GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

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|---|---|---|---|
| Subject name and code | Interactive visualisation, PG_00045377 | | |
| Field of study | Data Engineering | | |
| Date of commencement of studies | October 2022 | Academic year of realisation of subject | 2025/2026 |
| Education level | first-cycle studies | Subject group | Optional subject group<br>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 | English |
| Semester of study | 7 | ECTS credits | 4.0 |
| Learning profile | general academic profile | Assessment form | assessment |
| Conducting unit | Department of Informatics in Management -> Faculty of Management and Economics | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Igor Garnik | |
| | Teachers | dr inż. Igor Garnik | |

**Lesson types and methods of instruction**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 0.0 | 0.0 | 30.0 | 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 | 2.0 | 68.0 | 100 |

**Subject objectives**

The aim of the course is to acquire the skills needed to construct interactive visual communication in the visual business communication with the help of IT tools and solutions.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K6_K04] takes responsibility for jointly performed tasks. | Student understands the need of teamwork in developing solutions for information visualization. | [SK1] Assessment of group work skills |
| [K6_U13] Is able to prepare, independently and in a team, studies and analyses appropriate for the field of data engineering. | | |
| [K6_W08] Knows the models and structure of the data mining process and their multidimensional analysis and can assess the results of such analyses | | |

<table>
<tr><td>Subject contents</td><td>Visualization in the diagnosis, assessment and analysis of phenomena.<br><br>Application of computer graphics to information visualization.<br><br>Visualization techniques for decision support. Methods: sheet-based, simulation and rule-based.<br><br>Visualization techniques for knowledge discovery.<br><br>Interactive techniques for accessing the data. Dynamic presentation of the data - selected applications.<br><br>Visualization of the spatial - geographic information GIS systems.<br><br>Information architecture and its applications. Strategies for searching and filtering information.<br><br>Advanced visualization techniques in selected economic and scientific-technical applications.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Completion of the course: Visualization of economic data</td></tr>
<tr><td>Assessment methods and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>written test</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>laboratory exercises</td><td>60.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>Murray S.: Interaktywna wizualizacja danych. Wyd. Helion Warszawa 2013.<br><br>Rosenfeld L., Morville P.: Architektura informacji w serwisach internetowych. Wyd. Helion Warszawa 2003.</td></tr>
<tr><td>Supplementary literature</td><td>Dudycz H.: Wizualizacja danych jako narzędzie wspomagania zarządzania przedsiębiorstwem. Wyd. Akademii Ekonomicznej we Wrocławiu, Wrocław 1998.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
</table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>- principles of construction of interactive charts for presentation on the Web<br><br>- RIA applications and their use in data visualization<br><br>- visualization of spatial and geographical data - construction and application</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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