University of Gdańsk

Subject card

Subject name and code	Basis of GIS - lecture, PG_00201240		
Field of study	Spatial Management		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
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	2	ECTS credits	2.0
Learning profile	academic	Assessment form	exam
Conducting unit	Faculty of Social Sciences -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Marta Popaszkiewicz	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	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	0.0	20.0	50

Subject objectives

To acquire knowledge of cartography and graphical presentation of phenomena in space with the use of specialized GIS software for analysis necessary for planning and spatial development; to acquire basic skills in operating GIS software and application to solving specific tasks in spatial management; to prepare to identify and solve cognitive problems related to the profession in accordance with the latest knowledge in spatial management.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GPL3_U06] uses specialist language in a debate with specialists in the field of spatial planning and management	K_U04 , K_U06 create different types of cartodiagrams and cartograms and apply other quantitative methods in the analysis of spatial phenomena using specialized software and equipment	[SU3] text preparation/written work
[GPL3_W04] knows and understands at an advanced level, the aims and conditions of using basic methods of quantitative analysis and interpretation of spatial processes and phenomena	K_W04 lists the basic quantitative methods and the determinants of their application in analyzing and interpreting spatial processes and phenomena	[SW4] test/exam - oral or written [SW3] text preparation/written work
[GPL3_W07] knows and understands the methods and tools for shaping spatial development	K_W07 lists and characterizes the tools of planning and development spatial	[SW4] test/exam - oral or written [SW3] text preparation/written work
[GPL3_W08] knows and understands the principles of operating basic equipment, devices and software used to obtain and process geographical information and spatial planning	K_W08 lists and explains the principles of operating basic software office software and software for processing spatial information (GIS)	[SW4] test/exam - oral or written [SW3] text preparation/written work

<table>
<tr><td>Subject contents</td><td>A. Problems of the lecture:
Definitions, tasks and divisions;
The essence of cartographic communication;
Modern understanding of the terms "map", "cartography", "topography"
Elements of a map
Types of maps
Selection of the method of presentation. Qualitative methods of cartographic presentation of data
Quantitative methods
B. Problems of exercises:
Introduction to the principles of IT usage - 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</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>knowledge, skills and competencies at the general high school level</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>exercises (tasks)</td><td>51.0%</td><td>60.0%</td></tr><tr><td>lecture (test, essay)</td><td>51.0%</td><td>40.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>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. Tay-lor&Francis Group, London-New York.
Craig W.J., Harris T.M., Weiner D. (red.), 2002. Community Participation and Geographic Information Systems. Tay-lor&Francis Group, London-New York.
Kunz M. (red.), 2007. Systemy Informacji Geograficznej w praktyce. Studium zastosowań. Wydawnictwo Uniwer-sytetu 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.</td></tr><tr><td>Supplementary literature</td><td>Longley P. A. et al., Gis. Teoria I Praktyka. Wydawnictwo Naukowe PWN, 2008.
Przewsłocki 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.</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>What is a cartogram

What LiDAR is all about</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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