# 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. |
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| 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. |
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| 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<br><br>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<br><br>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 |