



Subject card

Subject name and code	Corrosion protection of industrial installations and Risk Based Inspection(RBI), PG_00066045						
Field of study	Engineering and Technologies of Energy Carriers						
Date of commencement of studies	February 2027		Academic year of realisation of subject		2027/2028		
Education level	second-cycle studies		Subject group		Obligatory subject group in the field of study Subject group related to practical vocational preparation		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		3.0		
Learning profile	practical 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						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	30.0	15.0	0.0	55
	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	55		5.0		15.0	75
Subject objectives	Theory of corrosion in the refinery. Knowledge of the API 571 and 581 Standards and correct identification of corrosion mechanism in the materials degradation cards.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_K04] is aware of the responsibility for decisions made, observing and developing the principles of professional ethics and working to ensure compliance with these principles		Determining the effects of corrosion hazards on refinery installations		[SK2] Assessment of progress of work		
	[K7_K02] is able to cooperate and work in a group, taking on different roles		Implementation of a group risk analysis project		[SK2] Assessment of progress of work		
	[K7_U04] prepares a critical analysis of existing technical solutions and is able to propose their improvements (improvements).		Identifying critical corrosion hazards and their impact on process safety		[SU1] Assessment of task fulfilment		
	[K7_W06] defines the techniques of designing technological processes; describes the methods of selecting the right technological process; the resistance of materials to degradation, degradation mechanisms and methods of improving corrosion resistance		Ability to determine the corrosion mechanism due to technological conditions		[SW1] Assessment of factual knowledge		

Subject contents	Course content – lecture Theoretical knowledge of crude oil refination technology, corrosion processes and construction materials. Practical skills of various corrosion mechanisms identyfication and basic techniques of corrosion monitoring applied in refinery. Project based on creation of degradation cards for the atmospheric distillation unit based on chemistry of the stream, working temperatures, construction materials etc.		
Prerequisites and co-requisites	Chemistry and chemical engineering		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	70.0%	30.0%
	exam	60.0%	70.0%
Recommended reading	Basic literature	API 571 API 581	
	Supplementary literature	none	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. List the corrosion mechanisms of corrosion - high temperature 2. List the corrosion mechanisms causing structural degradation 3. In which refinery units there is a metal dusting mechanism		
Practical activites within the subject	Not applicable		

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