University of Gdańsk

Subject card

Subject name and code	Monitoring, Protection and Management of Polar Environments - lecture, PG_00205301		
Field of study	Oceanography		
Date of commencement of studies	October 2027	Academic year of realisation of subject	2029/2030
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	English
Semester of study	6	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Plankton Biology -> Department of Marine Biology and Biotechnology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Anna Panasiuk	
	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

During the course, students will become familiar with methods used in the monitoring and study of marine environments, including polar regions and Antarctica. They will learn techniques for handling biological material that may be potentially contaminated with hazardous viruses (including avian influenza virus), methods for marking seabirds, including the use of geolocators, and approaches to statistical analysis of the collected data. The course will also cover the preparation of documentation related to the design of marine environmental protection measures, including those concerning particularly sensitive polar ecosystems, as well as the planning and establishment of marine protected areas. The course will also cover the key components of Antarctic area management (CCAMLR, Antarctic Treaty).b

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANL3-W06] has an advanced understanding of the principles of managing the marine environment and its resources, as well as the consequences of disrupting the balance of marine ecosystems	Has advanced knowledge and understanding of the principles of marine environment and resource management, particularly in polar regions, including Antarctica	[SW4] test/exam - oral or written
[OCEANL3-W05] has an advanced knowledge of techniques, research methods, and tools (mathematical, statistical, and computational) used by oceanographers to describe and interpret processes and phenomena occurring in the marine environment	Has advanced knowledge of techniques, research methods, and tools used in the work of an oceanographer for conducting research and monitoring in sensitive polar environments, with particular emphasis on predators, including seabirds	[SW4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td>• types of monitoring methods applied to indicator species in the Antarctic region krill and dominant Antarctic predators;
• methods used in monitoring dominant zooplankton species, including Antarctic krill;
• use of drones and geolocators in monitoring seabird population status;
• statistical methods applied in data analysis analysis of the spatio-temporal variability in the occurrence of Antarctic krill, and analysis of data on the abundance and reproductive performance of Antarctic predator populations;
• protection and management of the Antarctic ecosystem.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>test</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>CCAMLR Reports

Selected scientific publications.</td></tr><tr><td>Supplementary literature</td><td>Selected scientific publications.</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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