



## Subject card

Subject name and code	Fundamentals of metal corrosion, PG_00048570						
Field of study	Chemical Technology						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2023/2024		
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	6	ECTS credits			5.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Industrial Doctoral School -> Vice-Rector for Scientific Research						
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Kazimierz Darowicki					
	Teachers	prof. dr hab. inż. Kazimierz Darowicki dr hab. inż. Stefan Krakowiak					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	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	60	2.0		63.0		125
Subject objectives	Getting to know the nature of the corrosive processes of metals and alloys. Knowledge of various types of corrosion of construction materials and methods of protection against corrosion.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K6_W07	the student has a basic knowledge of structural materials used in the chemical industry and their corrosion			[SW1] Assessment of factual knowledge		
Subject contents	1- Wykłady . Właściwości metali i stopów. Typy uszkodzeń korozyjnych. Natura i chemizm procesów korozyjnych. Metody zapobiegania korozji metali i stopów. 2- Laboratorium. Pomiar potencjału korozyjnego. Ogniwa galwaniczne, stężeniowe i temperaturowe. Pasywność metali. Korozja metali (wżerowa i szczelinowa). Erozja-korozja. Korozja międzykrystaliczna, selektywna. Analiza przypadków korozyjnych.						
Prerequisites and co-requisites	Knowledge of the basic properties of metals and alloys (composition characteristics).						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
	Test	60.0%			50.0%		
	Laboratory	100.0%			50.0%		
Recommended reading	Basic literature	Ch.A.Wert, R.M. Thomson, Solid state physics, PWN Warsaw 1974; J. Dereń, J. Chaber, R. Pampuch, Solid state chemistry, PWN Warsaw 1977; L.L.Shreier, R.A. Bartender, G. T. Burstein, Corrosion, Butterworth, London 1994; P.A. Schweitzer, Fundamentals of Metallic Corrosion, CRC Press, London 2007					
	Supplementary literature	There are no requirements.					
	eResources addresses	Adresy na platformie eNauczanie:					

Example issues/ example questions/ tasks being completed	Methods of protection against pitting and crevice corrosion. Discuss the principles of operation of concentration and temperature cells. List the types of corrosion damage. What kind of crystallographic networks do you know?
Work placement	Not applicable