University of Gdańsk

Subject card

Subject name and code	Persistent Organic Pollutants - lecture, PG_00205010		
Field of study	Oceanography		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master'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	1	Language of instruction	Polish
Semester of study	2	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Department of Chemical Oceanography and Marine Geology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Marta Staniszewska, prof. UG	
	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

Developing knowledge regarding the problems of hazardous substances from the group of Persistent Organic Pollutants (POPs) on a regional and global scale. Providing knowledge about POPs in various elements of the environment, mainly the marine environment, their sources of formation, migration and/or accumulation, and negative impact on organisms. Demonstrating ways to reduce the environmental risk caused by POPs. Familiarization with other classifications of dangerous compounds.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANMU2-W01] knows and understands in-depth specialized terminology used in oceanography and related sciences (in Polish and a selected foreign language)	knows and understands specialized terminology regarding organic pollutants	[SW4] test/exam - oral or written
[OCEANMU2-U01] is able to formulate and solve complex and unusual problems regarding the functioning of individual components of the marine environment using knowledge from various fields and scientific disciplines and propose solutions	is able to formulate and solve complex problems regarding POPs in the marine environment	[SU4] test/exam - oral or written
[OCEANMU2-W06] knows and identifies potential threats to the marine environment on a local and global scale resulting from strong anthropopressure, predicts their effects on various time and space scales	knows and understands potential threats to the aquatic environment resulting from the presence of dangerous compounds from the POPs and EDCs group, especially in coastal areas of seas and oceans	[SW4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td>A.1 Criteria for selecting a compound to the global list of hazardous substances.A.2. Physical, chemical and toxicological properties of persistent organic pollutants (POPs). Overview of compounds on the POPs list.A. 3 POPs in biotic and abiotic elements of the marine environment. Sources of POPs, their migration and/or accumulation in the environment. Negative impact on organisms.A.4 POPs in the Baltic SeaA.5 Demonstrating ways to reduce the environmental risk caused by POPs. POPs in global and national legislation.A.6. Other classifications of hazardous compounds, endocrine active compounds (EDCs)</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>written 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>1. Dojlido J., 1995, Chemistry of surface waters, Ed. Economics and Environment, 3422.Text of the Stockholm Convention, 2009, Mat. Min. Environment3. Żurek J., 2002, Stockholm Convention, Ed. IOŚ, Warsaw4. Baltic Sea Environment Proceedings Reports Hel-sinki Commission.</td></tr><tr><td>Supplementary literature</td><td>-</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>List three legal acts covering Persistent Organic Pollutants. List 4 features that classify the compound into the POPs group. List the POPs belonging to the "dirty dozen" that had practical applications. What is the main route of entry of organohalogenated compounds from the POPs group into the Baltic Sea catchment area now and by what route it was in the past? Explain the concepts of bioaccumulation, bioconcentration and biomagnification on the example of selected compounds from the POPs group. Discuss the main assumptions of the Stockholm Convention on POPs.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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