

Subject card

Subject name and code	Methodology of underwater research of the marine environment, PG_00121051						
Field of study	Oceanography						
Date of commencement of studies	October 2025		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	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Laboratory of Ichthyology -> Department of Marine Ecology -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Mariusz Sapota				
	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		12.0		6.0	33
Subject objectives	To familiarize students with the basic issues concerning the methods of using the diving technique for scientific research						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[OCEANMU2-K05] is ready to follow the rules occupational health and safety, taking care of the entrusted person specialized and recognition equipment emergency situations and take appropriate action activities		is ready to comply with the principles of occupational health and safety, is aware of the risks and hazards resulting from working underwater with the use of specialized equipment		[SK4] test/exam - oral or written		
	[OCEANMU2-U03] can plan and carry out independently advanced research and measurements, both in field and laboratory, using appropriately selected measurement and analytical techniques in the field of oceanography, adequately to the studied specialty and research problem		is able to select basic measurement and analytical techniques used in underwater research of the marine environment, adequately to the scientific problem posed		[SU4] test/exam - oral or written		
	[OCEANMU2-W03] knows and understands research methods used in oceanography and related sciences		knows and understands to an in-depth degree complex research issues and the latest directions in underwater research in the field of oceanography		[SW4] test/exam - oral or written		

Subject contents	Underwater research techniques (free diving, unmanned vehicles, remotely operated unmanned vehicles, etc.)		
	Methodology of underwater research using the free diving technique (research planning, equipment requirements and authorizations, safety rules)		
	History of underwater research in the Baltic Sea		
	The use of free diving techniques in marine environment research		
	Organization of scientific diving in Europe		
	Interpretation of geological separations, sedimentary structures of the seabed		
	The use of free diving in archaeological research		
	Presentation of underwater photos and videos documenting scientific underwater research		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	final test	51.0%	100.0%
Recommended reading	Basic literature	Beker L., Kaczyński R., 1985, Fotografia i fotogrametria podwodna. Wydawnictwo Naukowo-Techniczne. Macke J., Kuszewaki K., Zieleniec G., 1989, Nurkowanie. Wydawnictwo Sport i turystyka Warszawa Olszański R., Skrzyński S., Kłos R., 1997, Problemy medycyny i techniki nurkowej. Wydawnictwo Okrętownictwo i Żegluga Spółka z o.o Przylipiak M., Torbus J.,1981, Sprzęt i prace nurkowe poradnik. Wydawnictwo Ministerstwa Obrony Narodowej Cappo M., Brown I.W., 1996. Evaluation of sampling methods for reef fish populations for commercial and recreational inter-est. CRC Reef Research Centre. Technical report no. 6. Townsville CCRC Reef Research Centre 72pp.	
	Supplementary literature	Krzyżak J., 1998, Medycyna dla nurków. Fizjopatologia nurkowania. Wydawnictwo KOOPgraf S.C.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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