



## Subject card

Subject name and code	Systems of Geographical Information in Electrical Power Engineering, PG_00050041						
Field of study	Electrical Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2022/2023		
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			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	5.0	0.0	0.0	10.0	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		1.0		9.0	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_W03		Student is able to properly describe the components of GIS systems and discuss their use in energy companies.		[SW1] Assessment of factual knowledge		
	K7_W12						
	K7_U09		Student is able to accomplish a simple project in the field of geographic information systems GIS. During the implementation of the GIS project, student can use the methods and tools used in GIS systems. When creating elements of the GIS project, the student can apply technical knowledge from other education modules.		[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools		
	K7_U11						
	K7_W08						
	K7_K03		Student can solve a partial problem within the project subgroup and correctly use it to solve the overall task of the group.		[SK5] Assessment of ability to solve problems that arise in practice [SK1] Assessment of group work skills		
K7_K02							
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%
Recommended reading	Basic literature	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. <a href="http://www.qgis.org/pl/docs/index.html">http://www.qgis.org/pl/docs/index.html</a>	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ul style="list-style-type: none"> <li>• Concepts and definitions related to GIS</li> <li>• The hardware and software of GIS systems</li> <li>• Other technical systems working with GIS</li> <li>• Spatial Analysis in GIS - be able to give an example</li> <li>• Differences between raster and vector-layers in GIS</li> <li>• Examples of graphical attributes and database layers vector</li> <li>• Inquiries (query) SQL - be able to give an example</li> <li>• Types of GIS software</li> <li>• Examples of GIS software for the power sector.</li> </ul>		
Work placement	Not applicable		