



Subject card

Subject name and code	Corrosion Processes, PG_00039723						
Field of study	Materials Engineering, Materials Engineering, Materials Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2024/2025		
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	5	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Electrochemistry, Corrosion and Materials Engineering -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Kazimierz Darowicki					
	Teachers						
Lesson types and methods of instruction	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		50.0	100
Subject objectives	To acquaint students with the basic corrosion processes and types of corrosion						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_K01		To acquaint students with the basic corrosion processes and types of corrosion				
	K6_U01		To acquaint students with the basic corrosion processes and types of corrosion				
	K6_W07		To acquaint students with the basic corrosion processes and types of corrosion				
	K6_U02		To acquaint students with the basic corrosion processes and types of corrosion				
Subject contents	Lecture: -Chemical thermodynamics: corrosion cells, E/pH diagrams, thermodynamic stability of water and its solutions. -Corrosion processes kinetics: E=f(I) diagrams, corrosion processes control. -Types of corrosion: general, pitting, selective, intergranular, crevice, stress corrosion and stress corrosion cracking, corrosion-erosion, cavitation. -Corrosion occurring 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 and co-requisites	Chemical thermodynamics						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
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	Corrosion cells. Types of corrosion. Potential / current diagrams						
Work placement	Not applicable						