University of Gdańsk

Subject card

Subject name and code	Applied Phycology - lecture, PG_00201286		
Field of study	Aquaculture – Business And Technology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2028/2029
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	5	ECTS credits	1.0
Learning profile	practical	Assessment form	exam
Conducting unit	Department of Marine Ecosystems Functioning -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Sylwia Śliwińska, prof. UG	
	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	1.0	9.0	25

Subject objectives

The aim of the course is to familiarise the student with the practical possibilities of using algal biomass obtained from mass culture

Learning outcomes

Course outcome	Subject outcome	Method of verification
[AKWAL3_W05] has an advanced understanding of the methods of aquatic plants and algae culture, can develop and constructively apply this knowledge in this areay	Student knows and understands cyanobacteria and algae culturing methods, is able to develop and critically apply his/her knowledge in the use and processing of biomass (curriculum content: 1-5)	[SW4] test/exam - oral or written
[AKWAL3-W12] knows and understands the role of aquaculture in the modern economy and its impact on the natural environment	Student knows and understands the role of aquaculture, with particular emphasis on cyanobacteria and algae culturing, in the modern economy and its impact on the environment (curricular content: lecture 1-5)	[SW4] test/exam - oral or written
[AKWAL3_W06] has an advanced understanding of techniques, research methods and tools used in aquaculture	Student knows and discusses techniques and research tools used in mass cultures of cyanobacteria and algae (curriculum content: lecture 1-5)	[SW4] test/exam - oral or written

Subject contents

1. Biological basis of mass culture.
2. Algal culture systems.
3. Biomass processing and harvesting methods.
4. Industrial use of biomass.
5. Algal mass cultures in environmental protection and agriculture.

Prerequisites and co-requisites

none

Assessment methods and criteria

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

Recommended reading	Basic literature	1. Richmond, A., 2004, Handbook of microalgal culture. Biotechnology and applied phycology. Blackwell Publishing, Oxford, UK. 2. Johansen, M.N., 2012, Microalgae. Biotechnology, microbiology and energy. NOVA Science Publisher INC., New York. 3. Richmond, A., 2000, Handbook of microalgal mass culture. CRC Press, Baco Raton, Florida. 4. Khanal, S.K., Surampalli, R.Y., Zhang, T.C., Lamsal, B.P., Tyagi, R.D., Kao, C.M., 2010, Bioenergy and biofuel from biowaste and biomass. ASCE, Reston, Virginia.NOVA
	Supplementary literature	1. Anderson R.A., 2005, Algal culturing techniques. Elsevier Academic Press, Oxford, UK.NOVA Science Publisher INC., New York. 2. Fogg, G.E., Thake, B., 1987, Algal Cultures and Phytoplankton Ecology. The University of Wisconsin Press, Madison, Wisconsin.
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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