

Subject card

Chemistry in Construction Engineering	Subject name and code	Corrosion Processes, PG_00048916							
Date of commencement of studies									
Education level first-cycle studies Subject group And of delivery at the university Year of study 3	Date of commencement of	October 2020					2022/2023		
Year of study 3	Education level	first-cycle studies							
Semester of study 6 ECT'S credits 3.0	Mode of study	Full-time studies					at the university		
Semester of study	•	3		•			Polish		
Learning profile	Semester of study	6					3.0		
Name and surname of lecturer (lecturers) Teachers prof. dr hab. in2. Kazimierz Darowicki	Learning profile	general academic profile		Assessment form			assessment		
Teachers prof. dr hab. in2. Kazimierz Darowicki Lesson types and methods of instruction Lesson type	Conducting unit	Department of Electrochemistry, Corrosion and Materials Engineering -> Faculty of Chemistry							
Lesson types and methods of instruction Number of study hours 15.0 0.0 15.0 0.0 15.0 0.0 0.0 30 30 30 30 30	Name and surname	Subject supervisor	prof. dr hab. inż. Kazimierz Darowicki						
Number of study hours 15.0 0.0 15.0 0.0 0.0 0.0 0.0 30		Teachers prof. dr hab. inż. Kazimierz Darowicki							
Learning activity and number of study hours Learning activity Participation in didactic classes included in study plan		Lesson type	Lecture	Tutorial	Laboratory	Projec	t Seminar		SUM
Learning activity and number of study hours Learning activity Participation in didactic classes included in study Number of study Number of study 30 5.0 40.0 75		hours		0.0	15.0	0.0	0.0		30
Course outcome Course outcome Subject outcome Course outcome Cou		E-learning hours inclu	uded: 0.0				ı		1
Nours Nour		Learning activity	classes includ				Self-study		SUM
Course outcome Subject outcome Method of verification			30		5.0		40.0		75
K6_K03	Subject objectives	To acquaint students with the basic corrosion processes and types of corrosion							
Problems related to corrosion of materials more than the student is able to choose the type of protection for a given material	Learning outcomes	Course outcome Subject outcome Method of verifica					ication		
type of protection for a given material use methods and tools material the protection for a given material the protection of the protection processes whether the protection of corrosion processes kinetics: E=f(I) diagrams, corrosion processes controlTypes of corrosion: general, pitting, selective, intergranular, crevice, stress corrosion and stress corrosion carcking, corrosion-erosion, cavitationCorrosion occuring conditions (practical examples)Atlas of corrosion fatigue: description and visualization of fatigues. Laboratory: 1.Introduction and safety. 2.Temperature cell. 3.Oxygen concentration cell. 4.Galvanic cell. 5.Crevice corrosion. 6.Intergranular corrosion. 7.Selective corrosion of brass. 8.Pitting corrosion of steel. 9.Water 10.Reserved. Prerequisites Assessment methods and criteria Subject passing criteria Passing threshold Percentage of the final grade Written exam 60.0% 50.0% Sound Protection of a given move and its solutions, corrosion of steel. 9.Water 10.Reserved. Protection of a given move and safety. 2.Temperature cell. 3.Oxygen concentration of steel. 9.Water 10.Reserved. Prerequisites Assessment methods and criteria Subject passing criteria Passing threshold Percentage of the final grade Written exam 60.0% 50.0% 50.0% Recommended reading Supplementary literature http://www.korozja.pl Supplementary literature Adresy na platformie eNauczanie: Example issues/ example questions/ tasks being completed		K6_K03		problems related to corrosion of					
Subject contents Lecture: -Chemical thermodynamics: corrosion cells, E/pH diagrams, thermodynamic stability of water and its solutionsCorrosion processes kinetics: E=f(I) diagrams, corrosion processes controlTypes of corrosion: general, pitting, selective, intergranular, crevice, stress corrosion and stress corrosion fatigue: description and visualization of fatigues. Laboratory: 1.Introduction and safety. 2.Temperature cell. 3.Oxygen concentration cell. 4.Galvanic cell. 5. Crevice corrosion. 6. Intergranular corrosion. 7. Selective corrosion of brass. 8. Pitting corrosion of steel. 9. Water 10. Reserved. Prerequisites and co-requisites Subject passing criteria Passing threshold Percentage of the final grade Written exam 60.0% 50.0% 50.0% Laboratory 60.0% 50.0% 50.0% Recommended reading Subject passing criteria http://www.korozja.pl No requirements Resources addresses Adresy na platformie eNauczanie: Describe the work of a corrosion cell. Characterize the types of corrosion.		K6_U09		type of protection for a given					
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Assessment methods and criteria Subject passing criteria Passing threshold Percentage of the final grade Written exam 60.0% 50.0% Laboratory 60.0% 50.0% Laboratory 60.0% 50.0% Recommended reading Basic literature http://www.korozja.pl Supplementary literature No requirements eResources addresses Adresy na platformie eNauczanie: Example issues/ example questions/ tasks being completed Describe the work of a corrosion cell. Characterize the types of corrosion.	ŕ	its solutionsCorrosion processes kinetics: E=f(I) diagrams, corrosion processes controlTypes of corrosion: general, pitting, selective, intergranular, crevice, stress corrosion and stress corrosion cracking, corrosion-erosion, cavitationCorrosion occuring conditions (practical examples)Atlas of corrosion fatigue: description and visualization of fatigues. Laboratory: 1.Introduction and safety. 2.Temperature cell. 3.Oxygen concentration cell. 4.Galvanic cell. 5.Crevice corrosion. 6.Intergranular corrosion. 7.Selective corrosion of							
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Example issues/ Describe the work of a corrosion cell. Characterize the types of corrosion. example questions/ tasks being completed				·					
example questions/ tasks being completed		Adress the platformic strategrams.							
Work placement Not applicable	example questions/	Describe the work of a corresion cent. Characterize the types of corresion.							
	Work placement	Not applicable							

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