University of Gdańsk

Subject card

Subject name and code	Water Biology - lecture, PG_00186972		
Field of study	Water Management and Protection of Water Resources		
Date of commencement of studies	October 2027	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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	practical	Assessment form	exam
Conducting unit	Department of Marine Biology and Biotechnology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Justyna Kobos	
	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	1.0	19.0	50

Subject objectives

To convey the basic concepts and terms of aquatic biology. To learn about the specific ecological characteristics of the aquatic environment and the adaptations of living organisms to this environment.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GWOZWL3-W01] in advanced basic biological, physical and chemical processes and phenomena, as well as analyzes their mutual relations and course in relation to natural environment and socio-ecological systems.	knows and understands to an advanced degree the basic biological processes and phenomena, as well as analyzes their interrelationships and course in relation to the natural environment and social-ecological systems	[SW4] test/exam - oral or written
[GWOZWL3-W08] advanced knowledge and understanding of the key concepts and issues within their field of study in foreign language.	Knows and is able to use basic concepts related to the field of study in English.	[SW1] oral statement/ conversation/discussion [SW3] text preparation/written work

Subject contents

1. Biology and ecology of aquatic organisms (nutrition, reproduction, osmoregulation)
2. Characteristics of basic ecological formations (plankton, benthos, nekton, neuston, pleuston)
3. Specifics of the conditions of life in water (physical, chemical, edaphic, biological parameters)
4. Characteristics of basic types of water bodies
5. Energy flow and circulation of matter in aquatic ecosystems
6. Productivity of aquatic ecosystems
7. Problems of modern hydrobiology: eutrophication, saprobification, acydification
8. Comparison of the functioning of freshwater, brackish and marine ecosystems

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="2"></td></tr>
<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>exam</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Odum E., 1982, Podstawy ekologii, PWRiL, Warszawa

Starmach K., Wróbel S., Pasternak K., 1976, Hydrobiologia. Limnologia, PWN, Warszawa

Mikulski J. S., 1982, Biologia wód śródlądowych, PWN, Warszawa

Pliński M., 1992, Hydrobiologia ogólna, skrypt Uniwersytetu Gdańskiego, Gdańsk</td></tr>
<tr><td>Supplementary literature</td><td>Kajak Z, Górniak A., 2019, Hydrobiologia. Limnologia, PWN, Warszawa

Pliński M., 2008, Biologia organizmów morskich, wydawnictwo Uniwersytetu Gdańskiego, Gdańsk

Thurman U., 1982, Zarys oceanologii, Wydawnictwo morskie, Gdańsk

Podbielkowski Z., Tomaszewicz H., 1979, Zarys hydrobotaniki, PWN, Warszawa

Starmach K., 1973, Wody śródlądowe. Zarys hydrobiologii, skrypt Uniwersytetu Jagiellońskiego, Kraków</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2"></td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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