University of Gdańsk

Subject card

Subject name and code	Biomolecules - laboratory , PG_00206159		
Field of study	Oceanography		
Date of commencement of studies	October 2027	Academic year of realisation of subject	2028/2029
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Optional subject group Subject group related to scientific research 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	4	ECTS credits	4.0
Learning profile	academic	Assessment form	credit
Conducting unit	Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Robert Konkel	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	45.0	0.0	0.0	45

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	45	3.0	27.0	75

Subject objectives

Acquiring basic knowledge about organic compounds of natural origin, their structure, properties, and methods of detection. The ability to use basic techniques and equipment employed in biochemical, chemical, and biological laboratories.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANL3-U03] is able to process, describe, and present results, and draw conclusions	Is capable of processing and describing the results of biomolecule analyses and interpreting them.	[SU2] presentation/project/paper/ report
[OCEANL3-K01] is willing to plan and implement, individually or as a team, the subsequent stages of the entrusted task, is willing to take responsibility for the results of these works, effectively cooperates in the team and performs various roles in it	Is ready to take responsibility for their own work as well as work done in a team.	[SK2] presentation/project/paper/ report
[OCEANL3-W02] has a broad knowledge and understanding of physical, biological, chemical, and geological processes and phenomena occurring in aquatic environments, with particular emphasis on the marine environment	Knows and understands the basic properties of various biomolecules.	[SW4] test/exam - oral or written

Subject contents

1. Detection and characterization of various groups of organic compounds.
2. Kinetics of enzymatic reactions.
3. Transport across biological membranes.
4. Techniques for separation, isolation, and identification of biomolecules (including flash chromatography, preparative and analytical chromatography, mass spectrometry, hybrid techniques).
5. Mechanisms of ion and organic compound transport across biological membranes.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></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>Report</td><td>51.0%</td><td>10.0%</td></tr>
<tr><td>Test</td><td>51.0%</td><td>90.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Yadav, H.S., 2021. Biochemistry. UAE: Bentham Science Publisher.</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Articles in Marine Drugs journal.</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"></td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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