

Ministry of Education and Science of Ukraine
V. N. Karazin Kharkiv National University

FINANCIAL AND BANKING TECHNOLOGIES

Methodical recommendations

for seminar and practical classes on the discipline for students of specialty
072 «Finance, banking, insurance and stock market» of the educational program
«Financial technologies and banking management» of the second (master's)
level of higher education

Electronic resource

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F 54 **Financial** and banking technologies : methodical recommendations for seminar and practical classes on the discipline for students of specialty 072 «Finance, banking, insurance and stock market» of the educational program «Financial technologies and banking management» of the second (master's) level of higher education [Electronic resource] / compiler V. V. Baranova. – Kharkiv : V. N. Karazin KNU, 2024. – (PDF 32 p.)

Methodical recommendations aim to provide a structured approach for conducting seminar and practical classes for master's students specializing in 072 «Finance, banking, insurance and stock market». Methodical recommendations were developed with the aim of creating comprehensive training for master's students in the field of finance, banking, insurance and the stock market. Combining theoretical knowledge with practical application, methodological recommendations are aimed at preparing students for a successful career in the field of financial technologies and banking management. The methodological recommendations contain the structure and program of the academic discipline, topics of lectures, educational and methodological materials for practical classes and independent work of students, questions for discussion, as well as cases for solving situational tasks, which allows developing critical thinking of students and making management decisions in financial and the banking sector.

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1. GENERAL PROVISIONS

The program of the academic discipline «Financial and banking technologies» is compiled in accordance with the educational and professional program «Financial technologies and banking management» of training specialists of the second (master's) level of higher education, specialty 072 «Finance, banking, insurance and stock market».

The purpose of teaching the academic discipline is to form a system of theoretical knowledge and practical skills in the applicants in the field of management and monitoring of the latest tools of financial and banking technologies, which will ensure an increase in the competitiveness of the applicants in the labor market, the formation in the applicants of a comprehensive understanding of the system of interrelationships of the international financial market and specific tools, which rotate on it.

The study of the academic discipline «Financial and banking technologies» by students of the second (master's) level of higher education is aimed at:

Integral competence:

IR. The ability to solve complex tasks and problems in professional activities or in the process of learning in the field of finance, banking and insurance, which involves conducting research and/or implementing innovations and is characterized by uncertainty of conditions and requirements.

Formation of the following general competencies:

GNC 3. Ability to conduct research at an appropriate level.

GNC 5. Ability to make informed decisions.

GNC 6. Interpersonal skills.

Formation of the following general additional competencies:

GAC 1. Ability to work autonomously, using tools of modern financial technologies.

GAC2. Ability to develop and manage business projects.

Formation of the following (professional) special normative competences:

SNC 2. Ability to use theoretical and methodological tools for diagnostics and modeling of financial activities of business entities.

SNC 3. Ability to apply management skills in finance, banking and insurance.

SNC 6. Ability to apply interdisciplinary approaches to solving complex tasks and problems in the field of finance, banking and insurance.

SNC 8. Ability to apply innovative approaches in the field of finance, banking and insurance.

Formation of the following (professional) special additional competences:

SAC 1. The ability to adhere to the principles, techniques and methods of regulating banking activity, to form and use an information base for the implementation of banking risk management measures at the level of banks and the supervision of banking activity at the level of structural subdivisions of the NBU.

SAC 3. The ability to carry out a strategic analysis of the financial environment of business entities, to develop and implement its financial strategy, to develop recommendations for maximizing its market value.

Formation of the following program results of study in the specialty (program learning outcomes):

PRS 2. To know at the level of the latest achievements the main concepts and methodologies of scientific knowledge in the field of finance, banking and insurance.

PRS 4. Search, process, systematize and analyze information necessary for solving professional and scientific tasks in the field of finance, banking and insurance.

PRS 5. Communicate freely in a foreign language orally and in writing on professional and scientific issues, present and discuss research results.

PRS 6. It is accessible and reasoned to present the results of research orally and in writing, to participate in professional discussions.

PRS 7. To solve ethical dilemmas based on the norms of the law, ethical principles and universal human values.

PRS 10. Carry out diagnostics and modeling of financial activities of economic entities.

PRS 11. Apply in-depth knowledge in the field of financial, banking and insurance management for decision-making.

PRS 13. Assess the degree of complexity of tasks when planning activities and processing their results.

Formation of the following program learning outcomes determined by the educational program (program learning outcomes):

PRS15. Apply in-depth knowledge in the field of assessment of external and internal threats, risks, dangers and increasing the stability of financial systems.

Interdisciplinary connections. This course is related to the courses «Financial management», «Banking management», Banking studio «Corporate Governance».

For the comprehensive study of the educational discipline «Financial and banking technologies» is provided 180 hours / 6 credits.

2. ACADEMIC INTEGRITY

Scientific and educational activities of the V.N. Karazin Kharkiv National University is based on compliance with the rules and norms of academic integrity. The implementation of these principles means that in the process of study and research, students, teachers and scientists comply with Article 42 of the Law of Ukraine «On Education», which defines academic integrity as a set of ethical principles and rules defined by law, which should be followed by participants in the educational process during training, teaching and carrying out scientific (creative) activities in order to ensure trust in the results of training and/or scientific (creative) achievements. Observance of academic integrity during the educational process at the university involves reference to sources of information in the case of using ideas, developments, statements, information; compliance with the legislation on copyright and related rights; provision of truthful information about research methods and results, sources of used information and own pedagogical (scientific-pedagogical, creative) activity; control over compliance with academic integrity by education seekers; objective assessment of learning outcomes. Therefore, the value of academic integrity lies in creating confidence in learning outcomes and scientific achievements. The law also defines the main violations of academic integrity: academic plagiarism, self-plagiarism, fabrication, falsification, writing off, deception, bribery, biased evaluation.

At the V.N. Karazin Kharkiv National University approved the Regulation on the system of prevention and detection of academic plagiarism in scientific and educational works of employees and students of higher education of V.N. Karazin Kharkiv National University.

