University of Gdańsk

Subject card

Subject name and code	Fish Reproduction and Hatching - lecture, PG_00201293		
Field of study	Aquaculture – Business And Technology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Subject group related to practical vocational preparation
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	2.0
Learning profile	practical	Assessment form	exam
Conducting unit	Laboratory of Aquaculture -> Department of Marine Biology and Biotechnology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Konrad Ocalewicz	
	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	2.0	18.0	50

Subject objectives	
	1. providing students with practical knowledge regarding the reproduction and rearing of fish in controlled conditions.2. presenting students with biotechnological methods of producing single-sex and sterile fish stocks.3. familiarizing the student with modern technologies of production, rearing and transport of stocking material

Learning outcomes

Course outcome	Subject outcome	Method of verification
[AKWAL3_W06] has an advanced understanding of techniques, research methods and tools used in aquaculture	Knows the principles of optimizing breeding methods for invertebrates and aquatic vertebrates and has acquired theoretical and practical knowledge of diagnostic methods used in fish reproduction	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[AKWAL3_W03] has an advanced understanding of the conceptual categories and terminology related to the biological basis of aquatic organisms breeding, as well as concepts directly relevant to the practical applications of this knowledge	It characterizes the general principles of creating and developing forms of individual entrepreneurship linked to aquaculture	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[AKWAL3-K04] is ready to identify and recognize dilemmas connected with the profession and understands the need to improve professional competence	Understands the need to improve professional and personal competences connected to new techniques in fish reproduction	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written
[AKWAL3-U04] can select and use available sources of information, and understand the literature on aquaculture in a broad sense	Applies basic fish reproduction techniques and technological processes related to the use of environmental elements for practical purposes in aquaculture.	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written [SU8] observation of student's independent or team work

Subject contents

A1. cell functioning: DNA replication and division of somatic and reproductive cells,A2. gametogenesis,A3. structure of fish gametes and assessment of their quality.A4. biological basis of the fertilization process,A5. storage and transport of fish gametes,A6. basics of fish embryogenesis,A7. basics of sex determination and gonad differentiation in fish,A8. endocrinology and environmental influence on fish reproductive processes,A9. maintaining spawning stocks of fish and assessing the sexual maturity of spawners,A10. fish reproductive cycle and production cycle in the breeding center,A11. rearing of juvenile stages of fish,A12. biotechnological methods of producing single-sex and sterile fish stocks,A13. interspecific hybridization of fish,

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
final exam	51.0%	100.0%

Recommended reading

Basic literature	Bieniarz K., Epler P. 1991. Fish breeding, ed. Lettra, Krakow, Cabrita E., Robles V., Herraez P 2008. Methods in reproductive aquaculture: marine and freshwater species. CRC marine Biology series/CRC Press, Demsk-Zakęś K. 2008. Innovative techniques for biological assessment and protection of valuable species of farmed fish and crayfish. Institute Publishing House Rybactaw Inland Goryczko K. 2008. Trout. Breeding and breeding. Ed. Institute of Inland Fisheries Olsztyn.
Supplementary literature	Articles about fish reproduction and reproduction published in industry journals, e.g. Journal of Fish Biology, Aquaculture, Aquaculture International, Aquaculture Research, Theriogenology, Komunikaty Rybackie
eResources addresses	

Example issues/ example questions/ tasks being completed

List three methods for obtaining single-sex (all female) stocks of rainbow trout.

Work placement

Not applicable

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