



Subject card

Subject name and code	Modification of high - molecular compounds , PG_00038551						
Field of study	Chemical Technology						
Date of commencement of studies	February 2022	Academic year of realisation of subject			2021/2022		
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			3.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Polymers Technology -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Justyna Kucińska-Lipka				
	Teachers		dr hab. inż. Justyna Kucińska-Lipka dr inż. Łukasz Zedler dr inż. Maciej Sienkiewicz Paweł Szarlej dr inż. Paulina Kosmela dr hab. inż. Michał Strankowski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	0.0	30
	E-learning hours included: 0.0						
	2022 Modyfikacje związków wielkocząsteczkowych (PG_00038551) - Nowy - Moodle ID: 22621 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=22621						
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	30	5.0		40.0		75
Subject objectives	The goal of the course is to give the knowledge in the field of polymer modification and technology to obtain particular products for particular application						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K7_U07		can assess the relationship between the structure and properties of macromolecular compounds		[SU2] Assessment of ability to analyse information		
	K7_W06		can propose a way to obtain specific modifications of macromolecular compounds		[SW1] Assessment of factual knowledge		
Subject contents	Radical polymerization, polycondensation and anionic or cationic polymerization, coordination polymerization - steps, raw materials, catalysts, initiators. Copolymer types. Polymer fibres, polymers with enhanced thermal stability, degradability. Polymers in medicine and new generation of polymers. Conductive polymers. The liquid crystalline polymers, modification of natural polymers						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Lecture - written exam		60.0%		60.0%		
	Laboratory		60.0%		40.0%		
Recommended reading	Basic literature		1. Gruin I.: Materiały polimerowe, PWN, W-wa 20032. Florjańczyk Z., Penczek S.: Chemia polimerów, Oficyna Wydawnicza Politechniki Warszawskiej, W-wa 19953. Nicholson J. W., Chemia polimerów, WNT, W-wa 1996 4. Shan Wang, Krzysztof Matyjaszewski, Controlled/"living" radical polymerization. atom transfer radical polymerization in the presence of transition-metal complexes, J. Am. Chem. Soc., 1995, 117, (20), pp 5614–5615.				

	Supplementary literature	5. Journals : Polymer Krzysztof Matyjaszewski, Controlled/"living" radical polymerization. atom transfer radical polymerization in the presence of transition-metal complexes, J. Am. Chem. Soc., 1995, 117, (20), pp 5614–5615.
Example issues/ example questions/ tasks being completed	eResources addresses	
Work placement	Not applicable	