## 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 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 |

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| 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 | | |

| Subject contents | Visualization in the diagnosis, assessment and analysis of phenomena. |
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| | Application of computer graphics to information visualization. |
| | Visualization techniques for decision support. Methods: sheet-based, simulation and rule-based. |
| | Visualization techniques for knowledge discovery. |
| | Interactive techniques for accessing the data. Dynamic presentation of the data - selected applications. |
| | Visualization of the spatial - geographic information GIS systems. |
| | Information architecture and its applications. Strategies for searching and filtering information. |
| | Advanced visualization techniques in selected economic and scientific-technical applications. |
| Prerequisites and co-requisites | Completion of the course: Visualization of economic data |

| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|---|
| | written test | 60.0% | 50.0% |
| | laboratory exercises | 60.0% | 50.0% |

| Recommended reading | Basic literature | Murray S.: Interaktywna wizualizacja danych. Wyd. Helion Warszawa 2013.<br><br>Rosenfeld L., Morville P.: Architektura informacji w serwisach internetowych. Wyd. Helion Warszawa 2003. |
|---|---|---|
| | Supplementary literature | Dudycz H.: Wizualizacja danych jako narzędzie wspomagania zarządzania przedsiębiorstwem. Wyd. Akademii Ekonomicznej we Wrocławiu, Wrocław 1998. |
| | eResources addresses | Adresy na platformie eNauczanie: |

| Example issues/ example questions/ tasks being completed | - principles of construction of interactive charts for presentation on the Web |
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| | - RIA applications and their use in data visualization |
| | - visualization of spatial and geographical data - construction and application |
| Work placement | Not applicable |