Violation of the principles of academic integrity is considered:

- academic plagiarism – publicizing (partially or completely) scientific (creative) results obtained by other persons as the results of one's own research (creativity) and/or reproduction of published texts (publicized works of art) of other authors without indicating authorship;
- self-plagiarism – publicizing (partially or completely) one's own previously published scientific results as new scientific results;
- fabrication – fabrication of data or facts used in the educational process or scientific research;
- falsification – deliberate change or modification of already available data related to the educational process or scientific research;
- deception – provision of knowingly false information about one's own educational (scientific, creative) activity or organization of the educational process;

forms of deception are, in particular, academic plagiarism, self-plagiarism, fabrication, falsification, and writing off by authors;

- biased assessment of the work submitted for publication – deliberate overestimation or underestimation of the results, content of the research by reviewers or editors.

Measures aimed at academic integrity for students

- independent performance of educational tasks, tasks of current and final control of learning results (for persons with special educational needs, this requirement is applied taking into account their individual needs and capabilities);

- references to sources of information in the case of using ideas, developments, statements, information;

- compliance with the legislation on copyright and related rights;

- provision of reliable information about the results of one's own educational (scientific, creative) activities, used research methods and sources of information.

Karazin University pays considerable attention to compliance with the rules and norms of academic integrity in its educational and scientific activity. Academic integrity contributes to the effectiveness of the education system, which provides real knowledge and skills and not just documents on education.

3. THEMATIC PLAN OF THE ACADEMIC DISCIPLINE

Topic 1. Market of financial and banking technologies in Ukraine

Advantages and disadvantages of using financial and banking technologies. Classification of fintech products and services according to the Basel Committee on Banking Supervision. Problems restraining the development of the fintech market in Ukraine. Development trends of Ukrainian fintech. Stages of development of companies using financial and banking technologies. Involvement of Ukrainian banks in cooperation with fintech companies.

Topic 2. The Banking System in Ukraine

History and development of the banking system. The main stages of formation and development of the banking sector in Ukraine. The role of the banking system in the processes of economic reforms and transformation after independence.

The structure of the banking system. Types of banks (commercial, investment, regional) and their role in the system. Interaction of banks with the National Bank of Ukraine and other financial institutions.

Banking products and services. Deployment of financial services, such as lending, deposits, payment systems. Development of electronic and mobile banking in

Ukraine.

Regulation and supervision. The role of the National Bank of Ukraine in regulation and supervision of the banking system. Measures and policies to ensure financial stability and protect the interests of depositors.

Financial stability and risks. Factors affecting the financial stability of the banking system. Analysis of potential risks and measures to reduce them.

Technological development and innovations. Impact of technological innovations on the banking system. The role of information technologies and artificial intelligence in banking.

Topic 3. Digital Economy in the Banking System

The role of technologies in the digital economy of the banking sector. Impact of innovative technologies on operational processes of banks. Applying artificial intelligence and data analysis to improve decision-making.

Digital financial services. Electronic money, mobile payments and other digital financial instruments. Internet banking and its impact on the client's interaction with the bank.

Protection against cyber threats. The role of cyber security in the digital banking system. Cyber threat challenges and strategies to ensure customer confidence.

Competition and cooperation in the digital environment. Interaction of traditional banks with fintech companies. Development of ecosystems and partnerships for the provision of complex financial services.

Legal and regulatory aspects. Adaptation of legislation to the new realities of digital banking. Regulatory oversight in the digital economy and consumer protection.

The impact of digital transformation on financial inclusion. The role of digital technologies in expanding access to financial services. Challenges and opportunities of the digital economy

Topic 4. Neobanking: a modern trend, the future of the global banking system

The nature and characteristics of neobanks. World experience of neobanking. Legislative regulation of neobanking in Ukraine. Neobanks of the world. Neobanks: advantages and disadvantages. Distinctive features of neobanks.

Topic 5. Characteristics of the development of financial and banking services using social networks and mobile phones

Credit scoring. Types of credit scoring. Recommendations for improving credit rating before scoring. Anti-fraud scoring. Scoring as an improved mechanism for evaluating a potential client. Payment chatbots are a useful financial tool. Chatbots in Ukraine: prospects and advantages. A smartphone is a ticket to the world of financial services. Access to financial information, financial services using smartphone applications.

Topic 6. Development of alternative types of payments using financial and banking technologies

Payment terminals. Contactless and mobile payments. NFC technology its advantages and disadvantages. QR payments. Electronic and digital wallets. Types of electronic wallets. Rating of electronic wallets. Advantages and disadvantages of using an electronic wallet. Cryptocurrencies. Implementation of rules on electronic money in the European Union. New financial providers of electronic money.

Topic 7. Marketplace

Development of non-bank lending services. Direct lending platforms in P2P format. Scheme of operation of the P2P platform. The essence of the marketplace. Legal aspects of the organization of the work of marketplaces.

Topic 8. Application of financial and banking technologies in new business models

Functioning of platforms-aggregators of financial services. Their impact on the transformation of the market for the sale of services. Marketplaces that finance small and medium-sized businesses offer microcredits - direct competitors of banks. Building a partnership of banks and credit platforms with different models: P2P and balance sheet lending.

Topic 9. The role of artificial intelligence in the market of financial technologies

Using artificial intelligence to automate banking services. Artificial intelligence as a regulator of the banking sector. Use of artificial intelligence in contact centers. Peculiarities of the application of artificial intelligence in the field of financial services: the experience of the EU. Application of artificial intelligence for fraud prevention and detection. The main tools of artificial intelligence to combat illegal processes in banking institutions.

Topic 10. Prospects for the development of digital identification and biometrics

Methods of identification of citizens in the digital space. Electronic remote identification of individuals using the BankID System of the NBU. Integrated electronic identification system ID.GOV.UA. Biometric identification, its meaning. New methods of biometric identification. Unified biometric interfaces for using new digital financial solutions. Application programming interfaces (APIs). What is open banking and how will it affect the development of financial and banking technologies in Ukraine.

