


**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY**

Faculty of Transport, Management and Logistics
Management of Foreign Economic Activity of Enterprises Department

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« 03 » 02 2023

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« 07 » 02 2023



Quality Management System

COURS TRAINING PROGRAM

on

"Information Systems and Technologies in the Management of Foreign Economic Activity"

Educational and Professional Program: "Management of Foreign Economic Activity"
Field of study: 07 "Management and Administration"
Specialty: 073 "Management"

Form of study	Semester	Total (hours / ECTS credits)	Lectures	Practicals	Self-study	HW/ CGP/C	TP/CP	Form of semester control
Full-time	2	120/4,0	18	18	84	1 HW - 2 s.	-	Examination - 2 s.
Extramural	1, 2	120/4,0	6	6	108	1 CW - 2 s.		Examination - 2 s.

Index: CM-7-073-2/21-2.1.5.

Index: CM-7-073-2pt/22-2.1.5.



Quality Management System.
Course training program on
"Information Systems and Technologies in the
Management of Foreign Economic Activity"

Document
code

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The Course Training Program on "Information Systems and Technologies in the Management of Foreign Economic Activity" is developed on the basis of the Educational and Professional Program "Management of Foreign Economic Activity", Master Curriculum № CM-7-073-2/21, CM-7-073-2pt/22 and Master Extended Curriculum № ECM-7-073-2/22, № ECM-7-073-2pt/22 for the Specialty 073 "Management" and corresponding normative documents.

Developed by:

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The Course Training Program was discussed and approved by the Graduate Department for Educational and Professional Program "Management of Foreign Economic Activity", Specialty 073 "Management" – Management of Foreign Economic Activity of Enterprises Department, Minutes № 01 of "01" February 2023.

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« 03 » 02 2023.

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INTRODUCTION

The Course training program (CTP) on "Information Systems and Technologies in the Management of Foreign Economic Activity" is developed based on the "Methodical guidelines for the development and design of the course training program of the subject of full-time and part-time study", approved by the order of the rector № 249/о.д. of 29.04.2021 and corresponding regulatory documents.

1. EXPLANATORY NOTE

1.1. Place, objectives, tasks of the subject.

This subject is a theoretical and practical basis for a set of knowledge and skills that form the profile of a specialist in the management of foreign economic activity.

The purpose of teaching the discipline is to acquire theoretical and practical knowledge of the basics of the creation and functioning of modern information systems and technologies as well as their use for managing the economy.

The tasks of the subject are:

- mastering methods of using information and communication technologies;
- analysis of functional areas of the organization and their interaction (i.e. procurement, production, logistics, marketing, finance, human resources);
- studying the algorithm of conducting scientific research, drawing up a calendar plan of scientific research;
- ability to analyze the financial, material, technical and personnel support in the implementation of the FEA with the help of electronic resources;
- definition of the general tasks of management automation in the organization and the structure of the database development, its information content for a specific task of processing management information.

1.2. Learning outcomes the subject makes it possible to achieve (in conjunction with other educational components).

As a result of studying the subject, the student must acquire the following **learning outcomes**:

- **PLO 1.** Critically comprehend, select and use the necessary scientific, methodological and analytical tools for management in unpredictable conditions.
- **PLO 3.** Design effective organization management systems.
- **PLO 5.** Plan the activities of the organization in strategic and tactical sections.
- **PLO 8.** Apply specialized software and information systems for problem solving management of the organization;
- **PLO 14.** Know the stages of foreign economic activities of the enterprise and documentation necessary for its implementation;
- **PLO 15.** Understand the different tools and strategies that have relation to diagnosis and analysis of various types of complex management problems at a higher level;
- **PLO 16.** Be able to independently organize the foreign economic activity of the enterprise and collect the necessary documentation for the implementation of foreign economic activity;
- **PLO 17.** Be able to analyze and evaluate the completeness of information in the course of professional activity and complement and synthesize missing information when working in conditions of uncertainty;
- **PLO 18.** Be able to present the results of scientific research activities, prepare scientific publications, participate in scientific discussions at scientific conferences, symposia;



- **PLO 19.** Control ensuring the effective implementation of foreign economic activity at the enterprise;
- **PLO 20.** Analyze, control, diagnose and plan the foreign economic activity of the enterprise;
- **PLO 21.** Operate with macroeconomic categories, identify and analyze modern problems of managing foreign economic activity;
- **PLO 25.** To study international markets, European integration processes and prospects for cooperation with foreign partners on the basis of cross-cultural interaction.

