



Subject card

Subject name and code	WASTE MANAGEMENT, PG_00060006									
Field of study	Environmental Engineering									
Date of commencement of studies	February 2026	Academic year of realisation of subject		2026/2027						
Education level	second-cycle studies		Subject group		Obligatory subject group in the field of study 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		English						
Semester of study	2	ECTS credits		4.0						
Learning profile	general academic profile		Assessment form		assessment					
Conducting unit	Department of Environmental Engineering Technology -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology									
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Aneta Łuczakiewicz							
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar				
	Number of study hours	30.0	15.0	0.0	15.0	0.0				
	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		SUM				
	Number of study hours	60		5.0		38.0				
	103									
Subject objectives	The aim of the course is to present waste management in terms of saving critical raw materials, to provide practical knowledge of the circular economy, recycling, refurbishment, and remanufacturing also as new business opportunities.									
Learning outcomes	Course outcome		Subject outcome		Method of verification					
	K7_U04		The student is able to prepare, present and discuss the results obtained while a tutorials.		[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU5] Assessment of ability to present the results of task					
	K7_W07		The student has in-depth, structured and theoretically based knowledge of municipal management, including recycling and resource recovery technologies.		[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects					
	K7_U12		The student is able to analyze and evaluate in technical and economic terms the solutions and functioning of environmental engineering facilities and systems		[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU5] Assessment of ability to present the results of task					
	K7_U07		The student is able to plan and conduct field research and computer simulations leading to the assessment of the effectiveness of the solutions used in environmental engineering		[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task					

Subject contents	Course content – lecture Current challenges and opportunities in resource resilience. Smart waste management. Critical raw materials substitution and supply chains, including recycling (pre-processing, metallurgy and its challenges). Environmental problems caused by waste mismanagement. Different/efficient collection of waste in households and at companies levels; Psychology of recycling and remanufacturing/refurbishment. Waste prevention through chain optimization, product design sharing/access economy, circular procurement and new business models.				
Prerequisites and co-requisites					
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade		
	project	60.0%	30.0%		
	tutorials	60.0%	30.0%		
	lecture	60.0%	40.0%		
Recommended reading	Basic literature	Waste Management EU Policies & Strategies https://ec.europa.eu/environment/waste/index.htm			
	Supplementary literature	-			
	eResources addresses				
Example issues/ example questions/ tasks being completed	-				
Practical activites within the subject	Not applicable				

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