GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	CORROSION, PG_00036512		
Field of study	Chemistry		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
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, magnetics 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	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Make a Pourbaix diagram for zincDerive the Butler-Volmer equationCharacterize the electric double layer model

Work placement

Not applicable