University of Gdańsk

Subject card

Subject name and code	Application of IT in Finance and Controlling, PG_00178837		
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 Optional subject group 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	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	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	Developing skills and knowledge related to information technology tools applied in finance and controlling.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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 has an in-depth understanding of advanced, including innovative, methods and tools for acquiring, analyzing, and utilizing data to assess the financial situation of entities in the areas of management, economics, and finance.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report
	[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 [SW2] 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 are capable of selecting appropriate IT tools (such as ERP systems, BI solutions, spreadsheets, or analytical applications), integrating data from various sources, and implementing solutions that automate reporting and analytical processes. The student is also able to assess 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_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 field of finance and accounting, including for data analysis, reporting, and managerial decision-making.	[SU2] 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 correctly 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 and to assess economic phenomena occurring in the business environment.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written

Subject contents

1. The Role of Information Technology in Finance and Controlling
Presentation of the importance of IT systems as tools supporting decision-making, reporting, and analytical processes in enterprises.
2. Characteristics of ERP, BI (Business Intelligence) Software, Spreadsheets, and Specialized Financial-Analytical Applications
Overview of various types of software used in finance and controlling.
3. Integration, Automation, and Data Transparency in Controlling and Financial Management
a) Integration of financial and controlling data sources within the organization.
b) Automation of reporting and data analysis processes.
c) Enhancing data transparency to support managerial decision-making.
d) Ensuring consistency and real-time availability of financial information.
4. Developing Skills in Financial Data Analysis and Interpretation Using IT Tools
a) Learning to use IT tools for data analysis (e.g., Excel, Power BI, ERP systems).
b) Developing the ability to identify key information in large datasets.
c) Improving the ability to interpret financial results in a management context.
d) Strengthening competencies in transforming data into actionable managerial insights.
5. Preparing for Work in a Digital Environment
a) Introducing students to current digitization trends in finance.
b) Discussing practical applications of business process automation.
c) Presenting the possibilities of using artificial intelligence in financial analysis.
d) Introduction to cloud technologies and their role in modern financial management.
e) Building awareness of competency requirements for employees in modern organizations.
6. The Role of AI and Machine Learning in the Work of Finance and Controlling Departments
Discussion of how AI and machine learning support the efficiency and effectiveness of financial and controlling operations.

Prerequisites and co-requisites

Basic knowledge in accounting, financial analysis, and management, as well as the ability to use spreadsheets (e.g., Microsoft Excel or Google Sheets).

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	1. W. Próchnicki, Zastosowanie Excela w pracy analityka finansowego, specjalisty ds. controllingu i analityka sprzedaży. Helion, Gliwice 2020. 2. A. Januszewski, Funkcjonalność informatycznych systemów zarządzania, t. 2. Wydawnictwo Politechniki Koszalińskiej, Koszalin 2021. 3. J. Kisielnicki, MIS Systemy Informatyczne Zarządzania. Wydawnictwo Placet, Warszawa 2021. 4. I. Chomiak-Orsa, Zastosowanie Business Intelligence w controllingu. Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław 2022. 5. K. Rybicka, Wykorzystanie systemu informatycznego w controllingu logistycznym. Wydawnictwo Uniwersytetu Łódzkiego, Łódź 2020.
Supplementary literature	1. Comarch, Controlling oraz narzędzia klasy BI do controllingu. Comarch, Kraków 2023. 2. A. Bhimani, Accounting Disrupted: How Digitalization is Changing Finance. Wiley, Hoboken 2021.
eResources addresses	

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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