University of Gdańsk

Subject card

Subject name and code	Antibiotics and chemotherapeutics - lecture, PG_00192685		
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 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	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

To familiarize students with biologically active substances belonging to antibiotics. Presentation of the mechanism of action and acquisition of antibiotic resistance by microorganisms. Historical outline of the use of antibiotics and the increase in antibiotic resistance.
To familiarize students with biologically active substances used in chemotherapy. Show mechanism of action and acquisition of resistance to used chemotherapy drugs.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[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	Students know the molecular basis of major biological processes and their potential usefulness.	[SW4] test/exam - oral or written
[MBMU2-KW02] Has an in-depth knowledge of the possibilities of biotechnological use of marine resources	Students know basic concepts and terms used in biotechnology and related disciplines.	[SW4] test/exam - oral or written

Subject contents

Definition of antibiotic. Division of antibiotics according to their chemical structure. Mechanisms of action of antibiotics with different chemical structures. Mechanisms of resistance. Definition of chemotherapy drugs. The drug development process. Division of chemotherapy drugs according to their chemical structure and spectrum of action. Mechanism of action of chemotherapy drugs. Antiviral chemotherapeutics. Acquiring resistance to therapies using chemotherapeutics.

Prerequisites and co-requisites

Assessment methods and criteria

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

Recommended reading

Basic literature	Publications and other materials indicated by the instructor.

	Supplementary literature	Makarewicz Z, Kwiatkowski ZA, Bacteria, antibiotics, drug resistance, PWN 2018
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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