University of Gdańsk

Subject card

Subject name and code	Fish Reproduction and Hatching - laboratory classes, PG_00201319		
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	credit
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	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	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 optimization of fish breeding methods and has acquired theoretical and practical knowledge of the diagnostic methods used	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report
[AKWAL3-K04] is ready to identify and recognize dilemmas connected with the profession and understands the need to improve professional competence	Has knowledge of the basic conceptual categories and terminology regarding the biological basis of fish farming, as well as concepts directly related to the practical applications of this knowledge	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written
[AKWAL3-U06] can apply basic techniques and technological processes related to the use of elements of the environment for practical purposes	Demonstrates the ability to correctly reason based on available data related to fish reproductive processes.	[SU4] test/exam - oral or written [SU6] demonstration of practical skills [SU8] observation of student's independent or team work

Subject contents

1. collecting germ cells and testing their quality, 2. insemination and early embryonic development of fish, 3. induction of gynogenesis processes and polyploidization in fish, 4. macroscopic and histological analysis of gonads in juvenile and adult fish and individuals after hormonal sex change, 5. basics of work in a fish hatchery: care during fish rearing from the fertilization stage

Prerequisites and co-requisites

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>test 1</td><td>51.0%</td><td>50.0%</td></tr>
<tr><td>test 2</td><td>51.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Bieniarz K., Epler P. 1991. Fish reproduction, 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.

Articles on fish reproduction and reproduction published in industry journals, e.g. Journal of Fish Biology, Aquauculture, Aquaculture International, Aquaculture Research, Theriogenology, Fisheries Communications</td></tr>
<tr><td>Supplementary literature</td><td>Gjedrem T., Baranski M. 2009. Selective breeding in aquaculture: an introduction. Springer. Articles on fish reproduction and reproduction published in industry journals, e.g. Journal of Fish Biology, Aquaculture, Aquaculture International, Aquaculture Research, Theriogenology, Fisheries Communications</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Microscopic analysis of fish sperm motility.</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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