



## Subject card

Subject name and code	WASTE MANAGEMENT, PG_00060006						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2023/2024		
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						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Aneta Łuczkiwicz				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	0.0	15.0	0.0	60
	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	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_U12	The student is capable of analyzing and assessing the technical and economic aspects of solutions implemented in environmental engineering.			[SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment		
	K7_U07	The student possesses the capability to devise and execute an evaluation of the efficacy of implemented solutions within the field of environmental engineering			[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject		
	K7_U04	The student can prepare and present a presentation on rational methods of waste management and lead a discussion on the presented issue.			[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools		
	K7_W07	The student has in-depth, well-organized knowledge regarding municipal economy, including waste stream processing technologies			[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge		
Subject contents	<p>Lecture: Smart Waste Management. Current challenges in the protection of natural resources and environmental problems resulting from improper waste management. Critical resources: substitution and supply chain, including recycling (pre-processing, metallurgy, and related challenges). Effective waste segregation in both households and at the corporate level. The psychology of recycling, recovery, and reuse. Preventing waste generation through production optimization, including the sharing/access economy, sustainable procurement, and product design, as well as by introducing new business models.</p> <p>Tutorials/Project: Case study on waste management in selected industrial facilities or economic sectors.</p>						

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  <a href="https://ec.europa.eu/environment/waste/index.htm">https://ec.europa.eu/environment/waste/index.htm</a>	
	Supplementary literature	-	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	-		
Work placement	Not applicable		