4. THE STRUCTURE OF THE ACADEMIC DISCIPLINE

| <i>Names of sections and topics</i> | <i>Number of hours</i> | | | | | |
|---|------------------------|------------------|------------------|------------|--------------|-------------------|
| | <i>full-time</i> | | | | | |
| | <i>total</i> | <i>including</i> | | | | |
| | | <i>l</i> | <i>p</i> | <i>lab</i> | <i>ind.t</i> | <i>ind.w</i> |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Topic 1. Market of financial and banking technologies in Ukraine | 19 | 4 | 4 | | | 11 |
| Topic 2. The Banking System in Ukraine | 18 | 4 | 4 | | | 10 |
| Topic 3. Digital Economy in the Banking System | 19 | 4 | 4 | | | 11 |
| Topic 4. Neobanking: a modern trend, the future of the global banking system | 19 | 4 | 4 | | | 11 |
| Topic 5. Characteristics of the development of financial and banking services using social networks and mobile phones | 15 | 2 | 2 | | | 11 |
| Topic 6. Development of alternative types of payments using financial and banking technologies | 18 | 4 | 4 | | | 10 |
| Topic 7. Marketplace | 14 | 2 | 2 | | | 10 |
| Topic 8. Application of financial and banking technologies in new business models | 19 | 4 | 4 | | | 11 |
| Topic 9. The role of artificial intelligence in the market of financial technologies | 15 | 2 | 2 | | | 11 |
| Topic 10. Prospects for the development of digital identification and biometrics | 14 | 2 | 2 | | | 10 |
| <i>Control work, which is performed during the independent work of the student</i> | 10 | | | | | 10 |
| <i>Total hours</i> | <i>180</i> | <i>32</i> | <i>32</i> | | | <i>116</i> |

5. TOPICS OF LECTURES

| <i>N^o</i> | <i>Names of sections and topics</i> | <i>Questions for consideration</i> | <i>Number of hours</i> |
|----------------------|--|--|----------------------------|
| | | | <i>full-time education</i> |
| 1. | Topic 1. Market of financial and banking technologies in Ukraine | <p>1. Classification of fintech products and services according to the Basel Committee on Banking Supervision.</p> <p>2. Advantages and disadvantages of using financial and banking technologies.</p> <p>3. Stages of development of companies using financial and banking technologies.</p> | 4 |
| 2 | Topic 2. The Banking System in Ukraine | <p>1. History and development of the banking system. The main stages of formation and development of the banking sector in Ukraine.</p> <p>2. The structure of the banking system. Types of banks (commercial, investment, regional) and their role in the system. Interaction of banks with the National Bank of Ukraine and other financial institutions.</p> <p>3. Banking products and services. Deployment of financial services, such as lending, deposits, payment systems.</p> <p>4. Regulation and supervision. The role of the National Bank of Ukraine in regulation and supervision of the banking system.</p> <p>5. Financial stability and risks. Factors affecting the financial stability of the banking system.</p> <p>6. Technological development and innovations. Impact of technological innovations on the banking system.</p> | 4 |
| 3 | Topic 3. Digital Economy in the Banking System | <p>1. The role of technologies in the digital economy of the banking sector. Impact of innovative technologies on operational processes of banks.</p> <p>2. Digital financial services. Electronic money, mobile payments and other digital</p> | 4 |

| | | | |
|---|---|--|---|
| | | <p>financial instruments.</p> <p>3. Protection against cyber threats. The role of cyber security in the digital banking system.</p> <p>4. Competition and cooperation in the digital environment. Interaction of traditional banks with fintech companies.</p> <p>5. Legal and regulatory aspects. Adaptation of legislation to the new realities of digital banking.</p> <p>6. The impact of digital transformation on financial inclusion. The role of digital technologies in expanding access to financial services.</p> | |
| 4 | Topic 4. Neobanking: a modern trend, the future of the global banking system | <p>1. The nature and characteristics of neobanks.</p> <p>2. World experience of neobanking.</p> <p>3. Neobanks: advantages and disadvantages. Distinctive features of neobanks.</p> | 4 |
| 5 | Topic 5. Characteristics of the development of financial and banking services using social networks and mobile phones | <p>1. Credit scoring. Types of credit scoring.</p> <p>2. Payment chatbots are a useful financial tool. Chatbots in Ukraine: prospects and advantages.</p> <p>3. A smartphone is a ticket to the world of financial services. Access to financial information, financial services using smartphone applications.</p> | 2 |
| 6 | Topic 6. Development of alternative types of payments using financial and banking technologies | <p>1. Payment terminals. Contactless and mobile payments.</p> <p>2. NFC technology its advantages and disadvantages. QR payments.</p> <p>3. Electronic and digital wallets. Types of electronic wallets. Advantages and disadvantages of using an electronic wallet.</p> <p>4. Cryptocurrencies. Implementation of rules on electronic money in the European Union.</p> <p>5. New financial providers of electronic money.</p> | 4 |

| | | | |
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| 7 | Topic 7. Marketplace | <ol style="list-style-type: none"> 1. Development of non-bank lending services. 2. Direct lending platforms in P2P format. Scheme of operation of the P2P platform. 3. Legal aspects of the organization of the work of marketplaces. | 2 |
| 8 | Topic 8. Application of financial and banking technologies in new business models | <ol style="list-style-type: none"> 1. Functioning of platforms-aggregators of financial services. 2. Marketplaces that finance small and medium-sized businesses offer microcredits - direct competitors of banks. 3. Building a partnership of banks and credit platforms with different models: P2P and balance sheet lending. | 4 |
| 9 | Topic 9. The role of artificial intelligence in the market of financial technologies | <ol style="list-style-type: none"> 1. Using artificial intelligence to automate banking services. Artificial intelligence as a regulator of the banking sector. 2. Peculiarities of the application of artificial intelligence in the field of financial services: the experience of the EU. 3. The main tools of artificial intelligence to combat illegal processes in banking institutions. | 2 |
| 10 | Topic 10. Prospects for the development of digital identification and biometrics | <ol style="list-style-type: none"> 1. Electronic remote identification of individuals using the BankID System of the NBU. Integrated electronic identification system ID.GOV.UA. 2. Biometric identification, its meaning. New methods of biometric identification. 3. Application programming interfaces (APIs). | 2 |
| | Total | | 32 |

