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MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY
Faculty of Transport, Management and Logistics
Logistics Department

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«24» 11 2022

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«14» 12 2022

Quality Management System

COURSE TRAINING PROGRAM
on
"Electronic Logistics"

Educational Professional Program: "Logistics"
Field of study: 07 "Management and Administration"
Specialty: 073 "Management"

Mode of study	Semester	Total (hours/ ECTS credits)	Lectures	Laboratory Classes	Self-study	HW/ CGP/ C	TP/ CPr	Form of semester control
Full-time	7	120/4.0	17	34	69	-	-	Graded Test – 7 s.

Index: CB-7-073-3/21-3.11 CB-073-3/21-fs-3.11

QMS NAU CTP 19.05–01–2022

The Course Training Program on "Electronic Logistics" is developed on the basis of the Educational Professional Program "Logistics", Bachelor Curriculums № CB-7-073-3/21, CB-073-3/21-fs and Bachelor Extended Curriculums № ECB-073-3/22, № ECB-073-3/22-fs for Specialty 073 «Management», and corresponding normative documents.

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«12» 12 2022

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INTRODUCTION

Course Training Program on "Electronic Logistics" is developed based on the "Methodical guidance for the subject Course Training Program", approved by the order № 249/од, of 29.04.2021 and corresponding normative documents.

1. EXPLANATORY NOTES

1.1. Place, objectives, tasks of the subject

The place of this subject is to form a profile of a specialist in the field of logistics by mastering the theoretical and practical basis of a set of knowledge and skills.

The aim of the subject is the formation of students' knowledge and skills in the study of theoretical and methodological aspects of ensuring the logistics process in the electronic environment; mastering methods of organization and management of information flows in logistics systems; study of the basics of the operation of logistics systems and modern information and communication technologies in logistics.

The tasks of studying the subject are:

– Internet technologies applying during the providing of logistics services;
– planning, organization and control of logistics processes in the electronic environment;
– designing logistic information flows in an electronic environment;
– global identification standards applying in logistics;
– EDI implementation and applying in logistics activities;
– applying e-commerce in logistics activities;
– applying the legal basis of electronic logistics;
– tracking consumer behavior in the electronic environment;
– electronic logistics service planning;
– design of activities of PL-providers in the electronic environment.

1.2. Learning outcomes the subject makes it possible to achieve

As a result of the study of the subject, the student must achieve the following **learning outcomes**:

– the ability to apply Internet technologies in logistics activities;
– the ability to design logistic information flows in an electronic environment;
– the ability to investigate logistics information flows;
– the ability to applyelectronic document management;
– the ability to apply global identification standards in logistics;
– the ability to implement and apply EDI;
– the ability to apply e-commerce in logistics activities;
– the ability to design, organize and control logistics processes of e-commerce enterprises;

– the ability to apply transportation booking systems;
– the ability to build the activities of a logistics company in an electronic environment, taking into account legal requirements;
– the ability to prepare documents for conducting electronic tenders;
– the ability to plan, implement and control electronic logistics service;
– the ability to track consumer behavior in the electronic environment.;

1.3. Competences the subject makes it possible to acquire

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

– the ability to solve complex specialized tasks and practical problems, which are characterized by complexity and uncertainty of conditions, in the field of management or in the learning process, which involves the application of theories and methods of social and behavioral sciences;
– the development of critical thinking, analysis and synthesis;
– the application of acquired knowledge and skills in real life;
– the problem solving and experience in conducting logistic analysis of products at all stages of its life cycle;
– to apply modern computer, mobile, and digital technologies to monitor the movement of logistics flows, audit and control logistics activities, and optimize logistics processes in real time;
– to organize effective sales of logistics services, determine the policy and standards of logistics customer service, evaluate the quality of services and optimize customer service levels.

