

Subject card

Subject name and code	Biodiversity of marine organisms - lecture, PG_00058917						
Field of study	Marine Biotechnology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
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				
Conducting unit	Department of Marine Biology and Biotechnology -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Anna Toruńska-Sitarz				
	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		5.0		15.0	50
Subject objectives	At the end of the course student will be able to: identify and classify marine organisms based on the current taxonomy and systematics, discuss the possibilities and limitations of biodiversity studies, explain mechanisms responsible for diversification of vertebrate species.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[MBMU2-KW01] Knows and broadly understands the value of natural marine resources		KW_01 The student possess a broad knowledge and understanding of the range and value of the diversity of marine organisms; knows the classical and modern tools used to study the biodiversity of Archaea, Bacteria, Eukaryotes, and Viruses.		[SW4] test/exam - oral or written		

Subject contents	1. Structural and functional diversity of marine microbes (bacteria, archaea, microfungi, protists). 2. Culture-independent approaches to studying microbial communities. 3. Diversity of macrophytes; commercially important taxa. 3. Marine viruses. 4. Diversity of pelagic invertebrates. 5. Diversity of benthic invertebrates. 6. Methods of measuring invertebrate diversity. 7. Invertebrate fisheries and aquaculture. 8. Biotechnological potential of marine invertebrates. 9. Fishes large number of species and huge variation of phenotypes. 10. Evolution of the vertebrate genomes and whole genome duplication events. 11. Adaptive radiation and introgression. 12. Genetic variation of the vertebrate stocks.		
Prerequisites and co-requisites	Formal requirements: none. Prerequisites: basic knowledge on biology.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written exam	51.0%	100.0%
Recommended reading	Basic literature	1. Munn C.B., Marine Microbiology Ecology & Applications, CRC Press 2. Levinton J. Marine Biology, Oxford University Press 3. Volf J-N. 2005. Genome evolution and biodiversity of teleost fish. Heredity 94; 280-294. 4. Johanson Z. et al. 2019. Evolution and development of Fishes. Cambridge University Press. 5. Helfman G. 2009. The diversity of Fishes. Biology, evolution and Ecology. Wiley-Blackwell. 6. Set of up-to-date scientific papers selected by the teaching staff	
		Supplementary literature	
	eResources addresses		Set of up-to-date scientific papers selected by the teaching staff.
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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