University of Gdańsk

Subject card

Subject name and code	Sociomicrobiology - lecture, PG_00192690		
Field of study	Marine Biotechnology		
Date of commencement of studies	October 2027	Academic year of realisation of subject	2027/2028
Education level	Master's studies	Subject group	Obligatory subject group in the field of study Optional subject group Humanistic-social subject group
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	English
Semester of study	2	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Intercollegiate Faculty of Biotechnology Office -> Intercollegiate Faculty of Biotechnology UG-MUG -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Michał Obuchowski	
	Teachers		

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	1.0	9.0	25

Subject objectives

The student understands the need to adopt a new way of perceiving microorganisms not as individual cells, but as a functionally connected community (BIOTECHL3_W01). Is capable of demonstrate the need to study certain processes and behaviors of microorganisms in the context of entire populations
bacteria and not single cells (BIOTECHL3_W03). Understands the limitations in understanding the collective bacteria caused by the use of laboratory methods of cultivating microorganisms (BIOTECHL3_K01).
Is able to plan a sequence of works enabling the analysis of the social behavior of microorganisms.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[MBMU2-KW04] Knows and deeply understands advanced research methods used in marine biotechnology and related sciences	The student understands the selected ones biological phenomena at the level molecular. He knows their capabilities applications in biotechnology.	[SW4] test/exam - oral or written
[MBMU2-KK01] Is ready to critically evaluate his knowledge and continuously improve, update and upgrade his skills in the field of marine biotechnology	The student notices and understands interdependencies between microorganisms and between microorganisms and the environment.	[SK4] test/exam - oral or written
[MBMU2-KW03] Has an in-depth knowledge and understanding of complex biological phenomena at the molecular level, understands their significance for an organism, marine environment and marine biotechnology	The student is aware of the limitations knowledge describing the world microorganisms. He needs her constant dredging.	[SW4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td>Revision of the dogma that bacteria are single-celled organisms in the light of the results
research in recent years. The issue of individuality of bacterial cells in a genetically homogeneous population.
The importance of the sense of density for group behavior of microorganisms and communication
interspecies. Biofim - a sessile community of bacteria. Functional specialization within the biofilm
bacterial. Coordinated movement of bacteria as a manifestation of collective pursuit of a goal. Cannibalism
as
how the population behaves. Altruistic death among bacteria.</td></tr>
<tr><td>Prerequisites
and co-requisites</td><td></td></tr>
<tr><td>Assessment methods
and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>test/exam</td><td>51.0%</td><td>100.0%</td></tr>
</table></td></tr>
<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>Review articles on issues discussed during the lecture provided by the
instructor during the classes.
"Sociomicrobiology" script.</td></tr>
<tr><td>Supplementary literature</td><td>None</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/
example questions/
tasks being completed</td><td></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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