6. INSTRUCTIONAL AND METHODOLOGICAL MATERIALS FOR STUDENTS' PRACTICAL LESSONS

| <i>No</i> | <i>Topic name</i> | <i>Number of hours, full-time education</i> |
|-----------|---|---|
| 1. | Topic 1. Market of financial and banking technologies in Ukraine | 4 |
| 2. | Topic 2. The Banking System in Ukraine | 4 |
| 3. | Topic 3. Digital Economy in the Banking System | 4 |
| 4. | Topic 4. Neobanking: a modern trend, the future of the global banking system | 4 |
| 5. | Topic 5. Characteristics of the development of financial and banking services using social networks and mobile phones | 2 |
| 6. | Topic 6. Development of alternative types of payments using financial and banking technologies | 4 |
| 7. | Topic 7. Marketplace | 2 |
| 8. | Topic 8. Application of financial and banking technologies in new business models | 4 |
| 9. | Topic 9. The role of artificial intelligence in the market of financial technologies | 2 |
| 10. | Topic 10. Prospects for the development of digital identification and biometrics | 2 |
| | <i>Total</i> | 32 |

Tasks for topic 1. Market of financial and banking technologies in Ukraine

Prepare a presentation. Choose one question from the proposed ones:

1. Advantages and disadvantages of using financial and banking technologies.
2. Classification of fintech products and services according to the Basel Committee on Banking Supervision.
3. Characteristics of the mechanism of formation of the banking ecosystem in the conditions of a competitive environment J. Moore.
4. Characteristics of the mechanism of formation of the banking ecosystem in the conditions of a competitive environment J. Bradford DeLong.
5. Characteristics of the innovation system element - electronic payment systems.
6. Characteristics of the innovation system element – mobile payments and wallets.

Tasks for topic 2. The Banking System in Ukraine

Prepare a presentation. Choose one question from the proposed ones:

1. Make a presentation about of China's Banking System.

Characteristics of the banking system:

- currencies of the country;
- levels of the banking system;
- subjects and their functions.

2. Make a presentation about of the banking system of another country (of your choice). Characteristics of the banking system of another country.

Tasks for topic 3. Digital Economy in the Banking System

Prepare a presentation. Choose one question from the proposed ones:

1. The history of the digital economy.
2. Problems of the development of the digital economy.
3. Prospects for the development of the digital economy in the world.
4. Prospects for the development of the digital economy in the banking system.

Tasks for topic 4. Neobanking: a modern trend, the future of the global banking system

Prepare a presentation on the topic «The world experience of neobanking» (on the example of any country)

Tasks for topic 5. Characteristics of the development of financial and banking services using social networks and mobile phones

Prepare a presentation. Choose one question from the proposed ones:

1. Describe your experience using chatbots.
2. Describe which messengers are used in your country.

Tasks for topic 6. Development of alternative types of payments using financial and banking technologies

Prepare a presentation. Choose one question from the proposed ones:

1. New trends in payment technologies.
2. Blockchain and cryptocurrencies.
3. Integration of AI in FinTech.

4. Future prospects of FinTech in the banking sector.

Tasks for topic 7. Marketplace

Prepare a presentation. Choose one question from the proposed ones:

1. Describe the factors behind the rapid development of China's digital economy. Describe the factors of development of the digital economy of Ukraine.
2. Describe the advantages and disadvantages of the digital economy in the world.
3. Share your experience of using digital technologies in everyday life and/or at work.

Tasks for topic 8. Application of financial and banking technologies in new business models

Prepare a presentation. Choose one question from the proposed ones:

1. Describe the new technological tools of your country's bank (electronic signature, face ID, pin-code, QR-code etc.) that you use every day in your life or at work.
2. Describe the new technological tools of the bank of any other Asian country.

Tasks for topic 9. The role of artificial intelligence in the market of financial technologies

Prepare a presentation with the following content:

- I. Introduction (Definition of Financial Technologies (FinTech). Brief overview of Artificial Intelligence (AI).
- II. Historical Perspective (Evolution of FinTech. Emergence and development of AI in finance)
- III. Key Applications of AI in FinTech (Fraud Detection. 24/7 support)
- IV. Impact of AI on Financial Markets (Market Efficiency. Risk Management. Regulatory Compliance)
- V. Challenges and Concerns (Data Security and Privacy. Ethical Considerations. Systemic Risks)
- VI. Future Trends (Continued Integration of AI. Collaboration between FinTech and Traditional Financial Institutions)
- VII. Conclusion (Recap of the pivotal role of AI in the FinTech market. Anticipation of further advancements and challenges)

Remember to support each point with relevant data, examples, and case studies to strengthen your arguments.

Tasks for topic 10. Prospects for the development of digital identification and biometrics

Prepare a presentation. Choose one question from the proposed ones:

1. To characterize the involvement of Chinese banks in cooperation with fintech companies: the name of the bank and the content of innovative solutions. (An example is indicated in the lecture presentation).

2. Prepare a creative and analytical task on the topic: analyze the stages of development of companies that use financial and banking technologies.

7. INSTRUCTIONAL AND METHODOLOGICAL MATERIALS FOR STUDENTS' INDEPENDENT WORK

Students are encouraged to work on independent work based on additional information sources (periodicals) and Internet resources listed in the list of recommended literature.

