



Subject card

Subject name and code	Corrosion protection technologies, PG_00060756						
Field of study	Technologie ochrony przed korozją						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group		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		4.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Corrosion and Electrochemistry -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Krzysztof Żakowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=15128						
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	60		5.0		35.0	100
Subject objectives	Students will acquire the ability to select corrosion protection techniques depending on the operating conditions of the structure.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U03] is able to apply knowledge of inorganic, organic, physical and analytical chemistry and identify appropriate sources of information to design and synthesize simple chemical compounds, carry out basic physicochemical and analytical measurements		The student is able to perform basic electrochemical measurements used in corrosion testing.		[SU4] Ocena umiejętności korzystania z metod i narzędzi		
	[K6_K01] understands the need for continuing education, and is aware of the opportunities to improve professional, personal and social competences		The student understands the need for continuous learning.		[SK5] Ocena umiejętności rozwiązywania problemów występujących w praktyce		
	[K6_W07] has knowledge of structural materials used in the chemical industry and their corrosion, corrosion monitoring and protection, and corrosion metrology		The student has knowledge of construction materials used in the chemical industry and their corrosion, monitoring and corrosion protection, as well as corrosion measurement.		[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym		
	[K6_U08] is able to classify and apply knowledge of the driving forces of corrosion processes in different construction materials to the design of process installations and the selection of corrosion protection methods for installations		The student is able to select a method of protecting structures against corrosion depending on the existing corrosion risks.		[SU2] Ocena umiejętności analizy informacji		

Subject contents	Course content – lecture Coating protection: types of coatings, application methods, control methods. Electrochemical protection: cathodic and anodic. Inhibitor protection: classification of corrosion inhibitors, application. Selection of construction materials: overview of modern construction materials used in industrial installations. <u>Corrosion monitoring.</u> Course content – laboratory 1. Testing of paint and varnish components. 2. Testing of paint products. 3. Testing of paint coatings and polymer linings. 4. Effectiveness of corrosion inhibitors. 5. Temporary protection measures. 6. Cathodic protection of steel. 7. Anodic protection of stainless steel. 8. Resistance of construction materials in various environments. 9. Corrosion monitoring.		
Prerequisites and co-requisites	Knowledge of the basics of corrosion.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	completion of laboratories	100.0%	50.0%
	passing lectures	60.0%	50.0%
Recommended reading	Basic literature	not applicable	
	Supplementary literature	not applicable	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Coating, inhibitor, and cathodic protection. Selection of construction materials. Corrosion monitoring.		
Practical activities within the subject	Not applicable		

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