



Subject card

Subject name and code	Geospatial information systems, PG_00057117						
Field of study	Transport and Logistics						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group			Obligatory subject group 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			3.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Faculty of Ocean Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Aleksander Kniat				
	Teachers		dr inż. Aleksander Kniat				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	30.0	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		9.0		21.0	75
Subject objectives	Presentation of geographic information analysis and synthesis methods and its practical usage.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W04] The student has basic knowledge of IT and telecommunication systems in transport and in the area of control in transport systems		Student understands how to apply tools and methods of GIS system to design a maritime transportation object or system.		[SW3] Assessment of knowledge contained in written work and projects		
[K7_K02] The student is aware of the importance of non-technical aspects and the effects of engineering activities, including its impact on the natural environment and the related responsibility for decisions made		Student understands how to perform a spatial analysis using GIS system concerning exploitation of maritime transportation objects or systems.		[SK2] Assessment of progress of work			
Subject contents	<p>Definition and applications of Geographic Information Systems (GIS). Data in GIS system: spatial data and attributes. Storing and using data, data sources. Vector vs. raster objects. Coordinate's systems. Standard data formats. Vizualization: maps, layers, symbols, labels. Data classification. Data analysis and synthesis, processing data from different sources, marcos and programming langauges. Graphs and algorithms in spatial analysis (object location, shortest path) Spatial data analysis examples in QGIS.</p>						
Prerequisites and co-requisites	Basic knowledge about operating system and file system usage.						
	Basic knowledge about programming.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	project		60.0%		100.0%		
Recommended reading	Basic literature		Davis D. GIS dla każdego 2009 Gaździcki J. Systemy Informacji przestrzennej 1990 Kadaj R. "Polskie układy współrzędnych w geodezji" 2000				

	Supplementary literature	Litwin L., Myrda G., Systemy Informacji Geograficznej. Zarządzanie danymi przestrzennymi w GIS, SIP, SIT, LIS. 2005
	eResources addresses	Podstawowe http://www.qgis.org - open-source GIS program with documentation
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	