The results of independent work are presented (for evaluation) in practical, individual classes, consultations in the following forms: synopsis, essay, report, analytical table, presentations.

| <i>No</i> | <i>Types, content of independent work</i> | <i>Number of hours, full-time education</i> |
|-----------|---|---|
| 1. | <p>Develop a synopsis. Preparation of analytical reports by students. Choose one question from the proposed ones. Prepare a presentation on topic 1 «Market of financial and banking technologies in Ukraine».</p> <ul style="list-style-type: none"> - Advantages and disadvantages of using financial and banking technologies. - Classification of fintech products and services according to the Basel Committee on Banking Supervision. - Characteristics of the mechanism of formation of the banking ecosystem in the conditions of a competitive environment J. Moore. - Characteristics of the mechanism of formation of the banking ecosystem in the conditions of a competitive environment J. Bradford DeLong. - Characteristics of the innovation system element - electronic payment systems. - Characteristics of the innovation system element - mobile payments and wallets. | 11 |
| 2. | <p>Develop a synopsis. Preparation of analytical reports by students. Choose one question from the proposed ones. Prepare a presentation on topic 2 «The Banking System in Ukraine».</p> <ul style="list-style-type: none"> - Make a presentation about of China's Banking System. - Make a presentation about of the banking system of another country (of your choice). | 10 |

| | | |
|----|---|----|
| 3. | <p>Develop a synopsis. Preparation of analytical reports by students. Choose one question from the proposed ones. Prepare a presentation on topic 3 «Digital Economy in the Banking System».</p> <ul style="list-style-type: none"> - Describe the factors behind the rapid development of China's digital economy. Describe the factors of development of the digital economy of Ukraine. - Describe the advantages and disadvantages of the digital economy in the world. - Share your experience of using digital technologies in everyday life and/or at work. | 11 |
| 4. | <p>Develop a synopsis. Preparation of analytical reports by students. Prepare a presentation on topic 4 «Neobanking: a modern trend, the future of the global banking system».</p> <ul style="list-style-type: none"> - The world experience of neobanking (on the example of any country). | 11 |
| 5. | <p>Develop a synopsis. Preparation of analytical reports by students. Choose one question from the proposed ones. Prepare a presentation on topic 5 «Characteristics of the development of financial and banking services using social networks and mobile phones».</p> <ul style="list-style-type: none"> - Describe your experience using chatbots. - Please describe which messengers are used in your country. | 11 |
| 6. | <p>Develop a synopsis. Preparation of analytical reports by students on topic 6 «Development of alternative types of payments using financial and banking technologies».</p> <p>Preparing students for a discussion about the implementation of rules for electronic money in the European Union and new financial providers of electronic money.</p> | 10 |
| 7. | <p>Develop a synopsis. Preparation of analytical reports by students. Prepare a presentation on topic 7 «Marketplace».</p> <p>Search, selection and review of information sources on the given topic.</p> | 10 |
| 8. | <p>Develop a synopsis. Preparation of analytical reports by students. Prepare a presentation on topic 8 «Application of financial and banking technologies in new business models».</p> <p>Search, selection and review of information sources on the given topic.</p> | 11 |

| | | |
|---|---|------------|
| 9. | Develop a synopsis. Preparation of analytical reports by students. Prepare a presentation on topic 9 «The role of artificial intelligence in the market of financial technologies». Discussion «Using artificial intelligence in contact centers». | 11 |
| 10. | Develop a synopsis. Preparation of analytical reports by students. Prepare a presentation on topic 10 «Prospects for the development of digital identification and biometrics». Preparation of reports by students on the topics: «Unified biometric interfaces for using new digital financial solutions»; «Application Programming Interfaces (APIs)». | 10 |
| <i>Control work, which is performed during independent work</i> | | <i>10</i> |
| Total | | 116 |

As part of the independent work, the student performs a **control work** on the topic «Financial and banking technologies of the country: current state, problems and development prospects» (the higher education student chooses the country independently).

Control work is a component of the educational process, an active form of independent work of students, and represents a completed study of a certain direction.

The purpose of performing the control work is to activate independent work, improve the theoretical and practical work of students. Each of the students receives an individual task that contributes to:

- in-depth study of theoretical material;
- formation of skills in the use of methods of analysis and assessment of factors that determine the development of the country's banking system;
- involvement of students in independent work with scientific literature of a specific direction and development of skills of in-depth study, generalization and systematization of the selected material;
- development of abilities to formulate author's conclusions and proposals based on the conducted research.

The task of performing control work is:

- to be able to analyze modern trends and the current state of development of the country's banking system;
- to be able to characterize, determine the goals and historical prerequisites for the emergence of the country's banking system;
- learn the structure of the country's banking system as a component of the integration processes of further development of the country's economic system;
- to know the world economic system, in particular, the banking system;

- characterize the process of globalization, integration and be able to note their influence on the development of the world banking system and the economy of the country (and/or state);
- when considering any topic, be able to distinguish the place and role of the banking system and economy of Ukraine in the global banking space;
- ability to work independently and use educational literature.

The prerequisites for completing the control work are:

- systematic attendance of lectures;
- active participation in work at seminar classes;
- creative initiative of the student;
- responsibility and organization of the student;
- participation in student conferences.

The control work is performed by the student independently and is submitted within the set deadline (usually two weeks before the end of the academic semester).

A student of higher education must independently learn to work with scientific economic literature, manuals, reference, statistical and other scientific support materials on the topic.

Using a variety of literature, the student must be able to briefly explain the content of the chosen topic. At the same time, it is important not only to analyze the issue, but also to determine one's vision of the problem, one's attitude towards its solution.

When performing the control work, the student must use methodical instructions for performing the control work of the academic discipline, methodical instructions for independent work of the discipline, as well as educational and methodical literature. Full compliance with methodical recommendations is the key to successful performance of control works.

The disclosure of the topic should be related to the points of the control work plan. The work itself should be the result of processing and assimilation of several sources.

WARNING! Successful completion of the control work is a mandatory condition for admission to passing the final control (exam) in the discipline. Qualitatively conducted research can serve as the basis for writing course and diploma theses.

Requirements for execution and registration:

1. *The title page* contains the name of the university; name of the faculty; name of the department; the name of the academic discipline; academic group number; Name of the executor and manager, city and year of execution (Appendix A).
2. *Contents.* It is necessary to start the table of contents from a new page (Appendix B).

3. *Introduction.* It is necessary to start the introduction from a new page, because the introduction reveals the essence, the state of the scientific task and its meaning, the grounds and initial data for the development of the topic, the justification of the need to conduct research. The introduction should contain the relevance of the chosen topic, reveal the scientific and applied significance of its development, clearly formulate the main purpose of the work, define the range of questions, objects, methods and information base of the research.

