

Subject card

Subject name and code	Geographical information systems, PG_00154332						
Field of study	Natural Resources Conservation						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's 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		Polish		
Semester of study	1		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Plant Taxonomy and Nature Conservation -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Magdalena Lazarus				
	Teachers		dr Sławomir Nowak				
			dr Magdalena Lazarus				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	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		2.0		8.0	25
Subject objectives	Familiarization with Geographic Information Systems (GIS) and the possibilities of their practical use in the work of a naturalist.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[OZPL3_W10] The graduate possesses a comprehensive understanding of current issues in protection of natural resources and related fields		The student presents and describes contemporary problems in biology and disciplines related such as cartography and computer science.		[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion		
	[OZPL3_U07] The graduate is able to draw correct conclusions on the basis of analysis and synthesis of data from various sources		The student analyzes and synthesizes data from various sources (botanical, zoological, habitat properties, distribution of protected areas data) and draws appropriate conclusions on this basis.		[SU1] oral statement/conversation/discussion		
	[OZPL3_W12] The graduate possesses knowledge of statistical methods and IT tools relevant to the field of study.		The student has knowledge of the use of IT tools for introducing, collecting, processing and visualizing nature spatial data.		[SW4] test/exam - oral or written		
	[OZPL3_K01] The graduate is ready to recognise the limitations in his/her own knowledge and understands the need for continuous learning and development		The student knows the limits of their own knowledge and understands the need for constant learning and development.		[SK1] oral statement/conversation/discussion		

Subject contents	Definition and properties of maps, including digital maps. Geographic coordinate systems and cartographic projections. Methods of preparing maps and presenting natural data. Spatial data models and sources of data acquisition. ArcGIS software modules and their use. Selection of visualization methods. Basic functions of vector and raster data analysis. The use of Landsat satellite images in nature work.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written test	51.0%	100.0%
Recommended reading	Basic literature	Urbański J. 2008. GIS w badaniach przyrodniczych. Wyd. UG. Gdańsk.	
	Supplementary literature	Longley P.A., Goodchild M.F., Maguire D.J., Rhind D.W. 2008. GIS Teoria i praktyka. PWN, WarszawaManikowska-Słepowrońska B., Lazarus M., Żółkoś K., Jakubas D. 2016. Influence of landscape features on the location of grey heron Ardea cinerea colonies in Poland. Comptes Rendus Biologies 339(11-12).Paślawski J. 2010. Wprowadzenie do kartografii i topografii. Wyd. Nowa Era, Warszawa.Urbański J. 1997. Zrozumieć GIS. Analiza informacji przestrzennej. PWN, Warszawa.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. Give the definition of cartographic projection. 2. What is the CORINE Land Cover project for?		
Work placement	Not applicable		

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