1.3. Competences the subject makes it possible to acquire (in conjunction with other educational components).

As a result of studying the subject, the student must acquire the following **competences**:

- **IC 1.** Ability to solve complex problems and problems in the field of management or in the learning process, involving research and / or innovation in case of uncertainty of conditions and requirements.
- **GC 1.** Ability to conduct research at appropriate level;
- **GC 3.** Skills of using information and communication technologies;
- **GC 8.** Ability to work independently, to make independent decisions and to take responsibility for their implementation. Ability to self-organize.
- **GC 11.** Ability to analyze and synthesize on the basis of logic arguments and verified facts. Ability to analyze and structure the problem of the enterprise to develop decisions (i.e. entering a new market/market environment);
- **GC 13.** Ability to analyze the financial, material and technical, personnel support of the process of scientific research;
- **GC 16.** Ability to communicate effectively in national and foreign languages and to present complex complex information in a concise form orally and in writing, using information communication technologies and relevant economic terms;
- **GC 17.** The ability to evaluate and analyze socio-economic processes and phenomena at the global (mega-), macro-, meso- and macro-levels.
- **PC 4.** Ability to effectively use and develop resources in the organization;
- **PC 5.** Ability to create and organize effective communications in the management process;
- **PC 7.** Ability to develop projects, manage them, show initiative and entrepreneurship;
- **PC 9.** Ability to analyze and structure problems of organizations, produce effective management decisions and ensure their implementation;
- **PC 13.** The ability to communicate with colleagues on current problems of management of foreign economic activity, both at the general level and at the level of specialists, the ability to make oral and written reports in the state and English languages;
- **PC 15.** The ability to diagnose risk factors in the foreign economic activity of organizations and justify anti-crisis programs.

1.4. Interdisciplinary connections.

The subject "Information Systems and Technologies in the Management of Foreign Economic Activity" is based on the knowledge of such subjects as: "Business Analysis and Data Processing", "HR-management", "Business Planning in Foreign Economic Activity" and is the basis for studying such subjects as: "Management of Foreign Economic Activity" and performing the qualification paper.



2. COURSE TRAINING PROGRAM ON THE SUBJECT

2.1. The subject content

Training material is structured according to the module principle and consists of **two educational modules**:

- **Module № 1** "Information systems and technologies in FEA Management", which is logically complete, relatively independent and holistic part of the subject, study of which leads to accomplishment of module test and further evaluation of its performance.
- **Module № 2** "Resourcing of information systems and technologies in FEA management" which is logically complete, relatively independent and holistic part of the subject, study of which leads to accomplishment of module test and further evaluation of its performance.

2.2. Modular structuring and integrated requirements for each module.

Module № 1 "Theoretical basis of information systems and technologies in FEA Management"

Integrated requirements of the module № 1: the use of information and communication technologies; perform economic research in a group and under the guidance of a leader, taking into account the requirements of discipline, planning and time management; analyze the financial, logistical, personnel support of the enterprise; analyze the results of the organization's activities, compare them with the factors of influence of the external and internal environment; work in a team and establish interpersonal interaction in solving professional problems; make an assessment of the business plan;

Topic 1. Information systems and technologies: Basic concepts and definitions

The role of information systems and technologies in management of modern organizations which perform foreign economic activities. The real world of information systems. Resources and technologies of information systems. Global information society. The fundamental role of information systems and technologies in FEA management. The growing value of information technologies. Internet-oriented organizations. The use of artificial intelligence technologies in FEA management. A modern view on artificial intelligence systems. The main field of application of artificial intelligence systems. Competitive advantages of information technologies utilization. Significance of the use of information technologies in foreign trade for business. Main directions of computerization of management.

Topic 2. Electronic exchange of commercial and financial data


Information as a resource of the organization. Types of economic information. Structure of economic information. Classification and classifiers. Economic information and means of its formalized description. The structure of economic information. Financial information systems: cash flow management, budgeting, financial forecasting and planning. Accounting information systems. Methods of classification and coding of information. Principles of electronic exchange.

