



## Subject card

|   |  |  |                        |                                     |  |            |     |
|---|--|--|------------------------|-------------------------------------|--|------------|-----|
| Subject name and code                       | Internship, PG_00045273  |  |                        |                                     |  |            |     |
| 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  |                        |                                     | Obligatory subject group in the field of study<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                                  |                        |                                     | Polish   |            |     |
| Semester of study                           | 7  | ECTS credits   |                        |                                     | 2.0  |            |     |
| Learning profile                            | general academic profile   | Assessment form  |                        |                                     | assessment   |            |     |
| Conducting unit                             | Department of Intelligent Interactive Systems -> Faculty of Electronics, Telecommunications and Informatics  |  |                        |                                     |  |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor   |  | dr inż. Mariusz Szwoch |                                     |  |            |     |
|   | Teachers   |  |                        |                                     |  |            |     |
| Lesson types and methods of instruction     | Lesson type  | Lecture  | Tutorial               | Laboratory                          | Project  | Seminar    | SUM |
|   | Number of study hours  | 0.0  | 0.0                    | 0.0                                 | 0.0  | 0.0        | 0   |
|   | 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  | 0  |                        | 0.0                                 |  | 50.0       | 50  |
| Subject objectives                          | <p>The objectives of practice are as follows:</p> <ul style="list-style-type: none"><li>•apply knowledge and skills acquired during previous studies,</li><li>•acquisition of a new knowledge, skills and social competence</li><li>•knowledge of the industrial environment of teamwork and the conditions and rules in force in this environment</li><li>•development of appropriate attitudes to work in a team : taking care of the quality of work , timeliness tasks, correct cooperation with others and cells in the place of practice , developing his own initiative in the work environment , the acquisition of skills work efficiently as a team.</li></ul> |  |                        |                                     |  |            |     |

| Learning outcomes | Course outcome   | Subject outcome  | Method of verification   |
|-------------------|--|--|--|
|                   | [K6_K03] Knows how to cooperate or work in a project team and take managerial or executive functions.  | The student is able to work in a company in a project team.                            | [SK1] Assessment of group work skills  |
|                   | [K6_K01] is aware of quickly changing trends and the resulting need for further education and self-improvement in the area of the performed profession of an engineer with IT and economic-financial skills.   | The student learns about the need for constant replenishment knowledge.                | [SK2] Assessment of progress of work   |
|                   | [K6_U11] is able to use mathematical and IT tools in economics.  | The student knows the management methods of hi-tech company.                           | [SU2] Assessment of ability to analyse information<br>[SU3] Assessment of ability to use knowledge gained from the subject |
|                   | [K6_U03] analyses problems and creates appropriate models, data structures and algorithms (including heuristic and numerical ones), assesses their computational complexity, estimates errors of the received solutions  | On the basis of his knowledge, the student is able to solve the problems posed to him. | [SU3] Assessment of ability to use knowledge gained from the subject   |
|                   | [K6_U08] can acquire and apply basic theoretical knowledge of economic sciences to analyse economic processes  | The student is able to use his or her knowledge and learn new issues.                  | [SU2] Assessment of ability to analyse information   |
| Subject contents  | <p>The professional internship plan must contain at least three selected tasks from the following technical and engineering skills block:</p> <ol style="list-style-type: none"> <li>1. Installation, configuration and administration of small computer networks, including wireless ones.</li> <li>2. Implementation of information security policy in a company or institution, installation of anti-virus protection, configuration of firewalls.</li> <li>3. Installation, configuration and administration of software, in particular operating systems and application servers.</li> <li>4. Design, implementation and modification of software in various technologies and for various applications.</li> <li>5. Software testing, also using automated testing tools.</li> <li>6. The use of open program components, taking into account the legal relationships between them and the resulting product.</li> <li>7. Database design and implementation as well as performance testing.</li> <li>8. Using advanced methods and technologies for processing, storage, transformation and data analysis (Big Data, Business Intelligence, data warehouses)</li> <li>9. Design and prototyping of advanced user interfaces.</li> <li>10. Using advanced IT tools for processing sound, image and video files.</li> <li>11. Configuration of external computer devices, expansion and modification of its module structure and internal devices.</li> <li>12. Preparation and testing of software for simple microcontrollers and embedded systems.</li> <li>13. Preparation and analysis of technical documentation of IT projects, use of models and management tools for e-business.</li> </ol> |  |  |

| <b>Prerequisites and co-requisites</b>                                      | <p>Before starting the internship, the student must complete the following formalities within the time limit indicated by the Dean's representative for professional internships:</p> <ol style="list-style-type: none"> <li>1. Report in the manner specified in the current internship regulations about intending to do an internship in the plant of your choice and obtain the consent of the Dean's representative for internships.</li> <li>2. In the cases indicated in the current internship regulations, obtain the consent of the relevant vice-dean and provide it to the dean's attorney for internships.</li> <li>3. In the case of unpaid internships, obtain a signed contract between the workplace and PG WETI and provide data for accident insurance.</li> </ol> |                                  |                   |                               |   |       |        |  |  |
|---|---|----------------------------------|-------------------|-------------------------------|---|-------|--------|--|--|
| <b>Assessment methods and criteria</b>                                      | <table border="1"> <thead> <tr> <th data-bbox="451 490 794 517">Subject passing criteria</th> <th data-bbox="794 490 1142 517">Passing threshold</th> <th data-bbox="1142 490 1477 517">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="451 517 794 600">Report, positive assessment of the workplace and compliance with procedures</td> <td data-bbox="794 517 1142 600">60.0%</td> <td data-bbox="1142 517 1477 600">100.0%</td> </tr> </tbody> </table>   | Subject passing criteria         | Passing threshold | Percentage of the final grade | Report, positive assessment of the workplace and compliance with procedures | 60.0% | 100.0% |  |  |
| Subject passing criteria  | Passing threshold   | Percentage of the final grade    |                   |                               |   |       |        |  |  |
| Report, positive assessment of the workplace and compliance with procedures | 60.0%   | 100.0%                           |                   |                               |   |       |        |  |  |
| <b>Recommended reading</b>  | Basic literature  | No recommendations               |                   |                               |   |       |        |  |  |
|   | Supplementary literature  | No recommendations               |                   |                               |   |       |        |  |  |
|   | eResources addresses  | Adresy na platformie eNauczanie: |                   |                               |   |       |        |  |  |
| <b>Example issues/ example questions/ tasks being completed</b>             |   |                                  |                   |                               |   |       |        |  |  |
| <b>Work placement</b>   | The subject is internship.  |                                  |                   |                               |   |       |        |  |  |