

Subject card

Subject name and code	Antibiotics and chemotherapeutics, PG_00120112						
Field of study	Marine Biotechnology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Master's studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		English		
Semester of study	4		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		2.0		10.0	27
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] Knows and understands 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 advanced 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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