Topic 3. General scheme of functioning of information systems and management technology

Functions and structure of management information systems. Signs of classification and structure of management information support. Typology of information systems and technologies in FEA management. Transition from traditional to integrated automated information systems in business. The main structural parts of the functioning of the information systems in FEA management: management of marketing activities, management of human resources, management of finances, management of production processes, implementation of e-accounting. Support of business processes by specialized information systems.

Topic 4. Means of information support for decision-making in management

Management decision-making support systems. Information, decisions and management. The essence and components of the decision-making support system. Analytical methods and tools

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to support management decision-making process. Methods of casual analysis, correlation-regression analysis, trend analysis, optimization. Areas of use of the decision-making support system. Types of expert systems. Components of expert systems. Development of expert systems. Cost of expert systems. Technological aspects of the decision-making process. Purpose of computerized decision support systems (CDS). The main qualitative characteristics of SPPR.

Module № 2 "Resourcing of information systems and technologies in FEA management"

Integrated requirements of the module № 1: the use of information and communication technologies; perform economic research in a group and under the guidance of a leader, taking into account the requirements of discipline, planning and time management; analyze the financial, logistical, personnel support of the enterprise; analyze the results of the organization's activities, compare them with the factors of influence of the external and internal environment; work in a team and establish interpersonal interaction in solving professional problems; make an assessment of the business plan;

Topic 5. Peculiarities of of information systems and technologies utilization in FEA management

Peculiarities of the implementation of integrated information systems in management, focused on the internal and external environment of the organization. Information base formation. External and internal information of the enterprise. Strategic and operational orientation of information technologies in business. MRP-II, ERP, CSRP class systems. Security of information systems. Information policy. Security services and mechanisms of its violations. Digital signature. Digital certificate. Protection of hardware devices. Data backup. Protection of networks from external interference. Protection against computer viruses. Safety and the human factor. Ethical aspects of using information systems. Protection of personal data and commercial secrets.

Topic 6. Organization of HR management support information system

Management of information resources and technologies. Positive and problematic aspects of functioning of information systems in foreign economic relations. Management of human resources in the field of information technologies. Peculiarities of the use of information systems and technologies in HR management during the implementation of foreign economic activities. Information systems for HR management: strategic, tactical and operational use of the organization's personnel. Permanent employees of the organization, training and development of personnel.

Topic 7. Information systems and technologies in FEA management

Application of information systems for automation of accounting work. Classification of software systems for automation of accounting work. Requirements for analytical accounting in accounting information systems. Electronic systems of international interbank transactions. International markets technical analysis information systems.

Topic 8. Methods of financial evaluation of investment projects for the implementation of information systems in FEA management

Information systems of financial analysis. Functional characteristics of financial information systems. "Project Expert" financial modeling system. The sequence of project creation and establishment in Project Expert. The method of managing the total cost of ownership of information systems in FEA management.

Topic 9. Methods of economic evaluation of investment projects for the implementation of information systems in FEA management

Information systems of economic analysis. Functional characteristics of analytical information systems. The prospects of "Project Expert" economic analysis. Patterns of project evaluation and analysis in Project Expert. Methods of economic evaluation of information systems efficiency in FEA management.




2.3. Training schedule of the subject

№	Topic (thematic section)	Total, hours								
		Full-time				Extramural				
		Total	Lectures	Practicals	Self-study	Total	Lectures	Practicals	Self-study	
1	2	3	4	5	6	7	8	9	10	
		2 semester				1 semester				
Module № 1 "Theoretical basis of information systems and technologies in FEA Management"										
1.1.	Information systems and technologies: Basic concepts and definitions	12	2	2	8	3	1	-	2	
1.2.	Electronic exchange of commercial and financial data	12	2	-	10	4	1	-	3	
1.3.	General scheme of functioning of information systems and management technology	12	2	2	8	4	1	-	3	
1.4.	Means of information support for decision-making in management	12	2	2	8	4	1	-	3	
1.5.	Module test № 1	4	-	2	2	-	-	-	-	
Total for the module № 1		52	8	8	36	15	4	-	11	
Module № 2 "Resourcing of information systems and technologies in FEA management"										
2 semester										
2.1.	Peculiarities of of information systems and technologies utilization in FEA management	12	2	2	8	22	1	2	19	
2.2.	Organization of HR-management support information system	12	2	-	10	20	1	1	18	
2.3.	Information systems and technologies in FEA management	11	2	2	7	17	-	1	16	
2.4.	Methods of financial evaluation of investment projects for the implementation of information systems in FEA management	11	2	2	7	19	-	1	18	
2.5.	Methods of economic evaluation of investment projects for the implementation of information systems in FEA management	10	2	2	6	19	-	1	18	
2.6.	Performing homework and control work (extramural)	8	-	-	8	8	-	-	8	
2.7.	Module test № 2	4	-	2	2	-	-	-	-	
Total for the module № 2		68	10	10	48	105	2	6	97	
Total for 1 semester		-	-	-	-	-	-	-	-	
Total for 2 semester		120	18	18	84	120		6	108	
Total for the subject		120	18	18	84	120		6	108	

