

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Introduction to Polymer Technology, PG_00035962								
Field of study	Chemical Technology								
Date of commencement of studies	October 2022		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	2		Language of instruction			Polish			
Semester of study	4		ECTS credits			3.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Polymer Technology -> Faculty of Chemistry								
Name and surname	Subject supervisor		prof. dr hab. inż. Janusz Datta						
of lecturer (lecturers)	Teachers								
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	Project Seminar S		SUM	
of instruction	Number of study hours	15.0	0.0	15.0	0.0		0.0	30	
	E-learning hours inclu	ided: 0.0					•		
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic ed in study	Participation in consultation hours		Self-study		SUM	
	Number of study hours	30		5.0		40.0		75	
Subject objectives	To acquaint students with the basic types, processing methods, properties and applications of polymeric materials.								
Learning outcomes	Course outcome Subject outcome Method of verification						fication		
	K6_U07		The student knows the industrial methods of processing thermoplastics, elastomers and rubber as well as chemosetting and thermosetting resins.			[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject			
	K6_W09		The student knows the physicochemical and processing properties commonly. thermoplastics, thermosets and elastomers used, and can indicate their use and appropriate recycling methods			[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation			
Subject contents	Characteristics and classification of plastics according to their chemical and physical structure and the methods of their production. Polymers of special technical importance: polyolefins, polyamides, polyesters, polyurethanes, vinyl polymers. Elastomers. Resins and composites and polymer nanocomposites. Natural polymers. Polymers for special applications, including biomedical ones. Special physicochemical properties of plastics and methods of their determination.Phase states and characteristic transition temperatures. Viscoelasticity, time-temperature dependencies of mechanical properties. Basic methods of modification and processing of polymers. Recycling of plastics.								
Prerequisites and co-requisites	Basic knowledge of organic chemistry								
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade				
	Laboratory tests and reports		50.0%		50.0%				
	Lectures - final test		50.0%			50.0%			

Recommended reading	Basic literature	 Praca zbiorowa, Tworzywa sztuczne w praktyce, red. J.T, Haponiuk, Verlag Dashöfer, Warszawa 2007. Danuta Żuchowska, Polimery konstrukcyjne, WNT 2001 Irma Gruin, Materiały polimerowe, PWN, Warszawa, 2003. 			
	Supplementary literature	1. Jan F. Rabek, Budowa strukturalna polimerów i metody badawcze. Współczesna wiedza o polimerach. Tom 1. PWN 2017.			
	eResources addresses	Adresy na platformie eNauczanie:			
Example issues/ example questions/ tasks being completed	Technical methods of conducting block polymerization.Technical methods of conducting polymerization in solution.Technical methods of suspension polymerization.Technical methods of emulsion polymerization.Polymer recycling methods.Processing methods of thermoplastic polymers.Processing methods of cross-linked polymers and rubber.				
Work placement	Not applicable				

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