



Subject card

Subject name and code	Ecology and sustainable development, PG_00062177						
Field of study	Recycling and Energy Recovery						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	first-cycle 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	1		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Environmental Engineering Technology -> Faculty of Civil and Environmental Engineering -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Magdalena Gajewska				
	Teachers		prof. dr hab. inż. Magdalena Gajewska				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	20.0	0.0	0.0	0.0	40
	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	40		0.0		0.0	40
Subject objectives	Getting to know the meanings of the concepts: ecology and sustainable development, as well as the principles and goals of sustainable development.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U71] is able to apply knowledge from humanistic, social, economic or legal sciences in order to solve problems in a social environment		Can apply knowledge from the fields of humanities, social sciences, or economics to solve problems in the social environment."		[SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_K71] is conscious of the need to apply knowledge from humanistic, social, economic or legal sciences in order to function in a social environment		Is aware of the need to use knowledge from the fields of humanities, social sciences, economics, or law in functioning within the social environment.		[SK4] Assessment of communication skills, including language correctness		
	[K6_W71] has general knowledge in humanistic, social, economic or legal sciences		Has general knowledge in the field of ecology or social and economic sciences		[SW3] Assessment of knowledge contained in written work and projects		

Subject contents	Introduction to Ecology: • Basic ecological concepts. • Structure and functions of ecosystems. Ecology and Humans: • The impact of human activity on the environment. • Ecological issues related to urbanization, pollution, and climate change. • Concepts of sustainable development. Principles and Goals of Sustainable Development: • Analysis of sustainable development goals defined by the United Nations. • Examples of actions for sustainable development worldwide. Global Ecological Challenges: • Biodiversity conservation. • Effects of climate change. • Natural resource management. Environmental Policy: • International and national aspects of environmental policy. • Examples of successes and challenges in environmental protection. Sustainable Lifestyle: • Environmental education. • Adaptation and mitigation. • Encouraging pro-environmental choices in daily life.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exercised - task execution	55.0%	40.0%
	lectures - test	55.0%	60.0%
Recommended reading	Basic literature	Małgorzata Lipińska-Rzeszutek, Mariusz Kubiak Współczesne bezpieczeństwo ekologiczne,(2017), Wprowadzenie do ekologii biochemicznej,S. A. Ostroumow, (1992), Wydawnictwo: PWN Droga do zrównoważonego rozwoju w Polsce w świetle założeń agendy2030, (2022) Barbara Hadryjańska	
	Supplementary literature	https://sdgs.un.org/goals, https://www.imf.org/en/About/Factsheets/Sheets/2023/IMF-Sustainable-development-goals-SDGs	
	eResources addresses		

Example issues/ example questions/ tasks being completed	<i>What do you know about networks of protected areas in Europe?</i> <i>When did the first international actions and agreements on environmental protection take place, and what did they involve?</i> <i>Discuss the key issues related to the protection of water resources?</i> <i>Why do air and atmospheric pollution have a global character?</i> <i>Explain the concept of sustainable development?</i> <i>Provide the goals of sustainable development?</i> <i>Explain the significance of the individual 17 sustainable development goals.</i> <i>What do the terms mitigation, adaptation mean... provide examples?</i>
Work placement	Not applicable

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