



## Subject card

Subject name and code	Advanced methods of synthesis and analysis of polymer nanocomposites, PG_00069280						
Field of study	Chemical Technology						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2025/2026		
Education level	second-cycle studies		Subject group				
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		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Polymer Technology -> Faculty of Chemistry -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Michał Strankowski				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	15.0	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		25.0	75
Subject objectives	This course is designed to equip students with advanced knowledge regarding polymer nanocomposite synthesis strategies and cutting-edge techniques for their structural, thermal, and mechanical characterization. Students will also develop essential skills in designing nanocomposite materials tailored for specific properties, critically evaluating scientific literature, and effectively communicating project findings.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U03] designs innovative technological solutions for obtaining useful goods based on the state of the knowledge in accordance with the latest scientific literature		The student is able to design innovative technological solutions for obtaining consumer goods, based on the current state of knowledge and the latest scientific literature.		[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools		
	[K7_U02] carries out experiments using properly selected techniques and apparatus, taking advantage of new developments in technology and related fields		The student is able to conduct experiments using correctly chosen techniques and apparatus, leveraging new achievements in technology and related fields.		[SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information		
	[K7_K02] understands the non-technical aspects and implications of graduate activity, including the impact on the environment		The student understands the non-technical aspects and consequences of an engineer's actions in this field, including their environmental impact.		[SK5] Assessment of ability to solve problems that arise in practice		
	[K7_W01] defines the phenomena, processes and laws of nature used to produce consumer goods and provide services		The student is able to define natural phenomena, processes, and laws applied to the production of consumer goods and the provision of services.		[SW1] Assessment of factual knowledge		
	[K7_W02] selects appropriate apparatus and materials for the manufacture and processing of consumer goods		The student is able to select appropriate apparatus and materials for the production and processing of consumer goods.		[SW3] Assessment of knowledge contained in written work and projects		
Subject contents	-						
Prerequisites and co-requisites	-						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Final test		50.0%		50.0%		
	Project (report + presentation)		50.0%		50.0%		

Recommended reading	Basic literature	-
	Supplementary literature	-
	eResources addresses	
Example issues/ example questions/ tasks being completed	-	
Work placement	Not applicable	

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