



## Subject card

Subject name and code	Materials and technologies I, PG_00039695						
Field of study	Materials Engineering, Materials Engineering, Materials Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject				2022/2023	
Education level	second-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	1	Language of instruction				Polish	
Semester of study	1	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		dr hab. inż. Juliusz Orlikowski				
	Teachers		dr hab. inż. Juliusz Orlikowski dr hab. inż. Krzysztof Żakowski dr hab. inż. Andrzej Miszczyk				
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		5.0		35.0	100
Subject objectives	The aim of the course is to provide knowledge about technology in the food industry, water systems, corrosion protection with protective coatings and electrochemical protection.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K7_W01	Obtaining practical knowledge needed in the implementation of work after graduation			[SW1] Assessment of factual knowledge		
	K7_U04	Knowledge of the ability to read technical documentation			[SU1] Assessment of task fulfilment		
	K7_K01	Knowledge based on theoretical data and laboratory classes			[SK2] Assessment of progress of work		
	K7_U01	The student obtains information about Polish and foreign standards for the classification of materials			[SU1] Assessment of task fulfilment		
K7_W04	The student acquires knowledge about construction materials and their physical and chemical properties			[SW1] Assessment of factual knowledge			
Subject contents	Presentation of water treatment technology, construction of pipelines, construction materials. Presentation of corrosion hazards: general corrosion, corrosion under deposits, corrosion, zinc coating. Overview of fruit juice and beer technology. Presentation of corrosion hazards in the food industry and discussion of construction materials. Overview of electrochemical protection and coating protection.						
Prerequisites and co-requisites	knowledge of organic technology and corrosion protection technologies						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Exam		60.0%		100.0%		

Recommended reading	Basic literature	L.L. Shreir, Corrosion, Newnes-Butterworths, 1976  Karl Weber, Food Inc., A Participant Guide: How Industrial Food is Making Us Sicker, Fatter, and Poorer-And What You Can Do About It
	Supplementary literature	A Participant Guide: How Industrial Food is Making Us Sicker, Fatter, and Poorer-And What You Can Do About It
	eResources addresses	
Example issues/ example questions/ tasks being completed	Principles of electrochemical protection, coating protection, corrosion hazards in the food industry	
Work placement	Not applicable	