

表 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Geographical Information Systems GIS (WEiA), PG_00042093									
Field of study	Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering							ering		
Date of commencement of studies	October 2020		Academic year of realisation of subject			2022/2023				
Education level	first-cycle studies		Subject group							
Mode of study	Full-time studies		Mode of delivery			at the university				
Year of study	3		Language of instruction			Polish				
Semester of study	6		ECTS credits			4.0				
Learning profile	general academic profile		Assessment form			assessment				
Conducting unit	Department of Electrical Power Engineering -> Faculty of Electrical and Control Engineering									
Name and surname	Subject supervisor		dr inż. Andrzej Augusiak							
of lecturer (lecturers)	Teachers		dr inż. Andrzej Augusiak							
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM		
of instruction	Number of study hours	15.0	0.0	0.0 0.0			15.0	30		
	E-learning hours inclu	ided: 0.0								
	Address on the e-learning platform: http://									
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic ed in study	Participation in consultation hours		Self-study		SUM		
	Number of study hours	30		5.0		65.0		100		
Subject objectives	Learning the methods and tools used in geographical information systems especially in energy companies.									
Learning outcomes	Course outcome Subject outcome Method of verification									
	K6_U01		Student knows and is able to use internet portals publishing information on utilities and cadastral data (geoportal.gov.pl). He/she can acquire and integrate information about energy devices from various sources. He/she understands the importance and knows how to use technical data sheets, including those relating to wind turbines and power cables			[SU2] Assessment of ability to analyse information				
	K6_W05 K6_U05		Student is able to make a simple GIS project, using the QGIS software, regarding the location of a wind farm. As part of the project, student is able to correctly locate wind turbines, power lines and power stations. He/she can complete the project with technical data of power objects and display them on the map. He/she can perform simple spatial analyzes, such as the determination of the minimum required distances of power objects from one another or the determination of voltage drops on power lines. Student is able to use the knowledge in the field of electrical engineering, necessary for the correct mapping of energy objects in the GIS project. He/she can apply the formulas for calculating the flow of electrical currents and voltage drops in power grids.			[SU3] Assessment of ability to use knowledge gained from the subject				

Subject contents	GIS - definitions and components, raster and vector maps, objects on maps - graphical and data attributes, methods of storing data in GIS, database systems in GIS, methods of data presentation in GIS, constructing SQL queries and thematic maps, space analyses in GIS, specifics of GIS application in energy engineering companies.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade				
	Project evaluation	50.0%	100.0%				
Recommended reading	Basic literature 1. GIS For Electric Utilities. https://www.giscloud.com/ electric-utilities 2. GIS Solutions for Power Generation and Transmiss https://www.esri.com/library/brochures/pdfs/gis-sols-for generation.pdf Supplementary literature 1. QGIS User guide. https://docs.qgis.org/3.4/en/docs		ww.giscloud.com/blog/gis-for- ion and Transmission Services. res/pdfs/gis-sols-for-power- is.org/3.4/en/docs/user_manual				
	eResources addresses	2. QGIS Training manual. https://docs.qgis.org/3.4/en/docs/ training_manual/ Adresy na platformie eNauczanie:					
Example issues/ example questions/ tasks being completed	Concepts and definitions related to GIS The hardware and software of GIS systems Other technical systems working with GIS Spatial Analysis in GIS - be able to give an example Differences between raster and vectorlayers in GIS Examples of graphical attributes and database layers vector Inquiries(query) SQL - be able to give an example Types of GIS software Examples of GIS software for the power sector						
Work placement	Not applicable						