

Subject card

Subject name and code	Methods in spatial analysis I A, PG_00150382						
Field of study	Metody analiz przestrzennych I A						
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		8.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Division of Regional Development -> Institute of Socio-Economic Geography and Spatial Management -> Faculty of Social Sciences -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Ada Wolny-Kucińska				
	Teachers		dr inż. Ada Wolny-Kucińska				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	60.0	0.0	0.0	90
	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	90		30.0		100.0	220
Subject objectives	Acquiring knowledge of cartography and graphic presentation of phenomena in space using specialised GIS softwareThe course prepares you for identifying and solving specific tasks in the field of spatial management.GIS software and use it to solve specific tasks in the field of spatial management; preparation for identifying and solvingto identify and solve cognitive problems related to their profession in accordance with the latest knowledge in the field of spatial management.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GPL3_U04] make the correct selection of basic quantitative methods (including field research), use them in the analysis of spatial diversity of natural, social or economic phenomena and also make a correct interpretation of the results on the basis of the specificity of selected methods	create different types of cartodiagrams and cartograms and apply other quantitative methods in the analysis of spatial phenomena using specialised software and equipment	[SU3] opracowanie tekstowe/ praca pisemna [SU6] demonstracja umiejętności praktycznych
	[GPL3_W07] forms, methods and tools for shaping spatial development	lists and characterises planning and land-use planning tools	[SW4] test/egzamin - ustny lub pisemny [SW3] opracowanie tekstowe/ praca pisemna
	[GPL3_U03] select appropriate sources of information and on this basis give opinions on the development of space for a specific area with particular regard to the principles of sustainable development and spatial order	select area-specific sources of spatial information	[SU3] opracowanie tekstowe/ praca pisemna [SU6] demonstracja umiejętności praktycznych
	[GPL3_W08] principles of operating basic equipment, devices and software used to obtain and process geographical information and spatial planning	lists and explains the use of basic office software and spatial information processing (GIS) software	[SW4] test/egzamin - ustny lub pisemny [SW3] opracowanie tekstowe/ praca pisemna
	[GPL3_K01] make decisions independently and be responsible for the effects of their own actions and those of their team's	independently operate specialised software and carry out prescribed analytical tasks in the field of spatial management	[SK3] opracowanie tekstowe/ praca pisemna
	[GPL3_W04] at an advanced level, the aims and conditions of using basic methods of quantitative analysis and interpretation of spatial processes and phenomena	lists the basic quantitative methods and considerations for their use in analysing and interpreting spatial processes and phenomena	[SW4] test/egzamin - ustny lub pisemny [SW3] opracowanie tekstowe/ praca pisemna
Subject contents	A. Problems of the lecture: Definitions, tasks and divisions; The essence of cartographic communication; Contemporary understanding of the terms "map", "cartography", "topography" Elements of a map Types of maps Selection of presentation method. Qualitative methods of cartographic data presentation Quantitative methods B. Exercise topics: Introduction to principles of IT use - network security, data archiving, Tools to support teamwork - resource sharing, use of cloud services, Google Drive. Dropbox, Onedrive Basic office software (MS Office) Basics of using GIS programs. Basic operations on maps Photo interpretation of LiDAR products Working with maps in the field, basics of orientation		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Task using software	51.0%	50.0%
	Test of open and closed questions	51.0%	50.0%

Recommended reading	Basic literature	Czarnecki K.: Geodezja Współczesna W Zarysie. Wydawnictwo Gall, Katowice 2010. Jagielski A.: Geodezja I. Wydawnictwo Geodpis, Kraków 2005. Jagielski A.: Geodezja II. Wydawnictwo Geodpis, Kraków 2005. Iwaniak A., Olszewski R., Gotlib D., 2008. GIS. Obszary zastosowań. Wydawnictwo Naukowe PWN, Warszawa. Kidner D., Higgs G., White S. (red.), 2003. Socio-Economic Applications of Geographic Information Science. Taylor & Francis Group, London-New York. Craig W.J., Harris T.M., Weiner D. (red.), 2002. Community Participation and Geographic Information Systems. Taylor & Francis Group, London-New York. A.2. studiowana samodzielnie przez studenta Kunz M. (red.), 2007. Systemy Informacji Geograficznej w praktyce. Studium zastosowań. Wydawnictwo Uniwersytetu Mikołaja Kopernika, Toruń. Wang F., 2006. Quantitative Methods and Applications in GIS, Taylor & Francis Group, London-New York. Longley P., Clarke G. (red.), 1995. GIS for business and service planning. John Wiley & Sons, New-York.
	Supplementary literature	Longley P. A. I Inni: Gis. Teoria I Praktyka. Wydawnictwo Naukowe PWN, 2008. Przewłocki S.: Geomatyka. Wydawnictwo Naukowe PWN, 2008. Birkin M., Clarke G., Clarke M., Wilson A., 1996. Intelligent GIS. Location decisions and strategic planning. John Wiley & Sons, New-York.
	eResources addresses	
Example issues/ example questions/ tasks being completed	lecture: credit - written test of open and/or closed questions; laboratory classes: a task to be completed in the computer laboratory with the use of specialist software, report; Basic assessment criteria lecture: written test of open and closed questions - mark in accordance with the study regulations; A student obtains one mark from the course - in order to pass a course it is necessary to pass mark for both the laboratory and the lecture part.	
Work placement	Not applicable	

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