

## Subject card

|                                             |                                                                                          |                                                          |                                         |                                     |         |                                                                                                                                                |     |
|---------------------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Subject name and code                       | Application of IT in Finance and Controlling, PG_00177666                                |                                                          |                                         |                                     |         |                                                                                                                                                |     |
| Field of study                              | Finance and Accounting                                                                   |                                                          |                                         |                                     |         |                                                                                                                                                |     |
| Date of commencement of studies             | October 2025                                                                             |                                                          | Academic year of realisation of subject |                                     |         | 2026/2027                                                                                                                                      |     |
| 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                               | full-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                             | Department of Corporate Finance -> Faculty of Management -> Rector                       |                                                          |                                         |                                     |         |                                                                                                                                                |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                       |                                                          | dr Dawid Szramowski                     |                                     |         |                                                                                                                                                |     |
|                                             | Teachers                                                                                 |                                                          |                                         |                                     |         |                                                                                                                                                |     |
| Lesson types                                | Lesson type                                                                              | Lecture                                                  | Tutorial                                | Laboratory                          | Project | Seminar                                                                                                                                        | SUM |
|                                             | Number of study hours                                                                    | 15.0                                                     | 0.0                                     | 45.0                                | 0.0     | 0.0                                                                                                                                            | 60  |
|                                             | 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                                                                    | 60                                                       |                                         | 4.0                                 |         | 61.0                                                                                                                                           | 125 |
| Subject objectives                          | Acquisition of skills and knowledge related to IT tools used in finance and controlling. |                                                          |                                         |                                     |         |                                                                                                                                                |     |

| Learning outcomes | Course outcome                                                                                                                                                                                                                                                                                                                                                 | Subject outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Method of verification                                                       |
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|                   | [FiRMU2_W06] The student possesses a comprehensive understanding of the objectives, essence, nature, and interrelationships of financial processes. They are knowledgeable about how these processes are recorded and the principles of rational decision-making, particularly in terms of strategic decisions and the implementation of changes in this area. | The student has an in-depth knowledge and understanding of the objectives, essence, and interrelations of financial processes and their recording, as well as the principles of rational decision-making – including strategic decisions – and the implementation of changes in this area.                                                                                                                                                                                                                                                                                                                                                                                     | [SW4] test/exam - oral or written<br>[SW2] presentation/project/paper/report |
|                   | [FiRMU2_U12] The student can use technologies and IT systems (including advanced ones) to support their professional work in finance and accounting.                                                                                                                                                                                                           | The student is able to use technologies and IT systems that support the performance of professional tasks in the area of finance and accounting, including data analysis, reporting, and managerial decision-making.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | [SU2] presentation/project/paper/report                                      |
|                   | [FiRMU2_U02] The student is able to propose or design suitable solutions, including innovative ones, to complex problems in finance and accounting.                                                                                                                                                                                                            | The student is able to design and propose adequate, including innovative, solutions to complex problems in the field of finance and controlling, using information technologies. In particular, they can select appropriate IT tools (such as ERP systems, BI tools, spreadsheets, or analytical applications), integrate data from various sources, and implement solutions that automate reporting and analytical processes. The student is capable of evaluating the usefulness and effectiveness of digital solutions in increasing data transparency, supporting managerial decision-making, and enhancing the efficiency of financial management within an organization. | [SU2] presentation/project/paper/report                                      |
|                   | [FiRMU2_W05] The student possesses a comprehensive understanding of advanced and innovative methods, tools, and techniques for obtaining, utilizing, and analyzing data needed to assess the financial situation of various entities in management, quality sciences, economics, and finance.                                                                  | The student identifies and classifies IT tools that support decision-making, reporting, and analytical processes in enterprises.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | [SW4] test/exam - oral or written<br>[SW2] presentation/project/paper/report |
|                   | [FiRMU2_U04] From a finance and accounting perspective, students are able to select and effectively use, adapt, or develop new methods and tools from the fields of management, quality sciences, and economics. They can analyze and forecast economic processes as well as evaluate economic phenomena.                                                      | The student is able – from the perspective of finance and accounting – to accurately select and properly apply appropriate methods and tools derived from management and quality sciences as well as economics and finance, in order to analyze and forecast economic processes, as well as to assess economic phenomena occurring in the business environment.                                                                                                                                                                                                                                                                                                                | [SU2] presentation/project/paper/report<br>[SU4] test/exam - oral or written |

