

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ХАРКІВСЬКИЙ НАЦІОНАЛЬНИЙ ЕКОНОМІЧНИЙ УНІВЕРСИТЕТ
ІМЕНІ СЕМЕНА КУЗНЕЦЯ

ЗАТВЕРДЖЕНО

на засіданні кафедри
менеджменту, логістики та інновацій
Протокол №2 від 31.08.2023 р.

ПОГОДЖЕНО

Проректор з навчально-методичної роботи

Каріна НЕМАШКАЛО




ЛОГІСТИКА

робоча програма навчальної дисципліни (РПНД)

Галузь знань **07 "Управління та адміністрування"**
Спеціальність **073 "Менеджмент"**
Освітній рівень **перший (бакалаврський)**
Освітня програма **"Логістика"**

Статус дисципліни **обов'язкова**
Мова викладання, навчання та оцінювання **англійська**

Розробник:  **Тетяна КОЛОДІЗЄВА**
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Гарант програми  **Тетяна КОЛОДІЗЄВА**

**Харків
2023**

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS**

APPROVED

at the meeting of the department
management, logistics and innovation
Protocol № 2 of 31.08.2023.

AGREED

Vice-rector for educational and methodical work



LOGISTICS

Program of the course

Field of knowledge **07 "Management and administration"**
Specialty **073 "Management"**
Study cycle **first (bachelor)**
Study programme **"Logistics"**

Course status **mandatory**
Language **English**

Developer:
PhD (Economics),
Associate Professor

Tetiana KOLODIZIEVA

Head of
Management, Logistics and
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Tetiana KOLODIZIEVA

**Kharkiv
2023**

INTRODUCTION

Logistics is a key to modern economy. Almost every organization faces the problem of getting the right materials to the right place at the right time. Increasingly competitive markets are making it imperative to manage logistics systems more and more effectively.

The purpose of the course is: formation of modern theoretical knowledge and practical skills for using principles and techniques of logistics in the general system of management of the company.

To achieve the goal set there are the following objectives:

acquisition of deep theoretical knowledge on concepts, strategies and tactics of logistics;

mastering of the methodological tools of development and implementation of the tasks of logistics;

mastering the skills of logistics thinking and developing proposals for improving logistics systems and their operation;

learning the characteristics of formation and developing knowledge of the enterprise personnel in the logistics flow management;

acquisition skills assessing the economic impact of the logistics solutions implementation.

The subject of the course "Logistics" is the general patterns of development of logistics systems, characteristics and trends in management and optimization of material flow.

The object of the course is the planning, control and management of transportation, warehousing, storage and other operations, inventory logistics, streamlining of commodity circulation, the economic efficiency of logistics.

The learning outcomes and competence formed by the course are defined in the table. 1.

Table 1

Learning outcomes and competences formed by the course

Learning outcomes	Competences that must be mastered by a student of higher education
LO 3	SC4
LO 5	SC1, SC3
LO 7	SC2, SC4
LO 10	SC4
LO 18	GC5, SC2, SC16
LO 19	SC2, SC16, SC17
LO 22	SC20

where, GC 5. Knowledge and understanding of the subject area and understanding of professional activity.

SC 1. Ability to identify and describe organizational characteristics.

SC 2. The ability to analyze the results of the organization's activities, to compare them with the factors of influence of the external and internal environment.

SC 3. The ability to determine the prospects of the organization's development.

SC 4. The ability to determine the functional areas of the organization and the connections between them.

SC 16. The ability to form a comprehensive program to increase the company's competitiveness on the national and international markets from the point of view of logistics as a new paradigm of entrepreneurial activity.

SC17. The ability to carry out organizational, technological, technical and information support of the basic functions of logistics. The ability to manage the logistics activities of enterprises in the areas of production, stocks, warehousing, procurement, sales, transportation and cargo processing.

SC20. The ability to effectively analyze and integrate the logistics concept into international activity, to analyze the conceptual foundations and define the main categories of international logistics, to apply the optimization factor in the delivery of goods in international communication. The ability to choose the optimal mode of transport in international communication, to make effective decisions in the process of international logistics activity .

