



Subject card

Subject name and code	CORROSION, PG_00036512						
Field of study	Chemistry						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2023/2024		
Education level	first-cycle studies	Subject group			Obligatory subject group 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			2.0		
Learning profile	general academic profile	Assessment form			assessment		
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	0.0	0.0	0.0	15
	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	15		5.0		30.0	50
Subject objectives	bases of corrosion and types of corrosion damage						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
Subject contents	-Energy band theory of metals, semiconductors and dielectrics. -Electric, magnetism and thermal properties of metals. -Types of crystal lattice of solids. -Solid solutions. -Alloys and phase transitions, heat treatment. -Iron-carbon phase diagram. -Classifications of steels and cast irons. -Basics of thermodynamics and chemical kinetics. -Types of corrosion failures. -Corrosion: general, selective, intergranular, pitting, crevice. -Stress corrosion cracking and corrosion fatigue.						
Prerequisites and co-requisites	Chemical bonds, theory of solutions, chemical thermodynamics, basics of quantum chemistry.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	test		60.0%		100.0%		
Recommended reading	Basic literature		Ch.A.Wert, R.M. Thomson, Fizyka ciała stałego, PWN Warszawa 1974 J. Dereń, J. Chaber, R. Pampuch, Chemia ciała stałego, PWN Warszawa 1977 L.L. Shreier, R.A. Barman, G.T. Burstein, Corrosion, Butterworth, London 1994 P.A. Schweitzer, Fundamentals of Metallic Corrosion, CRC Press, London 2007				
	Supplementary literature		No requirements				
	eResources addresses						
Example issues/ example questions/ tasks being completed	Make a Pourbaix diagram for zinc Derive the Butler-Volmer equation Characterize the electric double layer model						
Work placement	Not applicable						