2.4. Homework and home control work (extramural form of study)

Homework and home control work (extramural form of study) is performed in the second semester, in accordance with the approved methodological guidelines, in order to consolidate and deepen the theoretical knowledge and skills of the student in the studying the subject.

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Homework and home control work (extramural form of study) is performed by the student individually in accordance with the topics offered by the teachers of the department. The time required to complete homework is 8 hours.

2.5. List of questions to prepare for the examination.

The list of questions and content of tasks for preparation for the exam are developed by leading teachers and approved by on the department meeting and brought to the attention of students.

3. BASIC CONCEPTS OF GUIDANCE ON THE SUBJECT

3.1. Teaching methods

The methods of teaching the subject "Information Systems and Technologies in the Management of Foreign Economic Activity" are ways of joint activity and communication of teacher and students, ensuring the development of positive motivation for learning, mastering the system of professional knowledge and skills, formation of a scientific worldview, development of cognitive skills, culture of mental work of specialists in the 073 "Management" specialty.

Depending on the source of knowledge, during training sessions, both practicals and lecture, the following teaching methods are used: verbal (explanation, conversation, discussion, dialogue), visual (demonstration, illustration, case, presentation), practical (problem solving, business games, brainstorming).

By the nature of cognitive activity, when studying the discipline "Information Systems and Technologies in the Management of Foreign Economic Activity" the following methods are used: explanatory and visual problem presentation; partial-search and research methods.


At the place in the structural activity the following methods are used:

- methods of organizing and carrying out educational activities that combine verbal, visual and practical methods;
- reproductive and problem-search; methods of educational work under the guidance of a teacher and methods of independent work of students;
- methods of stimulating and motivating educational work, combining cognitive games, educational discussions, modeling role-playing situations, creating situations of success in educational work, making demands and a method of encouragement;
- methods of control and self-control over educational activities: methods of oral, written control; individual, thematic and systematic control.

3.2. List of references (basic and additional)

Basic references

- 3.2.1. Rocha A., Adeli H., Gintautas D., Moreira F. Information Systems and Technologies. Lisboa: Springer Cham. 2022. 713 p.
- 3.2.2. Rocha A., Adeli H., Reis L., Costanzo S. New Knowledge in Information Systems and Technologies: Volume 3. Springer. 2019. 977 p.
- 3.2.3. Managing and Using Information Systems. A Strategic Approach. / Keri E. Pearlson, Carol S. Saunders, Dennis F. Galletta - Wiley Publisher. 2019 – 368 p.
- 3.2.4. Processes, Systems, and Information. An Introduction to MIS. / Earl McKinney Jr., David Kroenke. - Pearson Publisher. 2018 – 528 p.
- 3.2.5. Information Systems Today: Managing the Digital World. /Joseph Valacich, Christoph Schneider. - 8th Edition. - Pearson Publisher. 2017 – 560 p.
- 3.2.6. Management Information Systems. Managing the Digital Firm. / Kenneth Laudon, Jane Laudon. - Pearson Publisher. 2017 – 648 p.

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Additional references

- 3.2.7. Laplante A. Encyclopedia of Information Systems and Technology. CRC Press. 2016. 1274 p.
- 3.2.8. Essentials of MIS. / Kenneth Laudon, Jane Laudon - Pearson Publisher. 2016 – 528 p.
- 3.2.9. Сусіденко В. Інформаційні системи і технології в обліку: Навчальний посібник./ В. Сусіденко – К.: Центр навчальної літератури 2019 р. – 224с.
- 3.2.10. Грицунов О.В. Інформаційні системи та технології [Електронний ресурс] / О.В. Грицунов. URL: http://eprints.kname.edu.ua/20889/1/Gritsunov_2.pdf.