LO 3. Demonstrate knowledge of theories, methods and functions of management, modern concepts of leadership.

LO 5. Describe the content of the functional areas of the organization.

LO 7. Demonstrate organizational design skills.

LO 10. Have the skills to justify effective tools for motivating the organization's personnel.

LO 18. Use the principles and methods of logistics in the general management system of the enterprise to reduce costs and optimize logistics flows and processes of organizations.

LO 19. To apply a logistic approach to resource management of organizations and to ensure an increase in their competitiveness. Demonstrate skills in optimizing the organizational and technological aspects of the main functions of logistics using communication and information support.

LO 22. The ability to apply the optimization factor in the delivery of goods in international communication, to choose the optimal mode of transport in international communication. Analyze international agreements, analyze risks in international logistics.

COURSE CONTENT

Content module 1. Conceptual principles of logistics

Topic 1. Logistics – an instrument of the market economy

The concept, essence and tasks of logistics. Preconditions, causes and stages of the logistics development. The modern definition of logistics as a science of management of flow processes. Basic concepts of logistics. Levels of formation of logistics. Comparative analysis of traditional and logistic concepts of management of an enterprise. The experience of foreign countries in the application of logistics. Logistics as a factor of improving competitiveness of an enterprise.

Topic 2. The concept and methodology of the integrated logistics

The principles of modern logistics concepts. The basic characteristics of the

concept of logistics. The basic rules of logistics. Framework for the integration of logistics. Integration of internal and external material flow. The system approach as a methodological base of logistics. Logistics as a sphere of competence, which connects the company with its customers and suppliers and contributes to increasing competitiveness.

Logistics systems and principles of their formation. The properties of the logistics systems. Classification of logistic systems. Links of logistics systems. Logistics network.

Topic 3. The objects of the logistics management and logistics operations

Objects of logistics management and logistics activities. Characteristics of flow processes in logistics. The concept of material flow and the parameters that characterize it. Classification of material flow. Information flows and their classification. Financial flows and their classification. Service flows and their characteristics. General schemes of interaction of flows. Logistics operations with material, information, financial and service flows. Criteria for optimal control of flows. Integrated logistics flows.

Topic 4. Logistics activity and logistics functions

Logistic processes and logistics activities. Key logistics activities: customer service, forecasting, inventory management, material handling, logistics communications, order processing, packaging, procurement. Parts and service support, plant and warehouse site selection, transportation, warehousing and storage, reverse logistics. Organizing logistics activities.

The basic logistics functions and their allocation between various participants of the logistic process. Infrastructure of logistic processes.

Topic 5. Logistics management in the general management

Definition and role of logistics management. Logistics mission and logistics environment of the firm. Types of decisions. The relationship between mission, corporate strategy and logistics strategy. Types of logistics strategies. Logistics and strategic planning. The essence and components of strategic plan. Developing strategic logistics plan. Tools of strategic decision

making. The concept of a supply chain. Connectivity of logistics with the main functional areas of business. Types of the organizational structures of logistics management.

Content module 2. Functional-basic division of logistics

Topic 6. Logistics approach to management of material flows in manufacturing

The traditional and logistics concepts of production. Goals, objectives and functions of production logistics. Intra-manufacturing logistics systems: their characteristics and comparative analysis. Push and pull systems of material flows management in production logistics. Organizing supply of material resources and inventory management in micro-manufacturing logistics systems.

Topic 7. Logistics approach to management of material flows in circulation

Organizing distribution of materials and finished products. Distribution, the main functions. Logistics channels and logistics chains. The internal structure and functioning of distribution channels. Choice of distribution channels. Types and features of the distribution channels. Logistics intermediaries in the distribution, their classification and function. Designing distribution systems. Systems of planning of the material resources in the distribution channels.

Topic 8. Logistics approach to customer service

The concept of logistics services. Provision of customer services as a means of improving the competitiveness of participants of logistic system. Classification of service. Developing a policy for customer service. The technology of work with clients. Technological scheme of the order processing. Indicators of a customer service level and methods of their evaluation. Modeling and optimization of customer service level. The opportunities for improving a customer service performance.

