

Subject card

Subject name and code	Methods of Spatial Analysis A, PG_00208605						
Field of study	Tourism and Hospitality						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2026/2027		
Education level	Master'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			English		
Semester of study	1	ECTS credits			6.0		
Learning profile	academic	Assessment form			credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ada Wolny-Kucińska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	15.0	0.0	0.0	75
	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	75		7.0		68.0	150
Subject objectives	The goal of the course is to familiarize students with the basic concepts of geographic information systems (GIS) and the possibilities of using spatial analyzes for various research in the field of tourism. Students will learn how to navigate in the GIS environment, how to acquire spatial data, what tools can be useful in solving various research problems, and how to present the results of their work. The skills acquired during the course will prepare students for independent work with spatial data and will allow them to develop in the direction of their choice.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[THMU2_W04] Knows to an in-depth degree methods and tools (quantitative, qualitative, cartographic) of research used in human geography, spatial management and tourism	knows quantitative, qualitative and cartographic tools based on specialized GIS software	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report
	[THMU2_U04] Is able to adapt the existing tools and research methods to solve complex and unusual problems of the tourism and hospitality economy	uses specialized GIS tools in proposing solutions to the problems of the tourism economy	[SU2] presentation/project/paper/report
	[THMU2_U02] Is able to properly select sources and information derived from them, with particular emphasis on the sources of spatial, economic and social information, perform their critical evaluation and creative interpretation in order to solve problems of contemporary tourism	is able to properly select sources of spatial information and information from them in order to solve problems in the field of tourism development	[SU2] presentation/project/paper/report
	[THMU2_K01] Is ready to critically evaluate knowledge and learning content	is characterized by a critical attitude in terms of knowledge and received content	[SK2] presentation/project/paper/report
	[THMU2_U03] Is able to select and apply appropriate methods (including statistical) and research tools, with particular emphasis on GIS software and social research tools	uses specialized GIS software	[SU2] presentation/project/paper/report

Subject contents	<p>1. Lectures</p> <p>A1. Introduction to working in a GIS environment;</p> <p>A2. Cartography and data visualization methods;</p> <p>A3. Sources of data used in GIS and methods of obtaining them;</p> <p>A4. Spatial data analysis methods;</p> <p>A5. Methods of evaluating the tourist potential of an area;</p> <p>A6. Supporting investment decisions using spatial analyzes (multi-criteria analyzes);</p> <p>A7. Using GIS to analyze the functioning of tourist infrastructure;</p> <p>A8. Big Data as a potential source in the study of tourist activity, popularity and perception of tourist facilities;</p> <p>A9. Geosurvey and geodiscussion (ppgis) in tourism research;</p> <p>A10. Using GIS to promote tourist products, create interactive maps;</p> <p>A11. Assessment of the impact of tourism on the natural, social and economic environment.</p> <p>1. Classes / laboratory classes</p> <p>B1. Basics of working in a GIS environment;</p> <p>B2. Coordinates, models and data formats;</p> <p>B3. Cartography, data visualization methods;</p> <p>B4. Creating and editing vector data;</p> <p>B5. Collecting data from various sources;</p> <p>B6. Data exploration and preparation for work;</p> <p>B7. Georeference;</p> <p>B8. Vector data analysis - operations in the array of attributes;</p> <p>B9. Basic vector analysis tools;</p> <p>B10. Tools based on spatial relations;</p> <p>B11. Basic raster analysis tools;</p> <p>B12. Raster analysis - map algebra;</p> <p>B13. Raster analysis - movement on the terrain;</p>
Prerequisites and co-requisites	Knowledge, skills, and competences at the general level of undergraduate studies.

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project or presentation	51.0%	70.0%
	written test	51.0%	30.0%
Recommended reading	Basic literature	<p>Paul A. Longley, Michael F. Goodchild, David J. Maguire, David W. Rhind. 2015. Geographic Information Science and Systems, 4th Edition. Wiley</p> <p>A.2. Studied independently</p> <p>Farsari Y., Prastacos P. 2004. GIS Applications in the Planning and Management of Tourism. [w:] A. A. Lew, C. M. Hall, A. M. Williams (ed.), A Companion to Tourism. Blackwell Publishing Ltd, Malden.</p>	
	Supplementary literature	<p>Optional</p> <p>Woźniak E., Kulczyk E., Derek M. 2018. From intrinsic to service potential: An approach to assess tourism landscape potential, Landscape and Urban Planning, 170, 209-220</p> <p>Rahayuningsih, T., Muntasib, E. K. S. H., & Prasetyo, L. B. 2016. Nature Based Tourism Resources Assessment Using Geographic Information System (GIS): Case Study in Bogor. Procedia Environmental Sciences, 33, 365375. doi:10.1016/j.proenv.2016.03.087</p> <p>Magige, J.M., Jepkosgei, C., Onywere, S.M. 2020. Use of GIS and Remote Sensing in Tourism. In: Xiang, Z., Fuchs, M., Gretzel, U., Höpken, W. (eds) Handbook of e-Tourism. Springer, Cham. https://doi.org/10.1007/978-3-030-05324-6_118-1</p> <p>Brown, G., & Weber, D. (2013). Using public participation GIS (PPGIS) on the Geoweb to monitor tourism development preferences. Journal of Sustainable Tourism, 21(2), 192211. doi: 10.1080/09669582.2012.693501</p>	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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