University of Gdańsk

Subject card

Subject name and code	Proteomics. Analysis of proteome., PG_00121223		
Field of study	Chemical Business, Chemistry, Environmental Protection		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	Master's studies	Subject group	Optional subject group
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	English
Semester of study	3	ECTS credits	4.0
Learning profile	academic	Assessment form	credit
Conducting unit	Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Adam Lesner	
	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	5.0	65.0	100

Subject objectives

Familiarize students with all the issues listed in the curriculum content of the lecture

Learning outcomes

Course outcome	Subject outcome	Method of verification
[CHEMMU2_K05] Understands the need for independent search of information in scientific literature and popular science magazines.	The student makes proper use of scientific literature and specific schemes for purification of biomolecules.	[SK4] test/exam - oral or written
[CHEMMU2_W01] Uses knowledge of spectroscopic methods of chemical compound analysis.	The student can describe and give examples of the application of spectroscopic techniques in the analysis of biological compounds.	[SW4] test/exam - oral or written
[CHEMMU2_U04] Applies acquired knowledge of chemistry and related scientific disciplines.	The student uses chemical terminology at least correctly.	[SU4] test/exam - oral or written
[CHEMMU2_W03] Demonstrates extended knowledge in the field of modern measuring techniques used in chemical analysis.	The student is able to describe selected separation techniques of biomolecules, in the context of the sustainability of the bio-molecule.	[SW4] test/exam - oral or written
[CHEMMU2_K01] Knows the limitations of her/his own knowledge; understands the need for further education and can inspire other people to do so.	The student deepens the content received in the lecture.	[SK4] test/exam - oral or written
[CHEMMU2_U03] Finds necessary information in specialist literature, databases and other sources, lists basic scientific journals in chemistry.	The student analyzes the literature data and, based on it, is able to determine the course of the selected experiment.	[SU4] test/exam - oral or written

Subject contents

Properties of biomolecules. Chromatography (size exclusion, ionic, reverse phase, hydrophobic, covalent, affinity and others). Electrophoresis (planar, vertical) of proteins and nucleic acids in native and denaturing condition. Mass spectrometry assisted analysis

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">Basis of Biochemistry</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>written exam</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 colspan="2">Literature required to pass the course: broad range of scientific articles focused on the lecture topic</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Non aplicable</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">1. Affinity chromatography

2. Size exclusion

3. Electrophoretic separation</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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