

**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				
	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-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_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_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	<ol style="list-style-type: none"> <li>1. Richmond, A., 2004, Handbook of microalgal culture. Biotechnology and applied phycology. Blackwell Publishing, Oxford, UK.</li> <li>2. Johansen, M.N., 2012, Microalgae. Biotechnology, microbiology and energy. NOVA Science Publisher INC., New York.</li> <li>3. Richmond, A., 2000, Handbook of microalgal mass culture. CRC Press, Baco Raton, Florida.</li> <li>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</li> </ol>
	Supplementary literature	<ol style="list-style-type: none"> <li>1. Anderson R.A., 2005, Algal culturing techniques. Elsevier Academic Press, Oxford, UK.NOVA Science Publisher INC., New York.</li> <li>2. Fogg, G.E., Thake, B., 1987, Algal Cultures and Phytoplankton Ecology. The University of Wisconsin Press, Madison, Wisconsin.</li> </ol>
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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