

	SYLLABUS of the academic course «Digital Technologies in Financial Research» Educational and Research Program: Finance, Banking, and Insurance Specialty: D2 Finance, Banking, Insurance, and Stock Market Field of Knowledge: D Business, Administration, and Law
Higher Education Level	Third (Educational and Research Level)
Course status	An academic course of the elective component of the cycle of disciplines for mastering in-depth knowledge of the specialty
Course	1st
Semester	2nd
ECTS Credits / Hours	4 credits / 120 hours
Language of Instruction	English
Subject Matter	Fintech, blockchain technologies, and cryptocurrencies in the financial system; digital payment systems and electronic money; RegTech and SupTech solutions for financial regulation; robotic process automation (RPA) in financial institutions; quantum computing in finance; digital identification and biometric technologies; InsurTech innovations in the insurance sector; API economy and open banking standards; artificial intelligence in lending and underwriting; using SAP tools in financial research; cybersecurity in financial systems; cloud technologies and edge computing in finance; digital transformation of traditional financial services.
Course Objectives	To cultivate a comprehensive understanding of contemporary digital technologies and their impact on the financial industry, to develop skills for evaluating technological solutions for financial institutions, and to prepare specialists capable of researching the processes of digital transformation within the financial system and formulating strategies for the implementation of innovative technologies in financial organizations, taking into account regulatory requirements and risks.
Learning Outcomes	Have conceptual and methodological knowledge of finance, banking, insurance, and the stock market, as well as related fields, particularly aviation, and demonstrate research skills sufficient to conduct scientific and applied research in finance, banking, insurance, and the stock market, acquire new knowledge, and/or implement innovations. Apply modern information technologies in scientific activities for the search and critical analysis of information, including statistical methods for analyzing large datasets and/or complex structures, software, and information systems. Develop and implement scientific and/or innovative projects that enable the rethinking of existing knowledge and the creation of new comprehensive knowledge and/or professional practice, addressing significant issues in the fields of finance, banking, insurance, and the stock market, taking into account economic aspects, leadership, autonomy, and responsibility. Adhere to research ethics and the principles of academic integrity in scientific research and scientific and pedagogical activities.
Acquired Competencies	The ability to search, process, and analyze information from various sources. The ability to generate new ideas (creativity). The ability to solve complex problems in the fields of finance, banking, insurance, and the stock market based on a systematic scientific

	worldview, professional ethics, and a broad cultural perspective. The ability to conduct original research, achieve scientific results that create new knowledge in the field of finance, banking, insurance, and the stock market, as well as related interdisciplinary areas, in particular aviation. The ability to apply information-analytical software products and systems to substantiate, confirm/disprove hypotheses and identify trends in the development of research objects in the fields of finance, banking, insurance, and the stock market. The ability to adhere to research ethics and principles of academic integrity in scientific research and scientific and pedagogical activities
Course Structure	Digital Transformation of the Financial Industry: Trends and Challenges. Fintech in the Financial System. Blockchain Technologies and Decentralized Finance (DeFi). Central Bank Digital Currencies (CBDC) and Electronic Payment Systems. Artificial Intelligence and Automation in Financial Services. RegTech and SupTech: Financial Regulatory Technologies. Cybersecurity and Personal Data Protection in Digital Finance. InsurTech Innovations and Digital Insurance Products. Open Banking Systems and API Economy. Quantum Technologies and Their Potential for Finance. Using SAP tools in financial research. Ethical and Social Aspects of the Digitalization of Financial Services.
	Forms of Instruction: Lectures, practical sessions. Delivery Modes: On-campus, distance learning. Teaching Methods: – Theoretical methods: overview lectures, lectures analyzing technological trends, webinars with industry experts; – Research methods: case study analysis of FinTech projects, comparative studies, analysis of patents and innovations; – Interactive methods: discussions, debates, simulation games, hackathons; – Assessment methods: essays, research projects, presentations of technological solutions, expert evaluations.
Prerequisites	Basic knowledge in the disciplines of Legal Support for Economic Research, Project and Economic Support for Scientific Research, Information Support for Scientific Research, Studies in Finance, Banking, Insurance, and the Stock Market
Instructional Resources	Educational and scientific sources: 1. Krynytsia, S. (2023). Contemporary Trends in the Development of Digital Technologies and Their Impact on Public Finances. <i>Collection of Scientific Papers of the State Tax University</i>, 2, 82–120. DOI: https://doi.org/10.33244/2617-5940.2.2023.82-120 2. Krynytsia, S. (2024). Strategies for the Digitalization of the Public Finance Management System in Ukraine: Analysis and Prospects. <i>Acta Academiae Beregsasiensis. Economics</i>, 6, 307–321. DOI: https://doi.org/10.58423/2786-6742/2024-6-307-321 3. The Digital Economy as a Key Trend in the Development of Post-Industrial Society: Monograph; S.Yu. Kolodiy, S.O. Krynytsia, A.Ya. Kuznetsova, N.M. Panteleeva, M.A. Rebrik et al.; edited by N.M. Panteleeva. Kyiv: State Higher Educational Institution "University of Banking Affairs," 2019. 299 p. Digitization of the Economy of Ukraine: Strategic Challenges and Implementation Technologies /Natalia Pantielieieva ; Sergii Krynytsia ; Yulia Zhezherun ; Mykhailo Rebruk ; Liudmyla Potapenko // 2018 IEEE 9th International Conference on Dependable Systems, Services and Technologies (DESSERT), 24-27 May, 2018, Page(s): 508-515. 4. Pantielieieva N. FinTech, Transformation of Financial Intermediation and Financial Stability / N. Pantielieieva, S. Krynytsia, M.

	Khutorna, L. Potapenko // IEEE 5th International Scientific-Practical Conference Problems of Infocommunications (October 9-12, 2018, PIC S&T`2018, Kharkiv National University of Radio Electronics, Kharkiv, Ukraine). pp. 553-560. 5. Krynytsia, S., Hordei, O., Kovalenko, Y., Dankevych, A., Boldov, A. (2024). Leveraging Big Data Technologies for Enhanced Public Participation in Public Financial Management. <i>Financial and Credit Activity Problems of Theory and Practice</i>, 3 (56), 186–203. https://doi.org/10.55643/fcaptp.3.56.2024.4402	
Infrastructure and Resources	A multimedia-equipped classroom, internet access, a computer lab for technology demonstrations. Google Classroom platform.	
Assessment and Examination	Modular control work, differentiated assessment. In the formation of the cumulative grade on a 100-point scale at the end of the semester, the higher education student must demonstrate an understanding of contemporary technological trends, the ability to critically analyze digital innovations, and their impact on the financial system.	
Department	Department of Financial Technologies and Business	
Faculty	Faculty of Management, Finance, and Marketing	
Lecturer		Sergii KRYNYTSIA Position: Associate Professor Academic Degree: PhD in Economics Academic Title: Associate Professor Google Scholar Profile: https://scholar.google.com.ua/citations?user=WM8hbJUAAAAJ&hl=uk
Course Originality	The course uses real-life practical cases involving modern technologies for making financial decisions. The course is based on the instructor's practical experience and his analytical and scientific publications.	
Course Link	Google Classroom Link	
Enrollment Limit	50 students	