University of Gdańsk

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.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><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>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Recent research articles.</td></tr>
<tr><td>Supplementary literature</td><td>Biochemistry / Jeremy M. Berg, John L. Tymoczko, Gregory J. Gatto, Jr., Lubert Stryer.New York : W. H. Freeman & Company.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">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?</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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