

Subject card

Subject name and code	Aquaculture - laboratory exercises, PG_00044098						
Field of study	Oceanography						
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 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	1		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Marine Ecosystems Functioning -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Marek Klin				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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		0.0		25.0	55
Subject objectives	The objective of this course is to acquaint students with the cultivation of various groups of aquatic organisms (algae, plants, invertebrates, fish), considering biological, legal, socio-economic, environmental, and marketing factors.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[OCEANMU2-W05] knows and understands the principles of planning and conducting field and laboratory research as well as advanced methods and tools of scientific research, especially in the field of the studied specialty	The student possesses an in-depth knowledge and understanding of the principles of planning and conducting field and laboratory research, as well as the methods and tools used in scientific research, particularly in the fields of biotechnology and aquaculture (curriculum content B. 1-4).	[SW4] test/exam - oral or written [SW5] implementation of a problem task
	[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	The student is capable of independently planning and conducting advanced research and measurements, both in the field and in the laboratory, using appropriately selected measurement and analytical techniques in the field of aquaculture, in accordance with their area of specialization and the research problem under consideration (curriculum content: B.1-4).	[SU5] implementation of a problem task
	[OCEANMU2-K01] is ready to plan, implement and supervise, individually or collectively, next stages of the entrusted task, is ready to take responsibility for its results, cooperates effectively in the team and performs its functions in it various functions, including managerial ones	The student is prepared to plan, execute, and supervise, both individually and as part of a team, the successive stages of assigned tasks in the field of aquaculture. They are ready to take responsibility for the outcomes, effectively collaborate within a team, and assume various roles, including leadership positions.	[SK8] observation of student's independent or team work
	[OCEANMU2-K06] is ready to think and act in a way enterprising, and based on qualifications, engaging in preparation or implementation of professional tasks	The student is prepared to think and act in an entrepreneurial manner, leveraging their qualifications to engage in the preparation and execution of tasks in the broad field of aquaculture (curriculum content: B.1-4).	[SK2] presentation/project/paper/report
	[OCEANMU2-W03] knows and understands research methods used in oceanography and related sciences	The student possesses an in-depth knowledge and understanding of the research methods employed in aquaculture and related sciences (curriculum content B.1-B4)	[SW4] test/exam - oral or written [SW5] implementation of a problem task
Subject contents	B. Lecture Topics B 1: Understanding the operation of an aquaculture facility. B 2: Ontogeny of fish: from gamete to fry - laboratory sessions. B 3: Invertebrates in aquaculture - laboratory sessions. B 4: Algae cultivation - plants in aquaculture.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Carrying out/conducting research and presenting its results	51.0%	50.0%
	Activity during classes	51.0%	50.0%

Recommended reading	Basic literature	Biegała Z., 2014. Zrównoważony rozwój akwakultury alternatywną przyszłością sektora przetwórstwa rybnego. Rocznik Samorządowy 3, 12-25. Demska-Zakęś K., 2008. Innowacyjne techniki oceny biologicznej i ochrony cennych gatunków ryb hodowlanych i raków. Wydawnictwo IRS. Das P., Mandal S.C., Bhagabati S.K., Akhtar M.S., Singh S.K., 2012. Important live food organisms and they role in aquaculture. Frontires in Aquaculture 5, 69-86. Goryczko K., Grudniewska J., 2015. Chów i hodowla pstrąga tęczowego. Wyd. IRS. Opuszyński K., 1979. Podstawy Biologii ryb. Wydawnictwo Rolnicze i Leśne. Rana K.J., 2007. Regional Review on Aquaculture Development 6. Western-European Region 2005. FAO Fisheries Circular No. 1017/6, ISSN 0429-9329. Stickney R.R. (ed.), 2000. Encyclopedia of Aquaculture. John Wiley&Sons, Inc., ISBN: 978-0-471-29101-5. Varadi L., Szucs I., Pekar F., Blokhin S., Csavas I., 2001. Aquaculture development trends in Europe, W: Subasinghe R.P., Bueno P.B., Phillips M.J., Hough C., McGladdery S.E., Arthur J.R. (red.) Aquaculture in the Third Millennium - Technical Proceedings of the Conference on Aquaculture in the Third Millennium, pp. 397-416. Bangkok, Thailand. 2025 February 2000. NACA, Bangkok and FAO, Rome. 471 pp. Zakęś Z., 2008. Biotechnologia w akwakulturze. Wydawnictwo IRS.
	Supplementary literature	Scientific publications from the journals Aquaculture, Aquaculture Research, and Aquaculture International, as indicated by the lecturer.
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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