

Subject card

Subject name and code	Physiology of algae and cyanobacteria - lectures, PG_00075908						
Field of study	Aquaculture – Business And Technology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group				
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 Filip Pniewski				
	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		5.0		10.0	30
Subject objectives	The aim of the course is to familiarise the student with the basic physiology of cyanobacteria and algae and the factors determining their growth and metabolic processes.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[AKWAL3_W05] knows and understands the methods of aquatic plants and algae culture, can develop and constructively apply this knowledge in this areay		Student knows and understands the methods of culturing cyanobacteria and algae and understands the changes in physiological processes occurring during their growth; student is able to develop and constructively apply the received knowledge depending on the purpose of the culturing process (curriculum content: 1-4)		[SW4] test/exam - oral or written		
Subject contents	1. Effects of light, temperature, salinity and macro- and micronutrients on the rate of production processes and growth of photosynthetic organisms. 2. Photosynthesis, respiration, photoacclimation processes, photoprotection, photoinhibition, photorespiration, carbon assimilation, nitrogen assimilation. 3. Metabolic pathways for the synthesis of selected compounds (pigments, lipids, polysaccharides, etc.) produced by algae and cyanobacteria. 4. Practical aspects of cyanobacterial and algal physiology.						
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. Zurzycki Jan, Michniewicz Marian (eds.) - Fizjologia roślin, PWRiL, Warszawa, 1985 2. Gumiński Stefan - Fizjologia glonów i sinic - Wyd. Uniw. Wrocławskiego, Wrocław, 1990 3. Dera Jerzy - Fizyka Morza/Marine physics, PWN/Elsevier, Warszawa/Amsterdam, 1983/1992 4. Stryer Lubert - Biochemia, PWN, Warszawa, 1997 5. Larkum Anthony, Douglas Susan, Raven John (eds.) Photosynthesis in Algae, Springer Science+Business Media, LLC, 2003 6. Szewykowska Alicja Fizjologia roślin, 1997
	Supplementary literature	1. Renk Henryk - Fotosynteza w Fitoplanktonie Bałtyku, WSP, Słupsk, 1989 2. Renk Henryk Produkcja pierwotna południowego Bałtyku MIR, Studia i Materiały, Seria A, Numer 35, Gdynia 2000. 3. Salisbury Franck B., Ross Cleon - Fizjologia roślin, PWRiL, Warszawa, 1975 4. Schulze E-D. Caldwell M.M. (eds.) - Ecophysiology of Photosynthesis, Springer-Verlag, Berlin, 1994 5. Kirk J.T.O. - Light and photosynthesis in aquatic ecosystems, Cambridge Univ. Press, Cambridge, 1983, 1994 6. Dring - The biology of marine plants - Cambridge Univ. Press, Cambridge, 1992
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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