GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Systems of Geographical Information in Transport, PG_00040988		
Field of study	Transport		
Date of commencement of studies	February 2026	Academic year of realisation of subject	2025/2026
Education level	second-cycle 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	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Adam Inglot	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	30.0	0.0	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	5.0	25.0	75

Subject objectives

Presentation of the possibilities of using GIS in transport as a modern data processing tools. Presentation of data acquisition methods. GIS support in investments.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_K02] makes competent and ethical decisions, caring for the public interest and maintaining economic, social and environmental values	Can make computer graphics with a map component poraz descriptive elements.	[SK5] Assessment of ability to solve problems that arise in practice
[K7_U03] formulates research problems and selects appropriate analytical methods for their effective solution, using advanced IT tools, and critically evaluates the obtained results	Able to perform simple spatial data analysis in transportation-related tasks.	[SU5] Assessment of ability to present the results of task
[K7_W06] identifies reliable sources of information relevant to the analyzed issues	He learns about data sources and how to assess their reliability and suitability for spatial analysis.	[SW3] Assessment of knowledge contained in written work and projects
[K7_W04] analyzes complex problems in-depth based on reliable data and properly selected methods, obtaining logical solutions	Learns GIS spatial analysis tools related to transportation.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents

Course content – lecture
Coordinate systems; Reference systems; Data in GIS; Generalizing; Color attributes; Directive INSIRE, GIS - road analyzes, Implementation of road geoinformation systems

Prerequisites and co-requisites

ability to use object programs

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
the presentation	80.0%	30.0%
verification	60.0%	70.0%

Recommended reading	Basic literature	Dariusz Gottlieb, Adam Iwaniak, Robert Olszewski : GIS-Obszary zastosowań. Wydawnictwo Naukowe PWN, Warszawa 2007, INSPIRE i Krajowa Infrastruktura Informacji Przestrzennej, Podstawy teoretyczne aspekty praktyczne, GUGIK, Warszawa 2012 Jacek Urbański: GIS w badaniach przyrodniczych. Wydawnictwo UG, Gdańsk 2008 Pyrchla J., Kowalewski M., Leyk M., Przyborski M., Siedlik J., Zieliński M., Sieciocentryczny system informacji geograficznej Zatoki Gdańskiej. Wspomagania działań operacyjnych morskich służb państwowych. Wydawnictwo Polskiego Internetowego Informatora Geodezyjnego, Seria GEOMATYKA, Gdańsk, 2014, Dawid E. Dawis: GIS dla każdego. ESRI Polska, Warszawa 2004 Roger Tomlinson: Rozważania o GIS. ESRI Polska, Warszawa 2007
	Supplementary literature	Articles from magazines: IET INTELLIGENT TRANSPORT SYSTEMS; TRANSPORTATION PLANNING AND TECHNOLOGY, TRANSPORTATION RESEARCH PART A-POLICY AND PRACTICE
	eResources addresses	
Example issues/ example questions/ tasks being completed	Data entry methods; Characterize the differences between a raster map and a vector map; Name and describe standards for storing environmental data in the GIS system; Types of generalization; Marks on the map and their features; Characterize the colour attributes.	
Practical activites within the subject	Not applicable	

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