

Subject card

Subject name and code	Marine Fishes - laboratory, PG_00204920						
Field of study	Oceanography						
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			Polish		
Semester of study	2	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 Anna Dziubińska					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	10.0	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		2.0		13.0	25
Subject objectives	Getting to know and identifying representatives of the main groups of marine fishes						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[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		can plan and carry out measurements and observations allowing for taxonomic identification of marine fishes		[SU3] text preparation/written work [SU6] demonstration of practical skills		
Subject contents	Morphological systematic features of the Holocephala and the Elasmobranchii Systematic division and overview of shark orders Practical familiarization with selected fish species <ul style="list-style-type: none"> • Petromyzontiformes • Acipenseriformes • Anguilliformes • Clupeiformes • Perciformes 						

Prerequisites and co-requisites	Basic knowledge of zoology		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	demonstration of practical skills	51.0%	10.0%
	written elaboration of the results of the observations carried out	51.0%	90.0%
Recommended reading	Basic literature	<p>Gąsowska M., 1962. Kręglouste i ryby. Państwowe Wydawnictwo Naukowe. Warszawa</p> <p>Grodziński Z., 1981. Anatomia i embriologia ryb. Państwowe Wydawnictwo Rolnicze i Leśne. Warszawa</p> <p>Opuszyński K., 1979. Podstawy biologii ryb. Państwowe Wydawnictwa Rolnicze i Leśne. Warszawa</p> <p>Pliszka F., 1964. Biologia ryb. Państwowe Wydawnictwa Rolnicze i Leśne. Warszawa</p> <p>Suworow E., 1954. Podstawy ichtiologii. Państwowe Wydawnictwo Naukowe. Warszawa</p> <p>Bieniarz K., Epler P. Zoologia Tom V, Ryby. Leksykon popularnonaukowy. Wydawnictwo Albatros, Kraków 2004</p> <p>Nelson J.S. Fishes of the World. Wiley 2006</p> <p>Kottelat M., Freyhof J. Handbook of European Freshwater Fishes. 2007</p> <p>Jasiński A., 1973. Zootomia kręgowców. Państwowe Wydawnictwo Naukowe</p> <p>Klimaj A., Rutkowicz S., 1970. Atlas ryb Północnego Atlantyku. Wydawnictwo Morskie. Gdańsk</p> <p>Rutkowicz S., 1982. Encyklopedia ryb morskich. Wydawnictwo Morskie. Gdańsk</p>	
	Supplementary literature	<p>Bone Q.M.A., Marshall N.B., 1982. Biology of fishes. Blackie. Glasgow and London</p> <p>Cailliet G.M., Love M.S., Ebeling A.W., 1986. Fishes. Wadsworth Publishing Company, Belmont, California</p> <p>Lagler K.F., Bardach J.E., Miller R.R., May Passino D.R., 1977. Ichthyology. John Wiley & Sons. New York, Chichester, Brisbane, Toronto</p>	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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