University of Gdańsk

Subject card

Subject name and code	Marine natural products - lecture, PG_00054201		
Field of study	Marine Biotechnology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	postgraduate studies	Subject group	
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	English English
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Pracownia Biotechnologii Morskiej -> Katedra Biologii Morza i Biotechnologii -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Hanna Mazur Marzec	
	Teachers	prof. dr hab. Hanna Mazur Marzec	

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

Additional information:
lecture with multimedia presentation

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	20.0	55

Subject objectives

Acquisition by student knowledge on the main producers of bioactive marine products (MNPs), structure, activity and biotechnological potential of MNPs (KW_01).

Learning outcomes

Course outcome	Subject outcome	Method of verification
[MBMU2-KW01] Knows and broadly understands the value of natural marine resources	KW_01 Student possesses knowledge about the diversity and biotechnological potential of marine natural products	[SW4] test/exam - oral or written

Subject contents

Historical background and branches of marine biotechnology, main producers of biotechnologically important MNPs, natural and alternative sources of bioproducts, structural diversity of MNP, low value MNPs (food, feed and energy) and high added value MNPs (enzymes, drugs, cosmeceuticals, nutraceuticals, functional food, food supplements, pigments, biomaterials, antifouling agents), from hits to lead, biotechnological application of MNPs - case studies, from biomass to bioproduct.Model organisms of marine ecosystem interactions (ameba-*Legionella*, sociobiology of sponges and corals); potential source of MNPs (e.g fluorescent proteins, enzymes)

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
exam	51.0%	100.0%

Recommended reading

Basic literature	Selected articles from scientific journals, e.g.: Marine Drugs, Marine Natural Products, provided by the teacher
Supplementary literature	Marine Natural Products, 2021, Editor Hiromasa Kiyota, Springer

	eResources addresses	Podstawowe https://www.mdpi.com/journal/marinedrugs/special_issues - Collection of articles on marine natural products of high added value https://pubs.rsc.org/en/journals/journalissues/np#!themedcollections - Collection of articles on marine natural products Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Marine natural products of low and high added value Valorisation and bioprocessing Marine proteins, peptides and polisaccharides - main producers, biosynthesis, isolation, structure, bioactivity, biotechnological potantial	
Work placement	Not applicable	

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