1.4. Interdisciplinary connections

Interdisciplinary connections: “Electronic Logistics” is based on the knowledge of subjects: “Basics of Logistics and Supply Chain Management”, “Mathematical Methods in Logistics”, “Commodity Knowledge in Logistics”, “Logistics of Supply, Production and Distribution”, “Warehouse Logistics and Inventory Management”and provides basic knowledge of subjects: “Transport logistics”, “Logistics Activity Planning” and others.

2. COURSE TRAINING PROGRAM ON THE SUBJECT

2.1. The subject content

Training material is structured according to the module principle and consists of one educational module:

– **Module 1 “Local and global e-logistics solutions”,** which is logical, completed, relatively independent, integral part of Bachelor Curriculum and Bachelor Extended Curriculum, learning of which provides module test and analysis of its performance.

2.2. Modular structuring and integrated requirements for each module

Module 1 Local and global e-logistics solutions

Integrated requirements to the module 1:

Know:

– peculiarities of logistics activities in the electronic environment;
– the role and place of Internet technologies in logistics activities;
– types of electronic information resources in logistics;
– features and options for the interaction of information flows in the electronic environment;
– methods of researching logistic information flows;
– features of electronic document flow;
– global identification standards in logistics;
– modern business models in electronic logistics;
– transportation booking systems;
– legal aspects of electronic logistics;
– methods of finding suppliers via the Internet;
– international and local transportation booking and tracking systems;
– tools of electronic marketplaces, principles of margin trading;
– rules for electronic bidding;
– advantages of electronic marketplaces and trades;
– principles of conducting Internet trade;
– technology of electronic logistics service.

Learning outcomes:

– to apply Internet technologies in logistics activities;
– to design logistic information flows in an electronic environment;
– to investigate logistics information flows;
– to apply electronic document management;
– to apply global identification standards in logistics;
– to implement and apply EDI;
– to apply e-commerce in logistics activities;
– to design, organize and control logistics processes of e-commerce enterprises;
– to apply transportation booking systems;
– to build the activities of a logistics company in an electronic environment, taking into account legal requirements;
– to prepare documents for conducting electronic tenders;
– toplan, implement and control electronic logistics service;
– to track consumer behavior in the electronic environment.

Topic 1. Opportunities of the electronic environment for logistics.

Peculiarities of logistic activities in the electronic environment. Development stages of E-logistics. Characteristics and classification of the electronic environment (Internet and Intranet networks). Types of electronic information resources in logistics. Electronic information flows. Scheme of integration of information flows based on Internet-Intranet technologies in logistics, IoT (Internet / Intranet of things). Legal aspects of e-logistics. The applying of "cloud" technologies in logistics. Industrial espionage in the electronic environment and methods of combating it. Authentication and biometric control.

Topic 2. Business models in electronic logistics.

Different types of business models and their characteristics: B2B (Business to Business), B2C (Business to Customer), B2G (Business to Government), B2E (Business to Employee), C2B (Customer to Business), C2C (Customer to Customer), C2G (Customer to Government), G2B (Government to Business), G2C (Government to Customer), G2G (Government to Government), E2E (Employee to Employee), E2B (Employee to Business), E2C (Employee to Customer). Principles of construction, implementation and control of logistics processes for the listed business models.

Topic 3. Mobile Internet and WAP technologies in logistics. E-procurement.

Development of WAP technologies. WAP resources. Mobile communications and monitoring systems. Software. Mobile business. Mobile solutions for logistics. Mobile warehouse. Booking and control of orders. Reporting. Mobile office. Solutions related to the use of inexpensive sensors for measuring logistics dimensions, additional visual inspection and monitoring the condition of workers for safety purposes.

Search for suppliers via the Internet. Electronic catalogs. Electronic procurement. Electronic autions, exchanges and tenders. Electronic logistics tender sites. Preparation of e-documentation for participation in e-tendering. Procedure for conducting e-tenders. Electronic contracts.

Topic 4. Electronic systems for booking and sale transportation.

