GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Digital cartography, PG_00045752		
Field of study	Geodesy and Cartography		
Date of commencement of studies	February 2023	Academic year of realisation of subject	2023/2024
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	2	ECTS credits	2.0
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	dr inż. Adam Inglot	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	10.0	10.0	0.0	0.0	0.0	20

E-learning hours included: 0.0

Address on the e-learning platform: https://enauczanie.pg.edu.pl/moodle/index.php?id=9592

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	20	8.0	22.0	50

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_U10] can develop a thematic map using IT tools, use modern methods of geovisualisation within the selected software GIS environment, use the database in the thematic maps development.	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_W14] has deep knowledge in the field of qualitative and quantitative methods of cartographic presentation, he knows methods of visualization of relief, graphic variables used to visualize geodata	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	70.0%	50.0%
Creation of a cartographic internet portal	70.0%	50.0%

Recommended reading	Basic literature	1. P. A. Longley, M. F. Goodchild, D. J. Maguire, D. W. Rhind - GIS. Theory and practice.. Wydawnictwo Naukowe PWN, Warszawa, 2008 2. J. Urbański - GIS in natural research. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk, 2008 3. J. Adamczyk, K. Będkowski - Digital methods in remote sensing, Wydawnictwo SGGW, Warszawa, 2007 4. R. J. Wilson Introduction to graph theory, Wydawnictwo Naukowe PWN, Warszawa 2012 5. J. Smith, P. Smith - Environmental modeling an introduction, Oxford University Press, 2007
	Supplementary literature	1. P.M. Mather, M. Koch - Computer Processing of Remotely-Sensed Images, Wiley, 2004 2. J. G. Liu, P. J. Mason - Computer Processing of Remotely-Sensed Images, Wiley, 2009 3. J.R. Jensen - Introductory Digital Image Processing, Prentice Hall, 2005 4. P.A. Zandbergen Python Scripting for ArcGIS, Esri Press, Redlands, 2013 5. J. Lawhead Lerning Geospatial Analysis with Python, Packt Publishing, Birmingham, 2013
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	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.	
Work placement	Not applicable	