as people outside the group of specialists (B_U12). Social competence Knows the limits of her/his own knowledge and understands the need of continuous learning and updating the knowledge (B_K01)		[SK4] test/exam - oral or written		
Subject contents	1. Hierarchical structure of proteins. Protein folding and degradation; molecular and chemical chaperones; 2. Protein condensates and aggregates, intrinsically disordered proteins, liquid-liquid phase separation of proteins, membrane-less organelles in bacteria and eukaryotes 3. Protein function (examples); moonlighting proteins; protein-based biomaterials.						
Prerequisites and co-requisites	Basic knowledge of organic chemistry or biochemistry.						

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	Recent research articles.	
	Supplementary literature	Biochemistry / Jeremy M. Berg, John L. Tymoczko, Gregory J. Gatto, Jr., Lubert Stryer. New York : W. H. Freeman & Company.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Which types of interactions (hydrogen bonds, disulfide bridges, hydrophobic interactions) hold the tertiary structure of a protein together?		
	How do hydrophobic amino acid side chains behave in a globular protein in an aqueous environment?		
Work placement	Not applicable		

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