International and local booking systems (road, rail, air and water transport). Booking systems for air, rail, sea and car passenger transportation. Electronic freight. Electronic transport portals and their use in the organization of transportation: corporate reservation and cargo tracking systems. Electronic calculator of the cost of transportation.

Topic 5. Logistics of e-commerce and service in an electronic environment.

Internet trade. Trends in the development of electronic commerce. Online stores and their classification. The value of logistics for an online store. Designing delivery channels and supply chains in e-commerce. Organization of delivery of

goods and their storage. Reverse flow logistics. Interaction of the online store with courier services, delivery services and logistics companies.

Electronic services: advertising, interactive consulting service, help system for customers, registration of regular customers and partners, self-order system, etc. Technology of electronic logistics service. Tracking consumer behavior in the electronic environment. CRM system.

Topic 6. Electronic document management. Electronic data interchange.

Technology of electronic document circulation, legal component. Implementation of electronic document flow and its use in organizing transportation, carrying out customs procedures, and monitoring cargo flows.

The role of GS1 in logistics, the applying of GS1 codes. Global Data Synchronization Network. The main advantages of EDI. Implementation of EDI. The applying of EDI standards in the organization of transportation, carrying out customs procedures, and monitoring cargo flows.

Topic 7. Global standards of identification and their applying in the electronic environment.

Material flow identification standards GTIN (Global Trade Item Number) and GLN (Global Location Number) in supply chains. Tools for the unique identification of the logistics unit SSCC (Serial Shipping Container Code) and the logistics label GS1. Global asset use identifiers: GS1 Identification Keys for Asset Identification. Global Shipment Identification Number (GSIN) and Global Identification Number for Consignment (GINC).

Topic 8. Innovative technological trends in logistics.

Blockchain and logistics: Blockchain as a technology for the field of logistics. Modern shortcomings, problems, advantages and prospects of implementation of blockchain technology. IT solutions for international multimodal logistics, current state and prospects for development.

3D Printing: Content of this technology. Key features of development, prospects for implementation and consequences of using 3D Printing.

The use of artificial intelligence in logistics: automation and continuous improvement of calculations. Current state and development prospects.

Big Data Analytics as a basis for optimizing the use of resources, improving customer service, reducing risk and creating new logistics business models.

Bionic enhancement technology as a basis for minimizing health and safety risks in the supply chain.

2.3. Training schedule of the subject

№	Topic (thematic section)	Total, hour			
		Total	Lectures	Laboratory Classes	Self-study
1	2	3	4	5	6
Module 1 “Local and global e-logistics solutions”					
7 semester					
1	Opportunities of the electronic environment for logistics	14	2	2 2	8
2	Business models in electronic logistics	14	2	2 2	8
3	Mobile Internet and WAP technologies in logistics. E-procurement	14	2	2 2	8
4	Electronic systems for booking and sale transportation	14	2	2 2	8
5	Logistics of e-commerce and service in an electronic environment	15	2	2 2	9
6	Electronic document management. Electronic data interchange	12	2	2 2	6
7	Global standards of identification and their applying in the electronic environment	18	2 2	2 2	10
8	Innovative technological trends in logistics	14	1	2 2	9
9	Module Test №1	5	-	2	3
Total by the module №1		**120**	**17**	**34**	**69**
Total by the subject		**120**	**17**	**34**	**69**

3. BASIC CONSEPTS OF GUIDANCE ON THE SUBJECT

3.1. Teaching methods

The following teaching techniques are used in the study of the subject: work in small groups, seminar-discussion, brainstorming, case, presentation, business game, used to enhance the educational and cognitive activities of students during the study of this subject.

The implementation of these methods is carried out during lectures, demonstrations, independent problem solving, work with educational literature, analysis and solution of problems on the subject of the subject.

3.2. List of references (basic and additional)

Basic literature:

3.2.1. Yingli Wang, Stephen Pettit. (2021) E-Logistics: Managing Digital Supply Chains for Competitive Advantage. Kogan Page Publishers. 296 p.

