



Subject card

Subject name and code	Corrosion monitoring, PG_00060327						
Field of study	Materials Engineering						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2026/2027		
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	4		Language of instruction		Polish		
Semester of study	7		ECTS credits		2.0		
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		prof. dr hab. inż. Juliusz Orlikowski				
	Teachers		prof. dr hab. inż. Juliusz Orlikowski dr hab. inż. Michał Szociński dr inż. Zuzanna Zarach				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=1097						
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		2.0		18.0	50
Subject objectives	The aim of the course is to present issues from corrosion monitoring and risk analysis						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W07] Has detailed knowledge of selected problems of materials science.		Ability to select the corrosion rate testing method depending on the construction material		[SW1] Assessment of factual knowledge		
	[K6_W04] Knows selected aspects of construction and operation of scientific equipment in materials engineering.		Ability to perform corrosion rate measurements using corrosion meters		[SW1] Assessment of factual knowledge		
	[K6_K01] Understands the need to improve professional and personal competencies; is conscious of own limitations and knows when to turn to experts, properly establishes priorities helping to accomplish tasks defined by oneself or others.		Knowledge related to applicable standards for corrosion monitoring		[SK2] Assessment of progress of work		
	[K6_U06] Can integrate obtained information, interpret it and draw conclusions, as well as formulate and justify opinions.		Ability to analyze instantaneous and average corrosion rates		[SU1] Assessment of task fulfilment		

Subject contents	Course content – lecture Presentation of the construction and operation of basic refinery installations. Corrosion monitoring methods used in the refining industry. Description of technological processes and their impact on corrosion. Presentation of monitoring techniques using the FSM and ultrasonic methods.		
	Course content – laboratory Corrosion monitoring using the following methods: - Coupon - LPR - Resistometric RBI Analysis		
Prerequisites and co-requisites	Basic knowledge of Chemical Engineering and the basis of corrosion		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lab	60.0%	50.0%
	Final Exam	60.0%	50.0%
Recommended reading	Basic literature	RBI Risk Base Inspection API RBI 571, 580, 581	
	Supplementary literature	There is no requirement.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Corrosion Monitoring Techniques NDT Inspection Techniques Determining the Degradation Level of Structural Materials		
Practical activities within the subject	Not applicable		

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