

SDAŃSK UNIVERSITY 的 OF TECHNOLOGY

Subject card

Subject name and code	Recycling of Polymer Materials, PG_00039816								
Field of study	Materials Engineering, Materials Engineering, Materials Engineering, Materials Engineering								
Date of commencement of studies	October 2020		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	4		Language of instruction			Polish			
Semester of study	7		ECTS credits			2.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Polymers Technology -> Faculty of Chemistry								
Name and surname	Subject supervisor		prof. dr hab. inż. Janusz Datta						
of lecturer (lecturers)	Teachers		prof. dr hab. inż. Janusz Datta						
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
of instruction	Number of study hours	30.0	0.0	0.0	0.0	0.0		30	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity Participation ir classes include plan		didactic Participation in d in study consultation hours		Self-study SUM		SUM		
	Number of study 30 hours		1.0		19.0 50				
Subject objectives	Acquainting students with current methods of managing waste from polymer materials (dedicated forms of recycling for waste from main production areas (electronics, cars, construction), including sorting, identification and disposal of waste, Reuse of recyclates								
Learning outcomes	Course outcome		Subject outcome			Method of verification			
	K6_W03		He has basic knowledge that allows him to generally connect the properties of polymeric materials with the structure			[SW2] Assessment of knowledge contained in presentation			
	K6_U03		The student is able to make a critical analysis of the processes used in the recycling of waste from polymeric materials			[SU2] Assessment of ability to analyse information			
	K6_K01		The student understands the need to improve their professional and personal competences			[SK5] Assessment of ability to solve problems that arise in practice			
Subject contents	European Union regulations for recycling of plastic waste. Sustainable development. Systematics of plastic waste according to the place of their formation and the possibility of reprocessing. Waste segregation and identification. Acquisition and recycling of polymer waste from the automotive, construction, electronics and household industries. Biodegradation. Recycling of laminates and multi-layer packaging. Ecological design, Reuse of plastic waste. Alternative fuels.								
Prerequisites and co-requisites	Knowledge of production and chemical structure of main polymers; general knowledge of environmental protection.								

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade			
	laboratory	100.0%	50.0%			
	lecture colloquium	50.0%	50.0%			
Recommended reading	Basic literature	 A. Błedzki i innni. Odzysk i recykling materiałów polimerowych,Wydawnictwo Naukowe PWN, Warszawa, 2021 Praca zbiorowa pod redakcją A. Błędzkiego, Recykling materiałów polimerowych, WNT Warszawa 1997 Praca zbiorowa pod redakcją A Prociak i in. Materiały poliuretanowe, PWN, Warszawa, 2014. 				
	Supplementary literature	Poradnik TWORZYWA SZTUCZNE W PRAKTYCE 2007 Verlag				
	eResources addresses	Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed	I) Suggest a course of action for effective recycling of car seats.					
	2) Choose a recycling technique and describe the necessary steps to recycle PA profile waste and the second stream is PS cups.					
Work placement	Not applicable					