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| Subject contents                                               | <p>1. The Role of Information Technology in Finance and Controlling<br/>Presentation of the importance of IT systems as tools supporting decision-making, reporting, and analytical processes in enterprises.</p> <p>2. Characteristics of ERP, BI (Business Intelligence) Software, Spreadsheets, and Specialized Financial-Analytical Applications<br/>Overview of key software types used in financial and controlling operations.</p> <p>3. Integration, Automation, and Data Transparency in Controlling and Financial Management</p> <p>a) Integration of financial and controlling data sources within the organization.</p> <p>b) Automation of reporting processes and data analysis.</p> <p>c) Increasing data transparency to support managerial decision-making.</p> <p>d) Supporting the consistency and real-time availability of financial information.</p> <p>4. Developing Skills in Financial Data Analysis and Interpretation Using IT Tools</p> <p>a) Learning how to use IT tools for data analysis (e.g., Excel, Power BI, ERP systems).</p> <p>b) Developing the ability to identify relevant information in large data sets.</p> <p>c) Enhancing the ability to interpret financial results in a managerial context.</p> <p>d) Strengthening competencies in transforming data into actionable managerial insights.</p> <p>5. Preparation for Working in a Digital Environment</p> <p>a) Introducing students to current digitization trends in finance.</p> <p>b) Discussing the practical application of business process automation.</p> <p>c) Presenting the potential of artificial intelligence in financial analysis.</p> <p>d) Introduction to cloud technologies and their role in modern financial management.</p> <p>e) Building awareness of the competency requirements for employees in modern organizations.</p> <p>6. The Role of AI and Machine Learning in the Work of Finance and Controlling Departments<br/>Exploration of how artificial intelligence and machine learning enhance the efficiency and effectiveness of financial and controlling operations.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |
| Prerequisites and co-requisites                                | <p>Basic knowledge in the areas of accounting, financial analysis, and management, including:</p> <ul style="list-style-type: none"><li>financial and managerial accounting (e.g., understanding of the balance sheet, income statement, and basic cost calculation methods),</li><li>economics and corporate finance,</li><li>financial mathematics and the fundamentals of numerical data analysis,</li><li>spreadsheet proficiency (e.g., Microsoft Excel or Google Sheets).</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |
| Assessment methods and criteria                                | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Passing threshold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Percentage of the final grade |
|                                                                | Written project and its presentation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 50.0%                         |
|                                                                | Written test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 50.0%                         |
| Recommended reading                                            | Basic literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>1. W. Próchnicki, Zastosowanie Excela w pracy analityka finansowego, specjalisty ds. controllingu i analityka sprzedaży. Helion, Gliwice 2020.</p> <p>2. A. Januszewski, Funkcjonalność informatycznych systemów zarządzania, t. 2. Wydawnictwo Politechniki Koszalińskiej, Koszalin 2021.</p> <p>3. J. Kisielnicki, MIS Systemy Informatyczne Zarządzania. Wydawnictwo Placet, Warszawa 2021.</p> <p>4. I. Chomiak-Orsa, Zastosowanie Business Intelligence w controllingu. Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław 2022.</p> <p>5. K. Rybicka, Wykorzystanie systemu informatycznego w controllingu logistycznym. Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2020.</p> |                               |
|                                                                | Supplementary literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>1. Comarch, Controlling oraz narzędzia klasy BI do controllingu. Comarch, Kraków 2023.</p> <p>2. A. Bhimani, Accounting Disrupted: How Digitalization is Changing Finance. Wiley, Hoboken 2021.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                               |
|                                                                | eResources addresses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |
| Example issues/<br>example questions/<br>tasks being completed |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |
| Work placement                                                 | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                               |

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