University of Gdańsk

Subject card

Subject name and code	Methods of Spatial Analysis A, PG_00200748						
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		5.0		70.0	150
Subject objectives	The goal of the subject 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_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 [SU5] implementation of a problem task
	[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 [SU5] implementation of a problem task
	[THMU2_W04] Knows to an in-depth degree methods and tools (quantitative, qualitative, cartographic) of research used in socio-economic 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_K01] Is ready to critically evaluate knowledge and learning content	is characterized by a critical attitude in terms of knowledge and received content	[SK5] implementation of a problem task [SK8] observation of student's independent or team work
	[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 [SU5] implementation of a problem task [SU6] demonstration of practical skills

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

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>project or presentation</td><td>51.0%</td><td>70.0%</td></tr>
<tr><td>written test</td><td>51.0%</td><td>30.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Paul A. Longley, Michael F. Goodchild, David J. Maguire, David W. Rhind. 2015. Geographic Information Science and Systems, 4th Edition. Willey

A.2. Studied independently

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.</td></tr>
<tr><td>Supplementary literature</td><td>Optional

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

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

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

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</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2"></td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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