

Subject card

Subject name and code	Waste Disposal in Companies, PG_00081022						
Field of study	Business and Environmental Technology						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2024/2025		
Education level	Master's 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			2.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Laboratory of Catalytic Materials and Processes -> Department of Environmental Technology -> Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Joanna Drzeżdżon				
	Teachers		dr Joanna Drzeżdżon				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	0.0	0.0	15
	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	15		0.0		0.0	15
Subject objectives	To familiarize students with the legal aspects and modern methods and technologies of waste management.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BiTEMU2_U08] searches, selects and analyzes the literature on environmental sciences, including scientific journals and databases, reading and understanding scientific texts in the native language and English	characterizes methods and explains the operation of equipment used to dispose of waste;	[SU4] test/exam - oral or written
	[BiTEMU2_W09] predicts the effects of human interference in the natural environment and analyzes the impact of human activity on the quality of the environment on a local, regional and global scale at an advanced level	Relates the importance of the development of waste management technologies to the good environment and human health;	[SW3] text preparation/written work
	[BiTEMU2_W02] distinguishes legal and administrative mechanisms and procedures in environmental protection and interprets its international dimension at an advanced level	explains the principles of selecting waste disposal technologies;	[SW3] text preparation/written work
	[BiTEMU2_K03] understands the need to properly set priorities, plan and organize tasks related to their implementation, as well as monitor and evaluate progress	Plans, performs and interprets analyses of environmental quality and properties of waste	[SK8] observation of student's independent or team work
	[BiTEMU2_W01] describes the relationship between economics and ecological technology, their place in the system of social and exact sciences at an advanced level	links the use of environmental protection instruments with the reduction of anthropopressure	[SW1] oral statement/conversation/discussion
	[BiTEMU2_U05] is able to give a presentation and independently prepare various specialized written works appropriate for the field studied or in the area on the border of various scientific disciplines, using basic theoretical approaches, collecting various sources of data, their description and interpretation, and drawing conclusions based on scientific literature and the results of own research work	characterizes the methods and explains the operation of the equipment used to dispose of waste;	[SU4] test/exam - oral or written
	[BiTEMU2_W10] explains the mechanisms of unit processes used in remediation and environmental protection as well as waste management methods at an advanced level	Evaluates the effectiveness of the processes used in waste management;	[SW3] text preparation/written work
	[BiTEMU2_U07] proposes processes and methods of water treatment, sewage and waste gas treatment, environmental remediation, and waste management used in environmental protection	Plans, performs and interprets analyses of environmental quality and properties of waste	[SU4] test/exam - oral or written
	[BiTEMU2_W11] applies safety and hygiene rules when working independently at a research or measurement station in the laboratory or in the field at an advanced level	follows the safety rules of the laboratory chemistry;	[SW5] implementation of a problem task
	[BiTEMU2_K02] understands the need to cooperate and work in a group, assuming responsible roles within it	Cooperates as part of a team when performing laboratory tests and developing results;	[SK8] observation of student's independent or team work
	[BiTEMU2_U06] uses advanced methods, techniques, and tools to assess the quality of the environment and the effectiveness of the technological processes used	characterizes the methods and explains the operation of the equipment used to dispose of waste;	[SU4] test/exam - oral or written

	Course outcome	Subject outcome	Method of verification
	[BiTEMU2_K07] demonstrates responsibility for the safety of one's own work and that of others, taking into account the risks resulting from the research techniques used, and creates conditions for safe work in the laboratory or in the field	Follows the safety rules of the chemical laboratory;	[SK8] observation of student's independent or team work
	[BiTEMU2_U09] plans and performs research tasks in the field or laboratory and interprets research results on environmental protection issues	Plans, performs and interprets analyses of environmental quality and properties of waste	[SU8] observation of student's independent or team work
Subject contents	1. Introduction. Classification of waste. 2. Removal of printing from waste paper by flotation 3. Management of plastics 4. Management of fly ash 5. A trip to a recycling plant		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	reports	51.0%	20.0%
	performing experiments	51.0%	10.0%
	tests	51.0%	70.0%
Recommended reading	Basic literature	A. Literature required for final course credit (passing the exam):A.1. used during the class1. instructions for laboratory exercises developed by the staff of the Department of Environmental TechnologyA.2 studied independently by the student1. legal acts related to waste management	
	Supplementary literature	1. Rosik-Dulewska C., Basics of waste management, PWN, Warsaw 20122. Jędrzak A., Biological processing of waste, PWN, Warsaw 20073. Dymaczewski Z. (ed), Handbook of a wastewater treatment plant operator, PZlITS, Poznań 2011	
	eResources addresses		
Example issues/ example questions/ tasks being completed	What is the flotation of waste paper? What is the use of fly ash?		
Work placement	Not applicable		

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