Topic 9. Warehouse and transportation in logistics

The role of warehouses in the production and distribution of the products. Modern trends of the warehouse network. Warehouse as an integrated part in the logistics chain. Types and functions of warehouses in the logistics system. The main problems of warehousing of material resources in the logistics. The choice between private and public warehouses. Warehousing operations. Determination of the number and location of the warehouse networks. The choice of storage. Providing the unity of the storage and transportation processes. Transport modes and their characteristics. Logistics estimation of transport. Transportation costs and tariffs, the order of their application.

Topic 10. Economic support of logistics

The structure and scope of logistics costs. The impact of logistics costs in the market value of the products. Increased efficiency of the products and services through the management of logistics costs. The concept of minimizing total costs. Logistics as the factor of improving financial sustainability and competitiveness of an enterprise.

The list of practical and laboratory studies in the course is given in table. 2

Table 2

The list of practical and laboratory studies

Name of the topic and / or task	Content
Topic 1.	Laboratory study: Economic conditioning of the logistics activity of the

	enterprise
Topic 2.	Laboratory study: Differentiation of the range of stocks by the ABC analysis method
Topic 3.	Practical study: Determining the optimal order size.
Topic 4.	Practical study: Selection of suppliers
Topic 5.	Practical (Seminar) study: Logistics management in the general management system
Topic 6.	Laboratory study: Planning of material needs in the MRP-1 system
Topic 7.	Practical study: Determination of the boundaries of the sales market
Topic 8.	Practical study: Determination of the level of logistics service
Topic 9.	Laboratory study: Determination of the optimal variant of the storage system.
Topic 10.	Laboratory study: Determination of the optimal option for the delivery of goods by various modes of transport.

The list of self-studies in the course is given in the table. 3.

Table 3

List of self-studies

Name of the topic and / or task	Content
Topic 1 - 4	Study of lecture material, legislative and regulatory acts
Topic 1-10	Preparation for practical and laboratory lessons
Topic 1-10	Research work writing
Topic 1-10	Preparation for control works

The number of hours of lectures, practical and laboratory studies, and hours of self-studies is given in the technological card of the course.

TEACHING METHODS

In the process of teaching the course, in order to acquire certain learning outcomes, to activate the educational process, it is envisaged to use such teaching methods as:

Verbal: lecture (Topic 1-10), problem lectures (topic 2, 5), mini-lectures (Topic 1, 6).

Visual lectures (demonstration (Topic 1-10).

Practical/laboratory (Topic 1-10), research work (Topic 1-10).

FORMS AND METHODS OF ASSESSMENT

The University uses a 100-point cumulative system for assessing the learning outcomes of students.

Current control is carried out during lecture, practical and laboratory classes and is aimed at checking the level of readiness of a higher education applicant to

perform a specific job and is evaluated by the sum of points scored:

– for course with a form of semester control as an exam: the maximum amount is 60 points; minimum amount required is 35 points.

The final control includes the semester control and assessment of the student.

Semester control is carried out in the form of a semester exam (exam).

The maximum number of points that a student of higher education can receive during the examination (examination) is 40 points. The minimum amount for which the exam is considered passed is 25 points.

The final grade in the course is determined:

for disciplines with a form of exam, the final grade is the amount of all points received during the current control and the exam grade.

During the teaching of the course, the following control measures are used:

Current control: test surveys on lecture topics (10 points), written control work (30 points), research work (5 points), homework (15 points).

Semester control: Grading including Exam (40 points).

More detailed information about the assessment system is provided in the technological card of the course.

An example of an exam card paper and assessment criteria.

An example of an exam card

Simon Kuznets Kharkiv National University of Economics

First (bachelor) study cycle

"Management" specialty

Study programme "Logistics".

