

Subject card

Subject name and code	Advanced GIS, PG_00165864						
Field of study	Spatial Management						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Master's studies		Subject group		Obligatory subject group 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	2		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Grzegorz Masik				
	Teachers		dr Grzegorz Masik dr Sandra Żukowska				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	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		15.0		15.0	60
Subject objectives	Acquiring the ability to conduct socio-economic and environmental analyzes using IT tools						
	Correct presentation of statistical data on thematic and physical-geographic maps						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[GPMU2_U03] choose and use appropriate methods (including statistics) and research tools with particular emphasis on information technology and GIS software		He can make various types of cartodiagrams and choropleth maps.		[SU5] implementation of a problem task		
	[GPMU2_K01] critically assess possessed knowledge and received content		The graduate of second-cycle studies has acquired the ability to select and apply appropriate methods to analyze the effects of natural phenomena using GIS tools.		[SK8] observation of student's independent or team work		
	[GPMU2_W04] in-depth methods and tools (quantitative, qualitative, cartographic) of research in spatial management		Knows and understands in-depth methods and tools from the GIS environment used for research in spatial management		[SW5] implementation of a problem task		
Subject contents	A. Issues on classes: A.1 Application of GIS for spatial analysis of selected parameters A.2 The use of GIS for the presentation and analysis of natural, social and economic phenomena						
Prerequisites and co-requisites	knowledge of the basics of cartographic data presentation						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Number of completed projects		51.0%		100.0%		

Recommended reading	Basic literature	Iwańczak B., 2020, QGIS 3.14. Map creation and analysis, Helion Publishing House. Statistical maps. Data studies and presentation, 2019, Central Statistical Office, Warsaw. Szczepanek R., 2017. Spatial information systems with QGIS. PK Publishing House, Kraków. Masik G., 2017. Differences in the standard of living in the Pomeranian Voivodeship (in:): The demographic situation of the Pomeranian Voivodeship as a challenge for social and economic policy / Hryniewicz Józefina, Potrykowska Alina (ed.), vol. 14, Warsaw, Government Population Council, p. 218-239, ISBN 978-83-7027-659-1
	Supplementary literature	Ballas, D., Clarke, G., Franklin, R., & Newing, A. (2017). GIS and the Social Sciences. Taylor & Francis Slocum, T. A., McMaster, R. B., Kessler, F. C., & Howard, H. (2022). Thematic Cartography and Geovisualization (4th ed.). Taylor & Francis. Peterson, G. N. (2020). GIS Cartography (3rd ed.). Taylor & Francis. Iwaniak A., Olszewski R., Gotlib D., 2008. GIS. Areas of application. PWN Scientific Publishing House, Warsaw. Kunz M. (ed.), 2007. Geographic Information Systems in practice. Application study. Nicolaus Copernicus University Publishing House, Toruń.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Indicate the best location for a community center. Make a map of travel times to airports in Poland. Present socio-economic phenomena using a choropleth map and cartodiagram. Draw a map of areas and forms of nature protection. Calculating the percentage of the city's population with the best access to a specific means of transport. Performing a critical analysis of the GIS tools and methods used.	
Work placement	Not applicable	

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