University of Gdańsk

Subject card

Subject name and code	Bioindication of Marine Environments - lecture, PG_00205292		
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	Polish
Semester of study	6	ECTS credits	2.0
Learning profile	academic	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 Aleksandra Zgrundo	
	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	2.0	18.0	50

Subject objectives

Familiarizing students with basic methods used in research to assess the quality of the aquatic environment. Creating a basis for critical reflection on the usefulness of appropriate tools and methods in monitoring the aquatic environment and proper interpretation of data.

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	Knows and understands the basic principles of managing the marine environment and its resources in a sustainable manner and the consequences of disturbing the balance of marine ecosystems	[SW4] test/exam - oral or written
[OCEANL3-K03] is ready to exercise caution and criticism in accepting information from scientific literature, the Internet and other media relating to natural sciences	Is prepared to exercise caution and criticism in accepting information from scientific literature, the Internet and other media relating to marine environment monitoring	[SK4] test/exam - oral or written
[OCEANL3-U06] is able to formulate and solve advanced problems related to the functioning of individual components of the marine environment, using knowledge from various fields and scientific disciplines	Is able to define the basic relationships concerning the functioning of individual components of the marine environment and the impact of humans on their functioning/is able to define the basic relationships between individual components of the marine environment, integrating knowledge from various fields and scientific disciplines	[SU4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td colspan="3">1. Introduction to issues related to the assessment of the condition of the aquatic environment 2. Basic tools and methods used in effective biological monitoring based on the use of biomarkers and plant and animal bioindicators 3. Discussion of best practices in the study of the quality of the condition of the aquatic environment against the background of documents on the protection and monitoring of waters in force in the EU and Poland</td></tr>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><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 colspan="2">Markert B.A., Breure A.M., & Zechmeister Z.G., 2003, Bioindicators and Biomonitors, Elsevier, ISBN 0080441777
Perry J., Vanderklein E., 2002, Water quality. Management of a Natural Resource, Blackwell Science, ISBN 0-86542-469-1, s. 639
Walker C.H., Sibly R.M., Peakall D.B, 2001, Principles of Ecotoxicology, Third Edition [Paperback], Taylor & Francis Group, ISBN 0-7484-0940-8

publications on water environment monitoring, key documents on water protection and monitoring applicable in the EU and Poland</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">publications on water environment monitoring, key documents on water protection and monitoring applicable in the EU and Poland</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3"></td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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