



Subject card

Subject name and code	, PG_00041837						
Field of study	Ocean Engineering, Ocean Engineering						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2021/2022		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Institute of Ocean Engineering and Ship Technology -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Piotr Bzura				
	Teachers		dr inż. Piotr Bzura				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	0.0	0.0	10.0	30
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie: Ochrona środowiska, W, niestacjonarne, OCE, sem.4, letni 21/22 (PG_00041837) - Moodle ID: 22245 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=22245 Ochrona środowiska, W, niestacjonarne, OCE, sem.4, letni 21/22 (PG_00041837) - Moodle ID: 22245 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=22245						
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		3.0		42.0	75
Subject objectives	To acquaint students with the main problems related to the protection of the marine environment.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_K03] understands non-technical aspects and effects of operation as an engineer, its influence on the environment and is aware of the responsibilities for the decisions taken		Explains the main assumptions of the basic international conventions related to the protection of the marine environment		[SK2] Assessment of progress of work		
	[K6_W03] has a basic knowledge on hydromechanics, thermodynamics, machine construction, ecology, materials science and electronics necessary to understand the construction and operation principles of ocean technology objects and equipment		Selects methods of fighting oil spills		[SW2] Assessment of knowledge contained in presentation		
Subject contents	1 Regulations and international conventions relating to the protection of the marine environment (HELCOM, Agenda 21, MARPOL 73/78). 2 Selected Polish legislation on the protection of the marine environment a. maritime areas of the Republic of Poland, b. tasks of the maritime administration in the field of marine environment protection, c. monitoring of the marine environment. 3 Protection of the sea against pollution caused by ships: a. pollution from failure-free operation of ships, b. tankers and oil rigs disasters c. limiting oil spills at sea, d. elimination of oil spills with physicochemical methods (sorbents, dispersants, combustion) e. oil spills in the Baltic Sea, f. dangerous substances shipped in bulk. 4 Storage of hazardous substances and waste at sea as a means of their disposal: a. poisonous warfare agents (BST) dumped in the Baltic Sea, b. nuclear arsenals in seas and oceans, c. spoil from dredging fairways.						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	credit	50.0%	50.0%
	test	50.0%	50.0%
Recommended reading	Basic literature	Bolalek J., 2016. Ochrona środowiska morskiego od teorii do praktyki. Wydaw. Uniw. Gdańskiego, Gdansk, 2016. Małaczyński M.: Technika ochrony przed zanieczyszczeniami ze statków. Wyd. Morskie, Gdańsk 1979	
	Supplementary literature	Graczyk T., Piskorski Ł., Siemianowski R., 2001. Ochrona środowiska morskiego przez zanieczyszczeniami z obiektów oceanotechnicznych. Politechnika Szczecińska, Szczecin	
	eResources addresses	Ochrona środowiska, W, niestacjonarne, OCE, sem.4, letni 21/22 (PG_00041837) - Moodle ID: 22245 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=22245 Ochrona środowiska, W, niestacjonarne, OCE, sem.4, letni 21/22 (PG_00041837) - Moodle ID: 22245 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=22245	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		