It is advisable to present the general characteristics of the work in a certain sequence. It is necessary to indicate the relevance, subject, object, purpose, tasks and methods of achieving the specified tasks, the information base of the research, as well as the structure of the research.

4. *The main part.* To reveal the research topic, the main part should contain at least two sections. The main part reveals the scientific research and corresponds to the chosen topic, introduction and conclusions of the work. Disclosure of the essence of each section of the control work should be subordinated to the overall goal.

Consider the theoretical and methodological aspects of the researched problem, analytical review of literary sources on the subject of research, critically analyze different views, indicate the main factors influencing the state and development of the researched object, etc. To substantiate general theoretical conclusions and trends, it is advisable to use data published in relevant encyclopedias, monographs, handbooks, statistical data, scientific studies of domestic scientists, foreign sources, publications, etc.

The main questions for the disclosure of the main part of the control task: the general characteristics of the country's banking system and the historical prerequisites for its formation/emergence, analysis of the current state/indicators of the country's banking system (at least for two years), the participation/possibility of the country's banking system in globalization development processes, identifying problems of the country's banking system and characteristics of the further development of the country's banking system.

At the same time, necessarily, the main part of the work must contain a reflection of the analysis of statistical literature in the form of figures, diagrams, tables, etc. (Appendix B).

5. *Conclusions.* The conclusions indicate the results obtained during the research, proposals or recommendations for solving the task in accordance with the research results. Conclusions should be based on the materials of the main part of the work.

6. *List of references.* At the end of the work there is a list of used sources. Sources are placed alphabetically by authors' surnames or titles. Internet

sources/electronic with mandatory indication of source data for educational/periodical literature. Invalid search links to sites. The number of used sources should be at least 10 sources of information.

The list of used sources consists of legislative acts, regulatory materials, domestic and foreign scientific literature, specialized publications, and Internet information resources.

7. *Registration requirements.* Students perform control work in the state language. Each section of the test begins with a new page. The total volume is not less than 20 pages of the main text, printed at 1.5 intervals, font Times New Roman, pin 14 in the Microsoft Word editor on one back of standard format (A4) pages with standard margins, pages are numbered in the lower right corner.

The form of the final evaluation of the completed research is a presentation and a public report (5-7 minutes) followed by an open discussion or an individual interview on the topic of the control work.

The assessment of the control work takes into account the degree of disclosure of the topic and display of the main content, the depth of processing relevant thematic sources of information, the ability to apply theoretical material to solve practical problems, the logic of the presentation, the ability to analyze/process statistical material, the ability to draw conclusions from the conducted research, compliance of the technical design with the specified norms, the quality of the final interview or report. The assessment is given to each of the specified elements of the work performed.

The results of the control work are counted as the corresponding module. The total number of points for carrying out the research is 10. The points are included in the final result of studying the discipline.

8. EVALUATION CRITERIA

The system for evaluating the student's developed competencies takes into account the types of classes that, according to the program of the academic discipline, include lectures, practical classes, as well as independent work. Assessment of students' developed competencies is carried out according to a cumulative 100-point system.

According to the «Regulations on the organization of the educational process at the V.N. Karazin Kharkiv National University», control measures include: current and final control. *The current control* (maximum amount – 60 points) of the student's knowledge is carried out during the semester during practical classes and is evaluated by the amount and evaluated by the amount of points scored. Current control is carried out in the form of an oral survey or written control, testing in practical classes. *Final control*

(maximum amount – 40 points), conducted in the form of a semester exam, in accordance with the schedule of the educational process. The final semester grade is controlled by the sum of the points scored by the student of higher education during the semester during the performance of control measures provided for by the program of the academic discipline and the points scored by him during the semester exam.

Mastering the topics of the sections (current control) is carried out in seminar classes in accordance with the control objectives. The main task of current control is to check the level of preparation of students to perform specific work.

The current control and assessment of learning results involves issuing grades for all forms of classes:

- control and assessment of the activity of the student's work during lectures, seminars and practical classes;
- control and evaluation of the quality of preparation and development of project tasks;
- control of assimilation of theoretical and practical material;
- control and evaluation of the ability to solve situational and heuristic problems;
- control and assessment of the ability to conduct research and present it.

The final control of the mastery of the material is carried out after their completion on the basis of the successful defense of the current control work, which is provided for by the independent work of students. The task of control is to assess the knowledge, skills and practical skills of students acquired during the study and mastering of topics.

The semester final control is carried out in accordance with the curriculum in the form of a test in the terms established by the schedule of the educational process and in the amount of educational material determined by the given program of the discipline.

The following methods of monitoring student training are used:

- oral answers at seminar classes;
- performance of creative tasks (presentations, tests);
- solving situational problems.

The assessment of the student's success is a rating and is given on a multi-point scale, taking into account the assessment of mastery of individual topics.

Evaluation criteria of current control

When studying each topic, current control is carried out in the form of an oral survey and student presentations. A student can get from 1 to 5 points for each topic.

- oral answers at seminar classes, solving situational problems;
- performance of creative tasks, presentations (tests) and performances.

| <i>Control work, which is a mandatory component of the educational process</i> | |
|--|---|
| 8-10 points | full and confident performance of coursework according to requirements; knowledge of basic and additional literature; the ability to analyze and summarize the material; compare, evaluate, explain facts based on knowledge obtained from various sources; use scientific terminology; performance without grammatical and stylistic errors; logically structured presentation and public report |
| 5-7 points | partial learning of the material and presentation of theoretical and analytical data (diagrams, graphs, tables, etc.); the ability to logically construct an answer, draw reasoned conclusions, analyze the material; in the presence of incomplete conclusions |
| 0-4 points | insufficient coverage of the content of theoretical issues and insufficient ability to apply theoretical knowledge to solve practical tasks and analyze statistical data. At the same time, the student does not know how to think logically. He did not complete the assigned task. The student of higher education has not mastered the material provided by the work program of the course |

A mandatory component of the educational process is independent study of relevant scientific and special literature, performance of control work. Independent work with textbooks, manuals, dictionaries, educational and reference literature, information resources of the Internet is provided.

