GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Geographical Information Systems GIS (WEiA), PG_00042093		
Field of study	Power Engineering, Power Engineering		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2023/2024
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 of lecturer (lecturers)	Subject supervisor	dr inż. Andrzej Augusiak	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	15.0	30

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	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_U12] can correctly choose tools (analytical or numerical) to solve engineering problems filtration processes, and data analysis; is able to use photogrammetric and remote sensing tools in engineering tasks in the field of geodetic techniques and metrology		
[K6_U01] can obtain information from literature and other sources, organize, interpret it and draw and formulate conclusions; has the ability to self-educate, interprets the results of completed engineering tasks, is able to design simple energy systems and their systems		
[K6_W05] has structured knowledge in the field of electrical engineering and electronics, necessary to understand the basics of operation and selection of electrical machines, electricity transmission systems and power electronic devices		
[K6_W03] knows the basics of automation and automatic regulation, knows the principles of the selection of electrical devices, drive systems and their control		

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/blog/gis-for-electric-utilities 2. GIS Solutions for Power Generation and Transmission Services. https://www.esri.com/library/brochures/pdfs/gis-sols-for-power-generation.pdf	
	Supplementary literature	1. QGIS User guide. https://docs.qgis.org/3.4/en/docs/user_manual 2. QGIS Training manual. https://docs.qgis.org/3.4/en/docs/training_manual/	
	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 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		