University of Gdańsk

Subject card

Subject name and code	Marine Natural Products - lecture, PG_00201680		
Field of study	Marine Biotechnology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's studies	Subject group	Obligatory subject group in the field of study 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	1	Language of instruction	English
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	exam
Conducting unit	Laboratory of Marine Biotechnology -> Department of Marine Biology and Biotechnology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Hanna Mazur-Marzec	
	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	1.0	19.0	50

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] Has an in-depth knowledge and understanding of the significance, limitations and potential applications of natural marine resources in the context of the complex biological, environmental and technological factors influencing the development of biotechnology.	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
Optionally - partial tests (open questiona)	51.0%	50.0%
exam	51.0%	50.0%

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	
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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