If a student of higher education was absent from seminar classes for a good reason (and in other cases that do not contradict the Regulations on the Organization of the Educational Process at the V.N. Karazin Kharkiv National University), then he has the opportunity to receive points on the condition that he fulfills an individual task. The form of execution is the development (creation) of test tasks on topics that were missed for improper reasons.

Also, the student of higher education has the opportunity to receive additional points from the discipline by taking part in scientific work – writing abstracts of reports (5 points) at conferences of various levels, writing articles (10 points) in specialized scientific publications. This opportunity is performed under the guidance of a teacher from this discipline.

| Current control and independent work | | | | | | | | | | | Total | Test, credit | Summary |
|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|----------|--------------|-------|--------------|---------|
| topic 1 | topic 2 | topic 3 | topic 4 | topic 5 | topic 6 | topic 7 | topic 8 | topic 9 | topic 10 | control work | | | |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 10 | 60 | 40 | 100 |

CW – Control work, which is performed during the student’s independent work.

The minimum number of points of the current control is at least 30 points.

The maximum number of points of the current control is no more than 60 points.

Criteria for evaluating educational achievements

1. For each practical lesson, the maximum number of points that can be obtained by completing all the proposed tasks in detail and without errors is set. This usually includes an oral or written answer to a question on the topic of a practical lesson, or a presentation, the completion of a written task set for independent work, as well as clear answers of the student to additional questions of the teacher within the limits set for discussion of the topic. If the student does not provide a sufficiently complete answer to the main question, does not answer additional questions, his current score for the practical lesson is reduced. The student can increase it by showing further activity in practical classes.

2. The result of the study of the discipline is the preparation of a control work. The list of questions for preparation for the final control is provided to students in advance.

Rating scale

The final semester control is carried out during the examination.

The contents of the examination ticket and evaluation of the examination answers:

Test questions – 40 points.

Test tasks include 40 questions. 1 point is awarded for each correct answer.

The final semester control is carried out during the test (credit). ***The total (maximum) number of points for successfully completing the test (credit)*** is 40 points.

WARNING! In the case of using prohibited sources on the exam, the student of higher education leaves the audience at the request of the teacher and receives a total zero grade (0).

Accordingly, ***the maximum number of scored points for studying the discipline is 100 points.***

| The sum of points for all types of educational activities during the semester | Rating |
|---|------------------------------|
| | for a two-level rating scale |
| 90 – 100 | passed |
| 70-89 | |
| 50-69 | |
| 1-49 | failed |

In the event of force majeure (including the introduction of strict restrictions prohibiting attendance at higher education institutions), applicants of full-time higher education are given the opportunity to pass the credit remotely on the Moodle platform in the distance course «Financial and Banking Technologies».

9. RECOMMENDED LITERATURE

Basic literature

1. Ash Svitlana. Financial services market. Textbook. K. Center of educational literature, 2019. 400 p.
2. Rendovich P. M., Alekseenko L. M., Lutsyshyn O. O., Stetsko M. V. Market of financial services: Education. manual Ternopil: V. A. Palanytsia FOP, 2018. 190 p.
3. Financial inclusion, innovations and cashless operations in Ukraine are priorities of the Development Strategy FinTech 2025. URL: <https://bank.gov.ua/ua/news/all/finansova-inklyuziyainnovatsiyi-ta-bezgotivkovi-operatsiyi-vukrayini—prioriteti-strategiyi-rozvitku-fintech-2025>
4. Reagan JR, Raghavan A., Thomas A. (2019) Quantifying risk: What can cyber risk management learn from the financial services industry? URL: <https://www2.deloitte.com/insights/us/en/deloitte-review/issue-19/quantifying-risklessons-fromfinancial-services-industry.html>
5. Frank Robinson, A Proven Methodology to Maximize Return on Risk.

Additional literature

1. Dudynets L.A. The development of financial technologies as a factor in the modernization of the financial system. Global and national economic problems. 2018. Issue 22. P. 794-798.
2. Comprehensive program for the development of the financial sector of Ukraine until 2021. Website of the National Bank of Ukraine URL: <https://bank.gov.ua/doccatalog/document?id=43352266>
3. Semenog A.Yu., Kryvych Ya.M., Tsyrylyk S.V. FinTech technologies: essence, role and significance for the country's economy. Bulletin of the Odessa National University named after I.I. Mechnikova. Series: Economy. 2018. Issue 2(67). T. 23. P. 100-105.
4. FinTech in Ukraine: report of the USAID Project "Transformation of the Financial Sector" and the UNIT.City innovation park. URL: http://data.unit.city/fintech/fgt34ko67mok/fintech_in_Ukraine_2018_ua.pdf
5. Shevchenko O. M., Rudych L. V. Development of financial technologies in conditions of digitization of the economy of Ukraine. Electronic specialist publication

"Efficient Economy". No. 975, 11.07.2019. URL: http://www.economy.nayka.com.ua/pdf/7_2020/63.pdf

6. Volosovich S.V., Vasylenko A.V. Regtech in the financial technology ecosystem. Modern Economics. 2019. №. 15. P. 62-68.

