



Subject card

Subject name and code	DIGITAL FINANCE, PG_00071125						
Field of study	Economic Analytics						
Date of commencement of studies	October 2026	Academic year of realisation of subject				2027/2028	
Education level	first-cycle studies	Subject group				Optional subject group 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	4	ECTS credits				4.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Department of Economic -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Oleksandr Melnychenko					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	30.0	0.0	0.0	0.0	45
	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	45		3.0		52.0	100
Subject objectives	to prepare students to use digital finance tools in analysis and business decision-making, based on knowledge of financial information evaluation methods and digital technologies, while fostering a responsible approach to decisions that considers legal, ethical, and cultural aspects.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_K01] is ready to fulfill professional roles responsibly, taking legal, ethical, and cultural aspects into account in decision-making processes.	Is prepared to make responsible decisions in the field of digital finance, taking into account legal, ethical, and cultural aspects, particularly in individual and team-based work related to financial data analysis.			[SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice		
	[K6_U02] communicates effectively with others by preparing presentations that use terminology specific to the field of economic analytics, and by evaluating diverse opinions during discussions and debates.	Is able to present the results of financial and industry data analyses, prepare analytical notes, formulate and justify conclusions using terminology appropriate to financial analytics, and critically evaluate differing opinions in discussion			[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools		
	[K6_W06] understands and applies methods for classifying and evaluating acquired information based on advanced general and specialized knowledge, with consideration of their application in various types of professional activities.	Has knowledge of and understands methods for classifying and evaluating financial information, and uses digital finance tools, data analytics, and source credibility assessment techniques			[SW1] Assessment of factual knowledge		

Subject contents	<p>Course content – lecture</p> <ol style="list-style-type: none"> <li>1. Essence and development of digital finance</li> <li>2. The fintech ecosystem and its participants</li> <li>3. Digital business models in finance</li> <li>4. Electronic and mobile payment systems</li> <li>5. Cryptocurrencies and blockchain technology</li> <li>6. Asset tokenization and digital financial instruments</li> <li>7. Digital banking, open banking, and neobanks</li> <li>8. Big Data and data analytics in finance</li> <li>9. Artificial intelligence in financial services</li> <li>10. Cybersecurity in the financial sector</li> <li>11. Regulation and supervision of the fintech market</li> <li>12. Ethics and responsibility in digital finance</li> <li>13. The future of digital finance and technological innovation</li> </ol>		
	<p>Course content – exercises</p> <ol style="list-style-type: none"> <li>1. Case study analysis of fintech development and business models</li> <li>2. Identification and analysis of fintech ecosystem participants (market mapping)</li> <li>3. Evaluation and comparison of digital business models in finance</li> <li>4. Analysis of the functioning of electronic and mobile payment systems</li> <li>5. Evaluation of the applications of cryptocurrencies and blockchain technology in economic practice</li> <li>6. Analysis of asset tokenization processes and their financial implications</li> <li>7. Comparison of digital banking, open banking, and neobank business models</li> <li>8. Practical application of Big Data tools in financial data analysis</li> <li>9. Use of artificial intelligence tools in financial analysis (e.g., scoring, forecasting)</li> <li>10. Identification of cybersecurity threats in the financial sector (incident analysis)</li> <li>11. Analysis of fintech market regulations (case studies, compliance)</li> <li>12. Evaluation of ethical issues in digital finance (problem-based discussions)</li> <li>13. Development of digital finance scenarios (team projects)</li> </ol>		
Prerequisites and co-requisites	Finance, Accounting		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written assessment	60.0%	50.0%
	Case study	60.0%	50.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> <li>1. Ostrowska E., Sztuczna inteligencja i etyka w sektorze finansowym. Wydawnictwo: Uniwersytet Gdański, Gdańsk 2024</li> <li>2. Zawadzki K., Finanse cyfrowe. Nowe technologie w sektorze finansowym. Wydawnictwo: CeDeWu, Warszawa 2020</li> </ol>	
	Supplementary literature	<ol style="list-style-type: none"> <li>1. Monkiewicz J., Gąsiorkiewicz L. (red.), Finanse cyfrowe: nowe tendencje i możliwości. Wydawnictwo: Politechnika Warszawska, Warszawa 2023</li> </ol>	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> <li>1. Explain the role of digital finance in business decision-making.</li> <li>2. Compare traditional and digital business models in the financial sector.</li> <li>3. Characterize the application of blockchain technology in finance.</li> <li>4. Discuss the main risks associated with digital finance and methods of mitigating them.</li> <li>5. Explain the importance of data analysis in the development of fintech services</li> </ol>		
Practical activities within the subject	Not applicable		

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