



## Syllabus Course Program



# Information systems in financial sector

### Specialty

072 – Finance, banking, insurance and stock market

### Educational program

Finance, banking and insurance

### Level of education

Bachelor's degree

### Semester

4

### Institute

Institute of Management Economics and International Business

### Chair

Accounting and finance (205)

### Type of discipline

Special (professional), Mandatory

### Language of teaching

Ukrainian, English

## Lecturers and course developer



### Ievgen Stokov

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Candidate of Economic Sciences, Associate Professor, Associate Professor of the Department of Accounting and Finance (NTU "KhPI")

Work experience of 18 years

The author of more than 50 scientific and educational and methodical publications. Leading lecturer on courses: "Business digitalization", "Management Information systems in finance and accounting", "Information systems in financial sector", "Accounting software", "Electronic document management", "Financial technologies in digital economy"

[More about the lecturer on the department's website](#)

## General information

### Summary

The discipline is directed at forming a system of theoretical and practical knowledge in the field of organization and functioning of information technologies and financial management systems, the possibility of their use in financial work and educating students to respect the Constitution of Ukraine, the Laws of Ukraine, orders and directives related to the informatization of professional activities.

### Course objectives and goals

The goal of teaching the discipline "Information Systems in the Financial Sphere" is to develop the knowledge and skills necessary to solve professional problems in processing financial information, setting typical tasks, developing algorithms for their solution using financial application packages

### Format of classes

Lectures, laboratory classes, consultations. Final control - differentiated grading

## Competences

- GC01. Ability to think abstractly, analyze and synthesize.  
GC02. Ability to apply knowledge in practical situations.  
GC03. Ability to plan and manage the time.  
GC04. Ability to identify, pose and solve problems.  
GC05. Skills in the use of information and communication technologies.  
GC07. Ability to learn and master modern knowledge.  
GC08: Ability to search, process and analyze information from various sources.  
GC09. Ability to be critical and self-critical.  
GC10. Ability to work in a team  
GC11. Ability to communicate with representatives of other professions of groups of different levels (with experts from other fields of knowledge / types of economic activity).  
GC12. Ability to work autonomously  
GC14. Ability to preserve and increase moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technology, to use various types and forms of physical activity for active recreation and healthy lifestyle
- SC01. Ability to study trends in economic development using tools of macro- and microeconomic analysis, to assess current economic phenomena.  
SC02. Understanding of the peculiarities of the functioning of modern world and national financial systems and their structure.  
SC03. Ability to diagnose the state of financial systems (public finance, including budget and tax systems, business entities' finance, household finance, financial markets, banking and insurance).  
SC04. Ability to apply economic and mathematical methods and models to solve financial problems.  
SC05. Ability to apply knowledge of legislation in the field of monetary, fiscal and financial market regulation.  
SC06. Ability to apply modern information and software for obtaining and processing data in the field of finance, banking and insurance.  
SC09. Ability to conduct effective communications.  
SC10. Ability to identify, justify and take responsibility for professional decisions.  
SC11. Ability to maintain an appropriate level of knowledge and constantly improve their professional training.

## Learning outcomes

- PL04. To know the mechanism of functioning of public finance, including budget and tax systems, finance of business entities, household finance, financial markets, banking system and insurance. PLO05. Possess methodological tools for diagnosing the state of financial systems (public finance, including budget and tax systems, finance of economic entities, household finance, financial markets, banking system and insurance).  
PL08. Be able to apply and manage innovative approaches in finance, banking and insurance.  
PL12. To use professional argumentation to convey information, ideas, problems and ways to solve them to specialists and non-specialists in the financial sector.  
PL13. Possess general scientific and special methods of researching financial processes.  
PL16. Apply the acquired theoretical knowledge to solve practical problems and interpret the results in a meaningful way.  
PL19. To demonstrate skills of independent work, flexible thinking, openness to new knowledge.  
PL20. To perform functional duties in a group, to propose reasonable financial decisions.

## Student workload

The total scope of the discipline is 120 hours. (4 ECTS credits): lectures – 16 hours, laboratory activities – 32 hours, self-study – 72 hours. |

## Course prerequisite

Economic informatics |

## Features of the course, teaching and learning methods, and technologies

Interactive lectures with presentations, discussions, seminars, individual and team work, research work, work with literature and information sources.

