



Subject card

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|---|---|--|----------|-------------------------------------|---|------------|-----|
| Subject name and code | Geographin Information System (GIS), PG_00042189 | | | | | | |
| Field of study | Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering | | | | | | |
| Date of commencement of studies | October 2020 | Academic year of realisation of subject | | | 2023/2024 | | |
| Education level | first-cycle studies | Subject group | | | Optional subject group Subject group related to scientific research in the field of study | | |
| Mode of study | Full-time studies | Mode of delivery | | | at the university | | |
| Year of study | 4 | Language of instruction | | | Polish | | |
| Semester of study | 7 | ECTS credits | | | 3.0 | | |
| 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 | 15.0 | 0.0 | 0.0 | 0.0 | 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 | | 3.0 | | 42.0 | 75 |
| 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_W06 | The student is able to correctly specify the components of GIS systems and discuss their use in energy companies. | | | [SW1] Assessment of factual knowledge | | |
| | K6_U03 | The student is able to make a simple project in the field of GIS geographic information systems. During the implementation of a GIS project, the student is able to use the methods and tools used in GIS systems. When creating elements of a GIS project, the student is able to 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 | | |
| Subject contents | <p>LECTURE 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 energy engineering companies.</p> <p>CLASSES Constructing raster and vector maps, registering raster maps in selected projection, constructing objects on vector maps and changing their graphical attributes, linking data attributes of map objects with external database system, organization of data storage and access, construction of simple SQL queries in GIS, construction of thematic maps and presentation of space analyses results in GIS.</p> | | | | | | |
| Prerequisites and co-requisites | | | | | | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | | | Percentage of the final grade | | |
| | GIS project of a selected energy facility | 50.0% | | | 100.0% | | |

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| Recommended reading | Basic literature | <ol style="list-style-type: none"> 1. Iwańczak B.: QGIS 3.14. Tworzenie i analiza map. Wydawnictwo Helion 2020 2. Bielecka E.: Systemy Informacji Geograficznej - teoria i zastosowania. Wydawnictwo PJWSTK, Warszawa 2006. 3. Myrda G., Litwin L.: Systemy Informacji Geograficznej. Zarządzanie danymi przestrzennymi w GIS, SIP, SIT, LIS. wydawnictwo Helion, Gliwice 2005. |
| | Supplementary literature | QGIS software 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 | |