GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Systems of Geographical Information in Electrical Power Engineering, PG_00066177			
Field of study	Electrical Engineering			
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025	
Education level	second-cycle studies	Subject group		
Mode of study	Part-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 Electrical Power Engineering -> Faculty of Electrical and Control Engineering			
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Andrzej Augusiak		
	Teachers	dr inż. Andrzej Augusiak		

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	10.0	0.0	20
	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	20	0.0	0.0	20

Subject objectives	Learning the methods and tools used in geographical information systems in power engineering

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U11] is able to analyse the variability of electricity loads, calculate power and energy losses, can carry out cost accounting	presents the results of calculations of electrical parameters in a GIS project.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools
	[K7_W08] has an extended knowledge of power supply systems power supply and control systems including the use of computer networks and design of these systems in industrial facilities industrial facilities	takes into account technical and non-technical conditions for designing power grids.	[SW3] Assessment of knowledge contained in written work and projects
	[K7_W03] has an extended and deepened knowledge of the field related to electrical power systems and electrical equipment	makes a GIS project for a wind farm.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents	The map - history and its role in socio-economic development of the mankind, analog and digital maps - similarities and differences, 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 power engineering companies.

Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Rating of final project	50.0%	100.0%

Recommended reading	Basic literature	1. Szczepanek Robert: **Systemy informacji przestrzennej z QGIS część I i II, podręcznik akademicki**. Wydawnictwo PK 2017 https://repozytorium.biblos.pk.edu.pl/resources/25448 2. **Geoinformacja zmienia nasz świat**. Główny Urząd Geodezji i Kartografii 2018 http://www.gugik.gov.pl/__data/assets/pdf_file/0003/93234/Geoinformacja-zmienia-nasz-swiat.PDF 3. Iwańczak Bartłomiej: **QGIS. Tworzenie i analiza map (ebook)**. Helion 2020 https://helion.pl/ksiazki/qgis-tworzenie-i-analiza-map-bartlomiej-iwanczak,qgista.htm
	Supplementary literature	QGIS system documentation. http://www.qgis.org/pl/docs/index.html
	eResources addresses	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 vector-layers 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	

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