



Subject card

Subject name and code	Failure Analysis, PG_00039090										
Field of study	Chemistry in Construction Engineering										
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026						
Education level	first-cycle studies		Subject group								
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		3.0						
Learning profile	general academic profile		Assessment form		assessment						
Conducting unit	Department of Corrosion and Electrochemistry -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology										
Name and surname of lecturer (lecturers)	Subject supervisor Teachers		dr hab. inż. Paweł Ślepski dr hab. inż. Paweł Ślepski								
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM				
	Number of study hours	15.0	0.0	30.0	0.0	0.0	45				
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	45		5.0		25.0	75				
Subject objectives	The student properly investigates objects damaged by the corrosion processes. The student is able to prepare analysis of corrosion damage report.										
Learning outcomes	Course outcome		Subject outcome			Method of verification					
	K6_K03		The student is able to use the necessary information to identify corrosion damage and prepare a report.			[SK5] Assessment of ability to solve problems that arise in practice					
	K6_W08		The student presents typical dangers for material caused by the given environment			[SW1] Assessment of factual knowledge					
Subject contents	Course content – lecture Analysis of corrosion damages generated by different corrosion processes (general corrosion, galvanic corrosion, pitting corrosion, crevice corrosion, intergranular corrosion, stress corrosion cracking, etc.). General description of particular corrosion processes. Review of common places of corrosion damages in industrial systems. Methods of failure analysis. Elements of prevention. Preparation of reports										
Prerequisites and co-requisites	Basic knowledge of electrochemistry										
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade						
	reports		100.0%		40.0%						
	written exam		50.0%		60.0%						
Recommended reading	Basic literature		Practical Engineering Failure Analysis, H.M. Tawancy, A. Ul-Hamid, N.M. Abbas, Marcel Dekker, New York 2004								
	Supplementary literature		Fundamentals of Metallic Corrosion, P.A. Schweitzer, CRC Press, New York 2006								
	eResources addresses										
Example issues/ example questions/ tasks being completed	Corrosion of metal elements in industrial plants Corrosion of heat exchangers Corrosion of pipework in the ground Electrochemical corrosion in reinforced concrete structures										

Practical activites within
the subject

Not applicable

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