



## Subject card

Subject name and code	, PG_00066185						
Field of study	Geodesy and Cartography						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2024/2025		
Education level	second-cycle studies		Subject group				
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		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Adam Inglot				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	15.0	0.0	45
	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	45		0.0		0.0	45
Subject objectives	Acquiring by the student the skill to create thematic maps on a selected topic using IT tools, using modern methods of geo-visualization in selected GIS software.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U06] creates solutions to complex and unstructured problems taking into account the variability of the environment by synthesising information from different sources, using analytical and simulation methods		The student is able to develop a thematic map, an interactive map for entering data through a web portal. The student is able to draw up a choropleth map and a diagrams in the desktop software as well as on map portals.		[SU4] Assessment of ability to use methods and tools		
	[K7_W05] has a well-established knowledge of analytical methods and surveying techniques necessary for creating and solving a variety of problems in geodesy and cartography		The student knows the basics of developing a geo questionnaire. He knows the latest methods of generalization of spatial database objects. The student knows standard cartographic studies.		[SW2] Assessment of knowledge contained in presentation		
Subject contents	The lecture covers the following issues: Multi-resolution databases, building map portals, cartographic compilations in the national geoportal, map creation process, minimum drawing size, generalization operators, data acquisition using map portals, development of a geo survey. Classes include: developing cartographic visualizations in ArcGIS Pro, publishing data in ArcGIS Online, creating a geo survey on the "Survey 123".						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Test		50.0%		50.0%		
	Project		50.0%		50.0%		

Recommended reading	Basic literature	<p>1. P. A. Longley, M. F. Goodchild, D. J. Maguire, D. W. Rhind - GIS. Theory and practice.. Wydawnictwo Naukowe PWN, Warszawa, 20082. J. Urbański - GIS in natural research. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk, 20083. J. Adamczyk, K. Będkowski - Digital methods in remote sensing, Wydawnictwo SGGW, Warszawa, 20074. R. J. Wilson Introduction to graph theory, Wydawnictwo Naukowe PWN, Warszawa 20125. J. Smith, P. Smith - Environmental modeling an introduction, Oxford University Press, 2007</p>
	Supplementary literature	<p>1. P.M. Mather, M. Koch - Computer Processing of Remotely-Sensed Images, Wiley, 20042. J. G. Liu, P. J. Mason - Computer Processing of Remotely-Sensed Images, Wiley, 20093. J.R. Jensen - Introductory Digital Image Processing, Prentice Hall, 20054. P.A. Zandbergen Python Scripting for ArcGIS, Esri Press, Redlands, 20135. J. Lawhead Learning Geospatial Analysis with Python, Packt Publishing, Birmingham, 2013</p>
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	<p>1. The problem of data harmonization in multi-resolution databases.2. What is WMS and what is its use.3. Present the operation of the Douglas-Peucker curve simplification operator.4. Present the way the operator works by simplifying buildings using the Sester method.</p>	
Work placement	Not applicable	

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