7. Global FinTech Adoption Index 2019. URL: <https://asd-team.com/blog/global-fintechadoption-index-2019-report-highlights>

8. Reagan J. R., Raghavan A., Thomas A. (2019) Quantifying risk: What can cyber risk management learn from the financial services industry? URL: <https://www2.deloitte.com/insights/us/en/deloitte-review/issue-19/quantifying-risklessons-fromfinancial-services-industry.html>

9. The Basel Committee on Banking Supervision, consultative document: Sound Practices: Implications of fintech developments for banks and bank supervisors / Bank for International Settlements. 2017. URL: <https://www.bis.org/bcbs/publ/d415.pdf>

Links to information resources on the Internet, video lectures, other methodical support

1. Law of Ukraine «On Banks and Banking Activity» dated December 7, 2000 №. 2121-III. URL: <http://zakon4.rada.gov.ua/laws/show/436-15>

2. Law of Ukraine «On State Regulation of the Securities Market in Ukraine». VVR 1996. №. 51. Art. 292. URL: <http://zakon4.rada.gov.ua/laws/show/436-15>

3. Law of Ukraine «On Investment Activity» dated September 18, 1991 №. 1560-XII (with amendments and additions). VVR 1991. No. 47. Art. 646. URL: <http://zakon4.rada.gov.ua/laws/show/436-15>

4. Law of Ukraine «On joint investment institutions (unit and corporate investment funds)». VVR 2001. №. 21. Art. 103. URL: <http://zakon4.rada.gov.ua/laws/show/436-15>

5. Law of Ukraine «On the National Depository System and Peculiarities of Electronic Securities Circulation in Ukraine» VVR 1998. №. 15. URL: <http://zakon4.rada.gov.ua/laws/show/436-15>

6. Law of Ukraine «On Financial Services and State Regulation of Financial Services Markets» №. 2664-III dated July 12, 2001. URL: <http://zakon4.rada.gov.ua/laws/show/436-15>

7. Law of Ukraine «On Securities and the Stock Market» dated February 23, 2006. URL: <http://zakon4.rada.gov.ua/laws/show/436-15>

8. <https://karazin.ua/en/osvita/akademichna-dobrochesnist/>

APPENDIX A
Sample design of the title page of the control work

Ministry of Education and Science of Ukraine
V.N. Karazin Kharkiv National University
Educational and Scientific Institute «Karazin Banking Institute»
Department of banking business and financial technologies

CONTROL WORK

the discipline «FINANCIAL AND BANKING TECHNOLOGIES»
on the topic «Financial and banking technologies of the country: current
state, problems and development prospects» (*the student chooses the country
independently*)

Performed by:
student of higher education
1 (2,3,4) course, gr. _____
fields of knowledge 07 «Management and administration»
specialty 072 «Finance, banking, insurance and stock market»

Full name

Checked:
position, science degree, academic rank

Full name

Scores _____

Kharkiv – 2024

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|--|----|
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APPENDIX B
Sample of registration of statistical materials
in the form of drawings, diagrams, tables

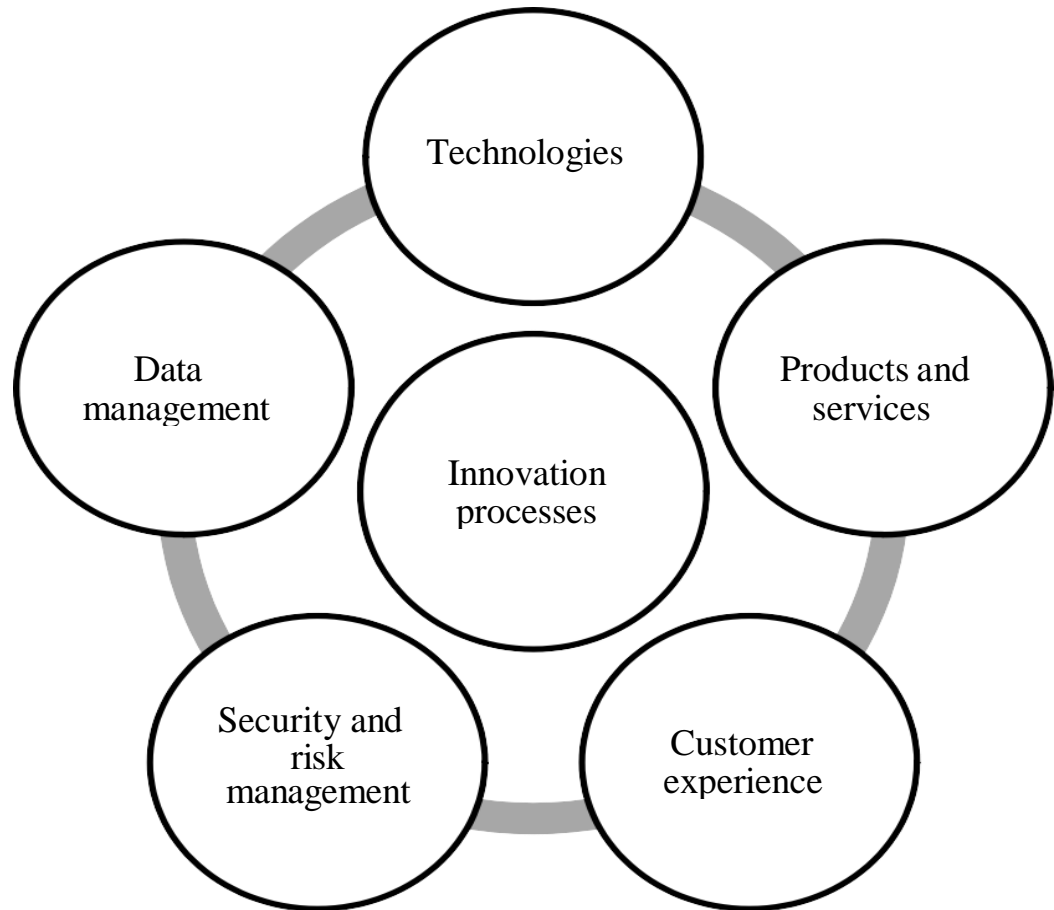


Fig. 1. Reasons for the emergence of new types of banking services

Source: compiled by the author.

Електронне навчальне видання комбінованого використання
Можна використовувати в локальному та мережному режимі

Баранова Валерія Вадимівна

ФІНАНСОВО-БАНКІВСЬКІ ТЕХНОЛОГІЇ

Методичні рекомендації
до семінарських та практичних занять для студентів спеціальності
072 «Фінанси, банківська справа, страхування та фондовий ринок»,
освітньої програми «Фінансові технології та банківський менеджмент»
другого (магістерського) рівня вищої освіти

(Англ. мовою)

В авторській редакції

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