University of Gdańsk

Subject card

Subject name and code	Digital Finance and Security of International Markets, PG_00178845						
Field of study	Finance and Accounting						
Date of commencement of studies	October 2026		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	1		Language of instruction	Polish			
Semester of study	2		ECTS credits	6.0			
Learning profile	academic		Assessment form	exam			
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Sławomir Kujawa				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	16.0	16.0	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		116.0	150
Subject objectives	The goal of the course Digital Finance and Security in International Markets is to familiarize students with key issues related to the digital transformation of the financial sector, with a focus on innovative financial technologies (FinTech), digital financial instruments, and the challenges and risks of cyber security in a global context.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[FiRMU2_U05] From a finance and accounting perspective, can identify and correctly apply legal, professional, and ethical norms within the realms of management, quality sciences, economics, and finance	The student identifies and searches for complex internal and external relationships of institutions and organizations from the perspective of finance and accounting, and then applies the mechanisms of financial security systems taking into account the global context.	[SU2] presentation/project/paper/ report [SU5] implementation of a problem task
[FiRMU2_W03] Possesses a comprehensive understanding of finance and accounting, particularly regarding the intricate internal and external relationships of institutions and organizations. This analysis emphasizes financial security systems within a global context	The student recognizes and describes in depth from the perspective of finance and accounting the complex internal and external relationships of institutions and organizations, with a particular focus on financial security systems in a global context.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report [SW5] implementation of a problem task
[FiRMU2_W02] Possesses a comprehensive understanding of the complexities and functions of both domestic and international financial markets, as well as financial instruments and institutions	The student recognizes and describes in depth the specificity, complexity and principles of the domestic and international financial market, as well as key financial instruments and institutions.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report [SW5] implementation of a problem task
[FiRMU2_U12] Can use technologies and IT systems (including advanced ones) to support their professional work in finance and accounting	The student identifies and searches for technologies and information systems, including advanced digital tools, to support professional work in the field of finance and accounting.	[SU2] presentation/project/paper/ report [SU5] implementation of a problem task

Subject contents

Digital transformation of the financial sector
Analysis of the impact of digitization on financial institutions, changes in business models and adaptation to new technologies.
FinTech and innovation in finance
An overview of modern technological solutions in finance, such as mobile payments, robo-advice and peer-to-peer platforms.
Crowdfunding
Blockchain technologies and cryptocurrencies
Principles of blockchain technology, applications in finance and analysis of the cryptocurrency market.
Digital financial markets and financial instruments
Characteristics of digital financial instruments, tokenization of assets and operation of digital exchanges.
Legal regulations in digital finance
Discussion of domestic and international regulations in digital finance, including RODO, PSD2, MiCA and DORA, AI act.
Cyber security in the financial sector
Identification of cyber threats and how to minimize them.
Risk management in the digital environment
Methods for identifying, assessing and minimizing digital risks in finance.
International financial markets financial institutions

Data analysis and big data in finance
Using big data sets for financial decision-making, predictive models and trend analysis.
Artificial intelligence and machine learning in financial services
AI applications in credit analysis, investment portfolio management and customer service.
Security of electronic transactions
Security mechanisms for online transactions, including encryption, authentication and biometric technologies.
Countering money laundering and terrorist financing in the digital environment
Strategies and tools used to detect and prevent illegal transactions in digital financial channels.
Ethics and social responsibility in digital finance
Reflections on the ethical aspects of implementing technology in finance, including issues of privacy and inclusivity.
The future of digital finance and innovation on the horizon
Forecasts for the development of financial technology, potential regulatory changes and new business models

Prerequisites and co-requisites

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Written exam</td><td>51.0%</td><td>50.0%</td></tr>
<tr><td>Project</td><td>51.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Zawadzki K., Finanse cyfrowe. Nowe technologie w sektorze finansowym. Wydawnictwo: CeDeWu, Warszawa 2020
ISBN: 978-83-8102-519-0

Nowacki A.,Cyberbezpieczeństwo w bankowości i finansach Wydawnictwo: PWN, Warszawa 2021
ISBN: 978-83-01-21663-1

Ostrowska E., Sztuczna inteligencja i etyka w sektorze finansowym. Wydawnictwo: Uniwersytet Gdański, Gdańsk 2024</td></tr>
<tr><td>Supplementary literature</td><td>Kujawa S., Robodoradztwo. Profesjonalna budowa i zarządzanie portfelem inwestycyjnym. Studia Prawno-Ekonomiczne. Vol. 121. Wydawnictwo: Łódzkie Towarzystwo Naukowe, Łódź 2021.

Monkiewicz J., Gąsiorkiewicz L. (red.), Finanse cyfrowe: nowe tendencje i możliwości. Wydawnictwo: Politechnika Warszawska, Warszawa 2023</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2"></td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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