3.2.2. Ding, Feng (2018) Developing E-commerce logistics in cross-border relation. Universitätsverlag der TU Berlin. 201 p.

3.2.3. Yingli Wang, Stephen Pettit (2016) E-Logistics: Managing Your Digital Supply Chains for Competitive Advantage [Text]. London, Philadelphia: Kogan Page. 536 p.

Additional literature:

3.2.4. Erceg, A., & Damoska-Sekulowska, J. (2019). E-logistics and e-SCM: how to increase competitiveness. LogForum, 15(1).

3.2.5. Rahman, M. L., Putra, E. F. S., Sensuse, D. I., & Suryono, R. R. (2021, October). A Review of E-Logistics Model From Consumer Satisfaction and Information Technology Perspective. In 2021 2nd International Conference on ICT for Rural Development (IC-ICTRuDev) (pp. 1-6). IEEE.

3.2.6. Chen, S., Meng, Q., & Choi, T. M. (2022). Transportation research Part E-logistics and transportation review: 25 years in retrospect. Transportation Research Part E: Logistics and Transportation Review, 161, 102709.

3.2.7. Qurtubi, Q., Janari, D., & Febrianti, M. A. (2021). The Development of Research on e-Logistics. Studies of Applied Economics, 39(4).

3.3. Internet Information Resources

3.3.1. Supply Chain Digest [Electronic resource] – Access mode: http://scdigest.com/.

3.3.2. Council of Supply Chain Management Professional [Electronic resource] – Access mode: https://cscmp.org/.

3.3.3. Supply Chain Brain [Electronic resource] – Access mode: https://www.supplychainbrain.com/.

3.3.4. Welcome to GS1. The Global Language of Business [Electronic resource]. – Access mode: www.gs1.org.

4. RATING SYSTEM OF KNOWLEDGE AND SKILLS ASSESSMENT

4.1. Assessment of certain kinds of student academic activities is carried out in accordance with table 4.1.

4.2. A student gets a credit for the completed assignment if the student's performance has been assessed positively.

4.3. The total of Grades for individual academic activities completed by a student constitutes a Current Semester Module Grade, which is entered into the Module Control Register.

4.4. The Graded Test Grade is converted into a grade on the national scale and the ECTS scale.

Table 4.1

Kind of academic activities	**Max grade** **Full-Time Study** **7 semester**
Module 1 Local and global e-logistics solutions	
Carrying out tasks on Laboratory Classes	80 (summary)
For carrying out module test 1, a student must receive not less than	*48*
Carrying out Module Test 1	**20**
Total by the module 1	**100**
Total by the subject	**100**

The Graded Test Grade *is determined (in grades and on a national scale) based on the results of all kinds of academic activities during the semester.*

4.5. The Graded Test Grade is entered in an Examination Register, a student's record book and academic card, e.g.: ***92/Ex/A, 87/Good/B, 79/Good/C, 68/Sat/D, 65/Sat./E***, etc.

4.6. The Total Grade on the subject corresponds to the Graded Test Grade.

The Total Grade on the subject is entered into Diploma Supplement.

(Ф 03.02 – 01)

АРКУШ ПОШИРЕННЯ ДОКУМЕНТА

№ прим.	Куди передано (підрозділ)	Дата видачі	П.І.Б. отримувача	Підпис отримувача	Примітки

(Ф 03.02 – 02)

АРКУШ ОЗНАЙОМЛЕННЯ З ДОКУМЕНТОМ

№ пор.	Прізвище ім'я по-батькові	Підпис ознайомленої особи	Дата ознайом-лення	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	Дата внесення зміни	Дата введення зміни
	Зміненого	Заміненого	Нового	Анульо-ваного			

(Ф 03.02 – 32)

УЗГОДЖЕННЯ ЗМІН

	Підпис	Ініціали, прізвище	Посада	Дата
Розробник				
Узгоджено				
Узгоджено				
Узгоджено				