University of Gdańsk

Subject card

Subject name and code	Introduction to Environmental Photochemistry - laboratory, PG_00206153		
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	credit
Conducting unit	Laboratory of Marine Environmental Protection -> Department of Chemical Oceanography and Marine Geology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Waldemar Grzybowski, prof. UG	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	30.0	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

Familiarization with basic methods of examining the impact of solar radiation on the environment

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANL3-K06] is willing to use the acquired knowledge in planning and designing professional activities as well as thinking and acting in an entrepreneurial way, also in the field of social activities undertaken	follows the rules of occupational health and safety, takes care of specialist equipment entrusted to him, is aware of the risks resulting from performed task (program content: B.1-4	[SK4] test/exam - oral or written
[OCEANL3-U04] is able to independently search for information in Polish and foreign specialist literature, as well as on the Internet and in databases	can present the results contained in scientific publications English (program content: B.5)	[SU2] presentation/project/paper/ report
[OCEANL3-K01] is willing to plan and implement, individually or as a team, the subsequent stages of the entrusted task, is willing to take responsibility for the results of these works, effectively cooperates in the team and performs various roles in it	can plan and implement, individually or in a team, assigned tasks, cooperates in the team, performing various roles in it (content program: B.1-4)	[SK2] presentation/project/paper/ report
[OCEANL3-U02] is able to independently and collaboratively conduct observations and perform measurements in the field or laboratory using appropriately selected techniques, tailored to the research problem	is able to design under the supervision of a research supervisor an experiment aimed at solving a given task (content program: B.1-4)	[SU2] presentation/project/paper/ report

Subject contents	B. Laboratory issues B.1 solar radiation measurements using broadband sensors; testing the impact of optical filters; measuring and modifying emissions different types of sunlight simulators B.2 construction of a UVVIS spectrophotometer, measurement of optical properties of natural waters B.3 factors affecting the precision and accuracy of absorbance measurement B.4 observations of changes in the optical properties of natural waters under the influence of solar radiation B.5 presentation of a selected problem in the field of optical properties of natural waters based on an English-language scientific publication
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Presentation	51.0%	30.0%
Test	51.0%	70.0%

Recommended reading

Basic literature	Selected scientific articles on the optical properties of natural waters
Supplementary literature	Waldemar Grzybowski - Transformation of dissolved organic matter under the influence of solar radiation, 2006, UG Publishing House, Gdansk
eResources addresses	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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