



Subject card

Subject name and code	Corrosion protection of ocean engineering facilities, PG_00060400						
Field of study	Ocean Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group					
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			2.0		
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. Milena Supernak					
	Teachers	dr inż. Milena Supernak					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	18.0	0.0	0.0	0.0	0.0	18
	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	18	0.0	0.0	18		
Subject objectives	The aim of the course is to familiarize the student with the types of corrosion in the water environment and the protection techniques currently used in the industry.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_K02] is aware 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	The student defines the division and types of corrosion depending on the working environment. The student knows the methods of corrosion protection. The student knows the impact of assessment and technical objects on environmental degradation.			[SK2] Assessment of progress of work [SK1] Assessment of group work skills [SK3] Assessment of ability to organize work		
	[K7_W05] has an organized, widened knowledge on design, construction and operation of ocean technology objects and systems	The student is able to analyze the type of corrosion on the basis of examples. The student understands the essence of the selection of material for the working environment and the choice of protection against degradation.			[SW3] Assessment of knowledge contained in written work and projects		
	[K7_W06] has an organized, widened knowledge on engineering methods and design tools allowing the conducting of advanced projects within the construction and operation of ocean technology objects and systems	The student is able to define the corrosion process and propose a corrosion protection method depending on the element and the working environment.			[SW3] Assessment of knowledge contained in written work and projects		

Subject contents	<ol style="list-style-type: none"> 1. Introduction to the topic of Corrosion 2. The Cottosive destruction 3. Surface preparation 4. Protection technologies 5. Selection of protection. 6. Cathodic protection 7. Corrosion of welded joints 8. Biocorrosion 		
Prerequisites and co-requisites	Knowledge of metallic engineering materials is recommended.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Passing the content of the lecture - form written.	60.0%	100.0%
Recommended reading	Basic literature	<ul style="list-style-type: none"> • A. Miszczyk; M. Szociński; K. Darowicki "Powłoki malarskie w ochronie przeciwkorozyjnej", WPG Gdańsk 2022 • M. Głowacki; J. Łabanowski; M. Landowski "Współczesne materiały inżynierskie Wybrane grupy materiałów", WPG Gdańsk 2022 • A. Warszawski; S. Koter " Elektrochemia" Wybrane zagadnienia. Podręcznik do ćwiczeń rachunkowych; WUMK, Toruń 2005 • H. Bala "Korozja materiałów-teoria i praktyka" WIPMiFS, Częstochowa 2002 	
	Supplementary literature	<ul style="list-style-type: none"> • Głowacka M., Zieliński A.: Podstawy Materiałoznawstwa. WPG, Gdańsk 2011 • Dobrzański L.A.: Podstawy nauki o materiałach i metaloznawstwo.. WNT, Warszawa, 2002 	
	eResources addresses	Adresy na platformie eNauczanie: Ochrona antykorozyjna obiektów oceanotechnicznych - Moodle ID: 38516 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=38516	
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. What is corrosion? 2. List the types of corrosion. 3. What are the methods of fighting corrosion? 4. What is biocorrosion and how to protect against it? 5. What is coating protection? 6. What is cathodic protection? 		
Work placement	Not applicable		