3.3. Internet Information Resources

- 3.2.1. Перелік українських CRM систем для товарного бізнесу: [Електрон. ресурс]. URL: <https://www.voiptime.net/uk/crm-rating-ua.html>
- 3.2.2. Microsoft Project: [Електрон. ресурс]. URL: <https://www.microsoft.com/uk-ua/microsoft-365/project/project-management-software>
- 3.2.3. Power BI Desktop [Електрон. ресурс]. URL: <https://www.microsoft.com/uk-UA/download/details.aspx?id=45331>
- 3.3.4. Топ 9 кращих CRM систем для України: [Електрон. ресурс]. URL: <https://seoukraine.com.ua/top-9-naikrashchykh-crm-system-v-ukraini/>

4. RATING SYSTEM OF KNOWLEDGE AND SKILLS ASSESSMENT.

4.1. Grading of different kinds of academic activities performed by a student and obtained knowledge and skills are realized in values in line with Table 4.1.

Table 4.1

Kind of Academic Work	Maximum Grade Values	
	Full-time	Extramural
	Module № 1	
	2 semester	1 semester
Carrying out tasks on practicals	10 points × 2 = 20	-
Carrying out test tasks	10 points × 1 = 10	-
<i>For admission to complete module test № 1, a student must receive not less than</i>	<i>18 points</i>	-
Carrying out Module Test № 1	10	-
Total by the Module № 1	40	0
Kind of Academic Work	Maximum Grade Values	
	Full-time	Extramural
	Module № 2	
	2 semester	
Carrying out tasks on practicals	5 points × 4 = 20	15 points × 2 = 30
Carrying out test tasks	-	20 points × 1 = 20
Carrying out the Home control work (extramural form of study)	10	30
<i>For admission to complete module test № 2, a student must receive not less than</i>	<i>18 points</i>	-
Carrying out Module Test № 2	10	-



Kind of Academic Work	Maximum Grade Values	
	Full-time	Extramural
	Module № 1	
	2 semester	1 semester
Total by the Module № 2	40	80
Semester examination	20	20
Total by the subject	100	100

4.2. Completed types of educational work are credited to the student if he received a positive rating for them (Appendix 1).

The credit rating is determined (in points and on a national scale) based on the results of all types of educational work during the year.

4.3. The sum of grades received by the student for certain types of completed educational work is the Current Module Grade, which is entered into the Module Register.

4.4. The sum of the current modular and control ratings is the final modular rating assessment, which is converted into a score on the national scale and the ECTS scale (Appendix 2).

4.5. The examination rating assessment consists of points based on the results of the examination tasks approved by the department in the prescribed manner.

The sum of the final semester modular and examination ratings, in points, is the final semester rating, which is converted into assessments on the national scale and the ECTS scale.

4.5. The Total Semester Grade is entered into the Examination Register, educational cards and into a student's record book in values, National Scale grades, and ECTS Scale grades, for example: *92/Excellent/A, 87/Good/B, 79/Good/C, 68/Sat./D, 65/Sat./E*, etc.

4.6. The Total Grade is equaled the Total Semester Grade. The Total Semester Grade is entered into the Diploma Supplement.



(Ф 03.02-01)

АРКУШ ПОШИРЕННЯ ДОКУМЕНТА

№ прим.	Куди передано (підрозділ)	Дата видачі	П.І.Б. отримувача	Підпис отримувача	Примітки
	УМССАО	04.02.23	Шалікіна Т.У		

(Ф 03.02-02)

АРКУШ ОЗНАЙОМЛЕННЯ З ДОКУМЕНТОМ

№ пор.	Прізвище ім'я по-батькові	Підпис ознайомленої особи	Дата ознайомлення	Примітки

(Ф 03.02-04)

АРКУШ РЕЄСТРАЦІЇ РЕВІЗІЇ

№ пор.	Прізвище ім'я по-батькові	Дата ревізії	Підпис	Висновок щодо адекватності

(Ф 03.02-03)

АРКУШ ОБЛІКУ ЗМІН

№ зміни	№ листа (сторінки)				Підпис особи, яка внесла зміну	Дата внесення зміни	Дата введення зміни
	Зміненого	Заміненого	Нового	Анульованого			

(Ф 03.02-32)

УЗГОДЖЕННЯ ЗМІН

	Підпис	Ініціали, прізвище	Посада	Дата
Розробник				
Узгоджено				
Узгоджено				
Узгоджено				