GDAŃSK UNIVERSITY OF TECHNOLOGY

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 2023	Academic year of realisation of subject	2023/2024
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_K02		
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 [SK5] Assessment of ability to solve problems that arise in practice
K7_W08		
K7_U11		
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.	[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
K7_W12		
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

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.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Rating of final project</td><td>50.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">1. Bielecka E.: Systemy Informacji Geograficznej - teoria i zastosowania. Wydawnictwo PJWSTK, Warszawa 2006.
2. Myrda G., Litwin L.: Systemy Informacji Geograficznej. Zarządzanie danymi przestrzennymi w GIS, SIP, SIT, LIS. wydawnictwo Helion, Gliwice 2005.</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">QGIS system documentation. http://www.qgis.org/pl/docs/index.html</td></tr>
<tr><td>eResources addresses</td><td colspan="2">Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">• 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.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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