

## Subject card

|                                             |                                                                                                                                                                                                                                                                                                                                        |                                                          |                                                                                                                                                                                                             |                                     |                                                                                              |            |     |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------|------------|-----|
| Subject name and code                       | Sustainable Computerization of Busines, PG_00178734                                                                                                                                                                                                                                                                                    |                                                          |                                                                                                                                                                                                             |                                     |                                                                                              |            |     |
| Field of study                              | Informatics and Econometrics                                                                                                                                                                                                                                                                                                           |                                                          |                                                                                                                                                                                                             |                                     |                                                                                              |            |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                                           |                                                          | Academic year of realisation of subject                                                                                                                                                                     |                                     | 2026/2027                                                                                    |            |     |
| Education level                             | Master's studies                                                                                                                                                                                                                                                                                                                       |                                                          | Subject group                                                                                                                                                                                               |                                     | Optional subject group<br>Subject group related to scientific research in the field of study |            |     |
| Mode of study                               | part-time studies                                                                                                                                                                                                                                                                                                                      |                                                          | Mode of delivery                                                                                                                                                                                            |                                     | at the university                                                                            |            |     |
| Year of study                               | 2                                                                                                                                                                                                                                                                                                                                      |                                                          | Language of instruction                                                                                                                                                                                     |                                     | Polish                                                                                       |            |     |
| Semester of study                           | 4                                                                                                                                                                                                                                                                                                                                      |                                                          | ECTS credits                                                                                                                                                                                                |                                     | 5.0                                                                                          |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                                               |                                                          | Assessment form                                                                                                                                                                                             |                                     | credit                                                                                       |            |     |
| Conducting unit                             |                                                                                                                                                                                                                                                                                                                                        |                                                          |                                                                                                                                                                                                             |                                     |                                                                                              |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                                     |                                                          | dr hab. inż. Bartłomiej Gawin                                                                                                                                                                               |                                     |                                                                                              |            |     |
|                                             | Teachers                                                                                                                                                                                                                                                                                                                               |                                                          |                                                                                                                                                                                                             |                                     |                                                                                              |            |     |
| Lesson types                                | Lesson type                                                                                                                                                                                                                                                                                                                            | Lecture                                                  | Tutorial                                                                                                                                                                                                    | Laboratory                          | Project                                                                                      | Seminar    | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                                                  | 8.0                                                      | 24.0                                                                                                                                                                                                        | 0.0                                 | 0.0                                                                                          | 0.0        | 32  |
|                                             | 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                                                                                                                                                                                                                                                                                                                  | 32                                                       |                                                                                                                                                                                                             | 2.0                                 |                                                                                              | 91.0       | 125 |
| Subject objectives                          | Mastering skills that support IT project management, as well as the implementation of tasks in projects involving the implementation of applications and IT systems in correlation with the company's business goals and processes and taking into account the architectural order and sustainable development of the organization.    |                                                          |                                                                                                                                                                                                             |                                     |                                                                                              |            |     |
| Learning outcomes                           | Course outcome                                                                                                                                                                                                                                                                                                                         |                                                          | Subject outcome                                                                                                                                                                                             |                                     | Method of verification                                                                       |            |     |
|                                             | [liEMU2_U06] Students can utilize structured and detailed knowledge of management, quality sciences, economics, and finance to address dilemmas and develop innovative solutions for complex or unusual problems that arise in professional settings.                                                                                  |                                                          | The student is able to design IT systems for enterprises using advanced design techniques and taking into account the flexibility of these systems for the sustainable computerization of the organization. |                                     | [SU2] presentation/project/paper/report                                                      |            |     |
|                                             | [liEMU2_W01] The student possesses a profound understanding of the nature and evolution of theories in management, quality sciences, economics, and finance. They know these fields' significance within the broader social sciences. Additionally, the student learns the main trends in developing informatics and statistics tools. |                                                          | The student knows and understands advanced theoretical and practical design issues in the field of economic informatics, necessary for the sustainable design of information systems.                       |                                     | [SW2] presentation/project/paper/report                                                      |            |     |

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| Subject contents                                         | A. Lecture topics<br><br>Discussion of the definition, principles and architectural framework of enterprise architecture<br>Discussion of tools for managing the enterprise architecture of an organization<br>Discussion of the TOGAF methodology for managing enterprise architecture<br>Discussion of the issues of sustainable development and digitalization of an organization<br>Discussion of issues regarding processes and tools supporting the management of energy efficiency of an enterprise<br>Discussion of issues regarding the design of IT systems in UML notation<br><br>B. Exercise topics<br><br>Practical presentation and application in exercises of the ADOit tool<br>Practical presentation and application in exercises of the EA tool<br>Practical presentation and application in exercises of methodologies and tools for designing IT systems supporting the sustainable development of an enterprise |                                                                                                                                                                                                                            |                               |
| Prerequisites and co-requisites                          | Basic knowledge of mathematics and computer science.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                            |                               |
| Assessment methods and criteria                          | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Passing threshold                                                                                                                                                                                                          | Percentage of the final grade |
|                                                          | project work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 50.0%                                                                                                                                                                                                                      | 100.0%                        |
| Recommended reading                                      | Basic literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Gawin B., Systemy informatyczne w zarządzaniu procesami workflow, PWN 2015<br><br>Sobczak A., Architektura korporacyjna. Aspekty teoretyczne i wybrane zastosowania praktyczne, Ośrodek studiów nad cyfrowym państwem 2013 |                               |
|                                                          | Supplementary literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | BOC: electronic materials on IT architecture management in ADOit                                                                                                                                                           |                               |
|                                                          | eResources addresses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                            |                               |
| Example issues/ example questions/ tasks being completed | Design an enterprise IT architecture model for the selected enterprise in the ADOIT tool.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                            |                               |
| Work placement                                           | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                            |                               |

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