



## Subject card

Subject name and code	Corrosion Polymer, PG_00039702						
Field of study	Materials Engineering, Materials Engineering, Materials Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
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	2	ECTS credits			4.0		
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		dr hab. inż. Michał Szociński				
	Teachers		dr hab. inż. Michał Szociński				
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	The aim of the course is to learn about the forms of polymer degradation. Thanks to the course, the student will learn the basic properties of polymers, which are directly influenced by the corrosion of polymers. The acquired knowledge will be useful in the further course of studies, as well as in future professional work, thanks to the expansion of knowledge in the field of degradation of non-metallic, polymeric materials.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K7_K01		The student is able to properly define the priorities for the implementation of specific tasks and assess his current state of knowledge		[SK5] Assessment of ability to solve problems that arise in practice		
	K7_U01		The student is able to use various sources of documentation regarding the degradation of polymers		[SU4] Assessment of ability to use methods and tools		
	K7_U04		The student knows the influence of degradation on the obtained measurement results and is able to analyze them properly		[SU4] Assessment of ability to use methods and tools		
	K7_W01		The student knows different types of degradation of polymeric materials and how to recognize them		[SW1] Assessment of factual knowledge		
Subject contents	<p>Issues:</p> <ol style="list-style-type: none"> <li>1. Viscoelastic properties of polymeric materials</li> <li>2. supermolecular structure of polymeric materials</li> <li>3. Polyreactions. 4 Degradation of polymeric materials</li> <li>4.1 Thermal degradation</li> <li>4.2 Oxidative degradation</li> <li>4.2 Photochemical and radiation degradation</li> <li>4.4 Biological degradation</li> <li>5. Protection against degradation</li> </ol>						
Prerequisites and co-requisites	The student has knowledge of organic chemistry, mathematics and the basics of corrosion						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Lecture		60.0%		60.0%		
	Laboratory		60.0%		40.0%		

Recommended reading	Basic literature	1. P.E. Schweitzer- Corrosion of Polymers and Elastomers
	Supplementary literature	Lecture materials available on e-learning
	eResources addresses	
Example issues/ example questions/ tasks being completed	1. Description of thermal degradation of polymers 2. Polymers susceptible to degradation under the influence of UV 3. Types of polymer degradation	
Work placement	Not applicable	