GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Marine Environment Protection, PG_00060524		
Field of study	Naval Architecture and Offshore Structures		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	first-cycle studies	Subject group	Obligatory subject group 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	1	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Division of Marine Power Plants -> Institute of Naval Architecture -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Roman Liberacki	
	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	2.0	33.0	50

Subject objectives

Familiarizing students with technical and legal issues in the field of protection of the marine environment against pollution from ships and marine structures.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W07] has knowledge of the principles of sustainable development	The student knows the rule of sustainable development.	[SW1] Assessment of factual knowledge
[K6_K03] is aware of the impact of non-technical aspects on the engineer's work and the impact of engineering activities on the natural environment	The student is aware of the negative impact of ships and marine structures on the natural environment and the need to respect the legal regulations in the design and operation of such units.	[SK5] Assessment of ability to solve problems that arise in practice
[K6_W03] has knowledge of hydromechanics, thermodynamics, machine design, ecology, materials science necessary to understand the principles of construction and operation of ocean engineering facilities and equipment	The student knows what hazards the ship may pose to the natural environment and knows how to counteract these hazards.	[SW1] Assessment of factual knowledge

Subject contents

Course content – lecture
Introduction, the principle of sustainable development, the definition of marine environment pollution, sources of sea water and atmosphere pollution, legal aspects in this area. Conventions: MARPOL , Helkom, BWM. Natural environment pollutants: oily substances, sanitary sewage, garbage, harmful substances contained in exhaust gases and organisms in ballast water, the other pollutants. Sources of formation of the above-mentioned pollutants on ships. Legal, organizational and technical ways to limit their emission. Environmental protection devices mounted on ships, yachts, platforms. Vibrations and noises. Oil tanker disasters, Combating oil pollution. The problem of scrapping of ships. Environmental protection devices in ports. Decarbonization in shipbuilding, low-emission and zero-emission ships.

Prerequisites and co-requisites

No special requirements.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Written colloquium	50.0%	100.0%

Recommended reading	Basic literature	1. Kaniewski E., Tymański S.: Ochrona środowiska. Gdynia, WSM, 1987. 2. Małaczyński M.: Ochrona środowiska morskiego przed zanieczyszczeniami ze statków. PG, Gdańsk, 1980. 3. Wiewióra A.: Ochrona środowiska morskiego w eksploatacji statków. WSM, Szczecin, 1999 r.
	Supplementary literature	Information on the website of the International Maritime Organization Information on the website of the Polish Register of Shipping
	eResources addresses	
Example issues/ example questions/ tasks being completed	1. The principle of sustainable development in relation to the protection of the marine environment 2. Selection of environmental protection devices for the vessel 3. The risks associated with the migration of organisms in ballast waters. 4. Harmful substances emitted from ships into waters and the atmosphere.	
Practical activites within the subject	Not applicable	

Document generated electronically. Does not require a seal or signature.