



Subject card

Subject name and code	Ecological basis of environmental protection, PG_00057760						
Field of study	Green Technologies						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	first-cycle studies		Subject group		Optional subject group		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		English		
Semester of study	1		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Laboratory Of Bacterial Genetics -> Faculty Of Chemistry -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Gracjana Klein-Raina				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	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 in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		1.0		19.0	50
Subject objectives	Presentation of the relationship between organisms, organisms and the environment, presentation of the main problems of environmental protection and species on a global and local scale in relation to ecological issues, biodiversity in ecosystems, familiarization with the main protected species, characteristics of selected National Parks and Reserves in Poland, protected species occurring there, their ecological dependencies. The aim of the course will be not only to provide concise and legible information, but also to show how fascinating ecology and environmental protection are.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_W05] has an elementary knowledge of the fundamental concepts and problems of quality management, the general principles of creation and development of forms of individual entrepreneurship, application of the principles of work organization and integrated management, basic principles of quality control and analysis results; knowledge of basic legal aspects relating to the management of chemicals with particular emphasis on compounds polluting the environment and business, knows and understands the basic concepts and principles of the protection of industrial property and copyright and the need for management of intellectual property.	Students know the basic principles of environmental protection in connection with ecology and are able to manage and organize work aimed at environmental protection in accordance with applicable laws and regulations.	[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation
	[K6_K06] has awareness of the importance of non-technical aspects and effects of engineering activities, including its impact on the environment and the associated responsibility for decisions.	Students are able to evaluate and discuss key issues related to ecology and environmental protection.	[SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness [SK3] Assessment of ability to organize work [SK1] Assessment of group work skills
	[K6_W04] is aware of the importance of environmental protection and has a basic knowledge of chemical and biological threats to the environment, with particular emphasis on anthropogenic factors, has a basic knowledge of knowledge of the principles of sustainable development as well as national and European environmental management conditions.	Students are able to assess and discuss priorities in the conservation of species and ecosystems. Students have a new approach to environmental protection in the XXI century.	[SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge
Subject contents	the concept of species; mechanisms for the formation of new species; examples and protection of endangered species; competition between species and within species; predators and herbivores, parasitism; mutualism and commensalism; the basis of genetic diversity and its importance in environmental protection; use of molecular techniques in ecology; biodiversity - role and its protection; new technologies in environmental protection; national parks and reserves.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	passing lectures	60.0%	100.0%
Recommended reading	Basic literature	Elements of Ecology Thomas M. Smith and Robert Leo Smith (2012) 8 th Edition Ecology Michael L. Cain, William D. Bowman and Sally D. Hacker (2014) Third Edition Environmental Biology Mike Claver, Alan Lymbery, Jennifer McComb and Mike Bamford (2009)	
	Supplementary literature	Essentials of Conservation Biology Richard B. Primack (2006) Fourth Edition	
	eResources addresses	Adresy na platformie eNauczanie:	

Example issues/ example questions/ tasks being completed	<p>1. How do species arise?</p> <p>2. Modern methods of protecting endangered species.</p> <p>3. The role of biodiversity.</p>
Work placement	Not applicable

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