

## Subject card

|                                             |                                                                                                                                       |                                                          |                                         |                                     |                                                                                                                                                |            |     |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----|
| Subject name and code                       | IT Tools and Techniques in Business Process Management, PG_00178737                                                                   |                                                          |                                         |                                     |                                                                                                                                                |            |     |
| Field of study                              | Informatics and Econometrics                                                                                                          |                                                          |                                         |                                     |                                                                                                                                                |            |     |
| Date of commencement of studies             | October 2026                                                                                                                          |                                                          | Academic year of realisation of subject |                                     | 2027/2028                                                                                                                                      |            |     |
| Education level                             | Master's studies                                                                                                                      |                                                          | Subject group                           |                                     | Obligatory subject group in the field of study<br>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                           | 3                                                                                                                                     |                                                          | 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                                                      | 0.0                                     | 24.0                                | 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                          | Skills improving of multidimensional modeling, parameterization, simulation and analysis of business processes in dedicated IT tools. |                                                          |                                         |                                     |                                                                                                                                                |            |     |

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| Learning outcomes                                              | Course outcome                                                                                                                                                                                                                              | Subject outcome                                                                                                                                                                                                                                                  | Method of verification                  |
|                                                                | [liEMU2_U06] 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 | Student ss able to integrate knowledge of business process management and decision rules to identify managerial dilemmas, as well as independently design and simulate innovative solutions within the Adonis system environment for complex economic processes. | [SU2] presentation/project/paper/report |
|                                                                | [liEMU2_W06] Possesses a structured understanding of the processes, methods, and tools necessary for the design, creation, development, and provision of suitable conditions for informatics, econometrics or statistics tools              | The student has structured and theoretically based knowledge of business processes, tools and techniques for their design, parameterization, simulation and analysis.                                                                                            | [SW2] presentation/project/paper/report |
|                                                                | [liEMU2_U11] Can collaborate effectively in teams and assume leadership roles                                                                                                                                                               | The student is able to cooperate and work in process teams, direct their design work or take a leading role in them.                                                                                                                                             | [SU2] presentation/project/paper/report |
|                                                                | [liEMU2_U12] Can adapt, design, create, and operate IT systems that support business entities                                                                                                                                               | The student is able to design business processes that support the functioning of economic entities.                                                                                                                                                              | [SU2] presentation/project/paper/report |
|                                                                | [liEMU2_U01] Can creatively and profoundly analyze complex social and economic processes using structured knowledge, econometrics, informatics, or statistics tools                                                                         | The student is able to analyze and interpret complex and multidimensional business processes in an in-depth and creative way using structured knowledge and IT tools.                                                                                            | [SU2] presentation/project/paper/report |
| Subject contents                                               | A. Lecture topics                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                  |                                         |
|                                                                | Discussion of the basics of business process management                                                                                                                                                                                     |                                                                                                                                                                                                                                                                  |                                         |
|                                                                | Discussion of design notations for modeling business processes and decision rules                                                                                                                                                           |                                                                                                                                                                                                                                                                  |                                         |
|                                                                | Discussion of tools for designing, simulating, and analyzing business processes                                                                                                                                                             |                                                                                                                                                                                                                                                                  |                                         |
|                                                                | Discussion of tools for designing, simulating, and analyzing decision rules in business processes                                                                                                                                           |                                                                                                                                                                                                                                                                  |                                         |
|                                                                | B. Exercise topics                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                  |                                         |
|                                                                | Practical presentation and application of the Adonis tool in exercise work                                                                                                                                                                  |                                                                                                                                                                                                                                                                  |                                         |
| Prerequisites and co-requisites                                | <ul style="list-style-type: none"><li>Prerequisites: Economic informatics, databases</li><li>Additional requirements: Basic knowledge of organizational management</li></ul>                                                                |                                                                                                                                                                                                                                                                  |                                         |
| Assessment methods and criteria                                | Subject passing criteria                                                                                                                                                                                                                    | Passing threshold                                                                                                                                                                                                                                                | Percentage of the final grade           |
|                                                                | work project                                                                                                                                                                                                                                | 51.0%                                                                                                                                                                                                                                                            | 100.0%                                  |
| Recommended reading                                            | Basic literature                                                                                                                                                                                                                            | Gawin B., Systemy informatyczne w zarządzaniu procesamiworkflow, PWN 2015                                                                                                                                                                                        |                                         |
|                                                                |                                                                                                                                                                                                                                             | Gawin B., Marcinkowski B.: Symulacje procesów biznesowych.Standardy BPMS i BPMN w praktyce, Helion 2013                                                                                                                                                          |                                         |
|                                                                | Supplementary literature                                                                                                                                                                                                                    | BOC: ADONIS User Manual                                                                                                                                                                                                                                          |                                         |
|                                                                |                                                                                                                                                                                                                                             | Mathias Weske, Business Process Management: Concepts,Languages, Architectures, Springer 2012                                                                                                                                                                     |                                         |
|                                                                | eResources addresses                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                  |                                         |
| Example issues/<br>example questions/<br>tasks being completed | Design a multidimensional business process model in ADONIS, parameterize it and perform path simulation and load analysis.                                                                                                                  |                                                                                                                                                                                                                                                                  |                                         |

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| Work placement | Not applicable |
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