University of Gdańsk

Subject card

Subject name and code	Marine Pharmacology - lecture, PG_00192676		
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	2	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
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	10.0	0.0	0.0	0.0	0.0	10

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	10	1.0	14.0	25

Subject objectives

Acquisition by students knowledge on pharmaceutical potential of marine bioproducts and technologies used to evaluate their drugability; bioassays; pharmakokinetics and pharmacodynamics.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[MBMU2-KW02] Has an in-depth knowledge of the possibilities of biotechnological use of marine resources	The student will possess knowledge about the pharmaceutical application of marine natural products.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[MBMU2-KW04] Knows and deeply understands advanced research methods used in marine biotechnology and related sciences	Knows and understands the role of preclinical and clinical tests in development of new drug.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[MBMU2-KK04] Is ready to assess and understand the risks and dilemmas, including ethical dilemmas associated with conducting scientific research and introduction of advanced technologies; understands and appreciates the importance of intellectual property; acts ethically	The student will be able to discuss and evaluate the hazards and ethical dilemmas related to the development of marine products as bio-pharmaceuticals.	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written

Subject contents

Principles of development of marine bioproducts as potential drugs. Rationale, adventages and disadventages of different in vitro assays, cell-culture assays, organoids and model organisms. Purpose and stages of pre-clinical and clinical trials. Examples of drugs developed from marine bioproducts.

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	Schumacher Alexander, Hinder Markus, Gassmann Oliver, 2016. Value Creation in the Pharmaceutical Industry: The Critical Path to Innovation, Wiley-VCH, ISBN-10: 3527339132; ISBN-13: Graham Patric., 2018. An Introduction to medicinal chemistry. Oxford University Press, UK, ISBN: 9780198796589
	Supplementary literature	Selected articles from scientific journals e.g..: Marine Drugs (MDPI), Marine Biotechnology (Springer)
	eResources addresses	
Example issues/ example questions/ tasks being completed	Pharmacokinetics, pharmacodynamics, ADME assays, preclinical and clinical trials, marine drugs	
Work placement	Not applicable	

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