



Subject card

Subject name and code	Systems of Geographical Information in Electrical Power Engineering, PG_00038479						
Field of study	Electrical Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group					
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			1.0		
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	15.0	0.0	0.0	0.0	0.0	15
	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	15	2.0		8.0		25
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_W08	The student is able to create a simple GIS project for a wind farm.			[SW3] Assessment of knowledge contained in written work and projects		
	K7_W12	The student is able to take into account economic aspects in a simple GIS project.			[SW3] Assessment of knowledge contained in written work and projects		
	K7_K02	The student is able to use GIS information and databases regarding the environmental conditions of a technical project.			[SK5] Assessment of ability to solve problems that arise in practice		
	K7_K03	Student can solve a partial problem within the project subgroup and correctly use it to solve the overall task of the group			[SK1] Assessment of group work skills		
	K7_U11	The student is able to present calculations of power and energy losses in a simple GIS project.			[SU5] Assessment of ability to present the results of task		
	K7_U09	The student is able to use technical documentation in a simple GIS project.			[SU2] Assessment of ability to analyse information		
K7_W12	The student is able to take into account economic aspects in a simple GIS project.			[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	<ol style="list-style-type: none"> 1. Bielecka E.: Systemy Informacji Geograficznej - teoria i zastosowania. Wydawnictwo PJJWSTK, Warszawa 2006. 2. Myrda G., Litwin L.: Systemy Informacji Geograficznej. Zarządzanie danymi przestrzennymi w GIS, SIP, SIT, LIS. wydawnictwo Helion, Gliwice 2005.
	Supplementary literature	QGIS system documentation. http://www.qgis.org/pl/docs/index.html
	eResources addresses	Adresy na platformie eNauczanie: Systemy informacji geograficznej GIS [2023/24] - Moodle ID: 33737 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33737
Example issues/ example questions/ tasks being completed	<p>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.</p>	
Work placement	Not applicable	