## Program of educational discipline

### Topics of lectures

Topic 1: Information systems and their role in economic management

Topic 2 Economic information and tools for its formalized description

Topic 3. Information technologies for economic information processing

Topic 4. Organizational and methodological foundations of the creation and functioning of financial management information systems

Topic 5. Automation of information processing in the tax sphere of Ukraine

Topic 6. Automation of financial management in budget institutions

Topic 7. Financial market informatization

Topic 8. International systems of electronic payments

### .Topics of practical classes

Practical classes within the discipline are not provided .

### Topics of laboratory works

Topic 1: Information systems and their role in economic management

Topic 2 Economic information and tools for its formalized description

Topic 3. Information technologies for economic information processing

Topic 4. Organizational and methodological foundations of the creation and functioning of financial management information systems

Topic 5. Automation of information processing in the tax sphere of Ukraine

Topic 6. Automation of financial management in budget institutions

Topic 7. Financial market informatization

Topic 8. International systems of electronic payments

### Self-study

Organization of information bases of economic information processing systems; Automated system of financial calculations; Automated information system of the State Treasury Service of Ukraine; Automation of information processing in the insurance sector; Automation of financial management of enterprises and commercial structures; International electronic network of interstate payments SWIFT

## Course materials and recommended reading

1. Chumakov A.G. Information systems and technologies in finance: training. manual Dnipro: "FOP Drobyazko S.I.", 2018. 174 p.
2. Modern information technologies in financial calculations [Electronic resource]: research assistant. bibliography show / Volyn. national University named after Lesi Ukrainka, Department of Economics and Management, Library; structure. L. Deineka; according to O. L. Totska. - Electron. text. data. – Lutsk, 2022. – 129 titles.
3. Anilovska G.Ya., Marushko N.S., Stokolosa T.M. Information systems and technologies in finance: training. manual Lviv: "Magnolia 2006", 2013. 312 p.
4. Soroka P.M. Information systems and technologies in finance: training. manual K.: "Agrar Media Group" LLC, 2016. 260 p. 12. Soroka P.M., Kharchenko V.V. Workshop on information systems in organization management: teaching. manual K.: CP "Comprint", 2017. 378 p.5. Suryono R. R., Budi I., Purwandari B. Challenges and trends of financial technology (Fintech): a systematic literature review //Information. – 2020. – T. 11. – №. 12. – C. 590.
6. Mosteanu N. R., Faccia A. Digital systems and new challenges of financial management–FinTech, XBRL, blockchain and cryptocurrencies //Quality–Access to Success. – 2020. – T. 21. – №. 174. – C. 159-166.

7. Zetzsche D. A., Arner D. W., Buckley R. P. Decentralized finance (defi) //Journal of Financial Regulation. – 2020. – T. 6. – C. 172-203.
8. Pazarbasioglu C. et al. Digital financial services //World Bank. – 2020. – T. 54.
9. Mhlanga D. Industry 4.0 in finance: the impact of artificial intelligence (ai) on digital financial inclusion //International Journal of Financial Studies. – 2020. – T. 8. – №. 3. – C. 45.
10. Niemand T. et al. Digitalization in the financial industry: A contingency approach of entrepreneurial orientation and strategic vision on digitalization //European management journal. – 2021. – T. 39. – №. 3. – C. 317-326. |

## Assessment and grading

### Criteria for assessment of student performance, and the final score structure

100% Final assessment as a result of Final on-line test (40%) and Continuous assessment (60%).

60% Continuous assessment:

- 50% individual assignments (including essays, reporting on fieldwork, and calculation-graphical task)
- 10% mid-term control (2 online tests)

Differentiated grading is online and consists of 25 test tasks of varying degrees of difficulty

### Grading scale

Total points	National	ECTS
90-100	Excellent	A
82-89	Good	B
75-81	Good	C
64-74	Satisfactory	D
60-63	Satisfactory	E
35-59	Unsatisfactory (requires additional learning)	FX
1-34	Unsatisfactory (requires repetition of the course)	F

## Norms of academic integrity and course policy

The student must adhere to the Code of Ethics of Academic Relations and Integrity of NTU "KhPI": to demonstrate discipline, good manners, kindness, honesty, and responsibility. Conflict situations should be openly discussed in academic groups with a lecturer, and if it is impossible to resolve the conflict, they should be brought to the attention of the Institute's management.

Regulatory and legal documents related to the implementation of the principles of academic integrity at NTU "KhPI" are available on the website: <http://blogs.kpi.kharkov.ua/v2/nv/akademichna-dobrochesnist/>

## Approval

Approved by

Date, signature

**Head of the department**  
Oleksandr MANOYLENKO

Date, signature

**Guarantor of the educational program**  
Marina SHEVCHENKO