Course "Logistics"

EXAM CARD No. 1

Task 1 (test). (14 points)

1. An individual or a business concern, who is involved in the activities of buying goods for their account and then selling it off from their stock is known as:

- A) Broker
- B) Dealer
- C) Agent
- B) Distributor

2. What are the Functions of Transportation?

- A) Product Movement
- B) Product Storage
- C) Answers A) and B) are correct.
- D) There are no right answers

3. Which of the following is a benefit of using MRP?

- A) Better inventory planning and scheduling
- B) Changes may be completed using a variety of methods

- C) High tolerance for errors within the transaction information
 D) Higher inventory levels without increased holding costs
4. Number of levels of intermediaries (how many companies handle the product) is:
 A) Length of Supply Chain
 B) Width of Supply Chain
5. Formation of all types of support (infrastructure development) for the movement of flows in specific conditions. This principle of modern logistics concept is named:
 A) Specificity;
 B) Constructiveness;
 C) Reliability;
 D) Complexity.
6. What flows are of greatest interest for the logistics of the economic sphere?
 A) material, transport, energy;
 B) energy, money, information;
 C) material, information and financial;
 D) information, human, military.
7. The dimension of the material flow is a fraction, in the numerator of which the unit of measurement of the:
 A) time;
 B) cargo;
 C) distance;
 D) no right answers.

Task 1 (diagnostic). (10 points)

Limited Liability Company "Budstar" produces scraping machines; the annual demand for MB-3 components for scraping machines is 3600 pcs. The manufacturer of the MV-3 component sells it at a price of UAH 100 for a unit. The cost of submitting an order unit is 250 UAH. The logistics department knows that the cost of storing a component in a warehouse is 15% of its price. Taking into account these conditions, it is necessary to give recommendations for the purchase of this product and indicate which model or algorithm can be used to optimize the purchasing process in this situation.

Task 2 (heuristic). (16 points)

Calculate the parameters of the Fixed Period Inventory System, if the annual demand of the wholesale store "Radekhivbud" in cement is 24,000 tons, the number of working days per year - 226, the economic order quantity - 1900 tons, lead time - 10 days, possible delay of delivery - 2 days.

№	Indicator Values	Values
1	Demand in Cement per year, tons	
2	Time Between Orders, days	
3	Lead Time, days	
4	Possible Delivery Delay, days	
5	Demand Rate, tons /day.	
6	Lead Time Demand, tons	
7	Maximum Demand during Lead Time, tons	

8	Safety Stock, tons	
9	Maximum Inventory, tons	
10	Order Size, tons	

Approved at the meeting of the Department of management, logistics and innovation No. _____
dated "___" _____20___.

Examiner PhD of Economics, Assoc.prof. Tetiana KOLODIZIEVA

Chief of Department Prof. Olena IASTREMSKA

Evaluation criteria

The final marks for the exam consist of the sum of the marks for the completion of all tasks, rounded to a whole number according to the rules of mathematics.

The algorithm for solving each task includes separate stages that differ in complexity, time-consumingness, and importance for solving the task. Therefore, individual tasks and stages of their solution are evaluated separately from each other as follows:

Task 1 (test). (14 points)

For each correct test, if calculations are available - 2 points.

Task 2 (diagnostic). (10 points)

2 – calculation formulas are given;

3 – the size of the order is calculated ;

5 – conclusions and proposals for optimization of procurement logistics are made.

Task 3 (heuristic). (16 points)

5 – the algorithm of actions and necessary calculations is given;

5 – calculation the parameters is given;

6 – conclusions and proposals for optimization of the logistics solution are made. A graphical interpretation is provided .

RECOMMENDED LITERATURE

Main

1. Логістика : навч. посіб. для студентів галузі знань 0306 «Менеджмент і адміністрування» всіх форм навчання / К. В. Мельникова, Т. О. Колодізева, О. В. Авраменко та ін. / під заг. ред. О. М. Ястремської. — Х. : ХНЕУ ім. С. Кузнеця, 2015. — 307 с. Режим доступу: <http://repository.hneu.edu.ua/handle/123456789/12240>

2. Bowersox, D.J., 2013. Supply Chain Logistics Management / Bowersox, D.J., D.J. Closs, M.B. Cooper, and J.C. Bowersox. 4th ed. New York, NY: McGraw-Hill, 2013. – 678 p.

3. John J. Supply Chain Management: A Logistics Perspective/John J. Coyle Jr. Langley C. John Robert A. Novack Brian J. Gibson. – Cengage Learning 20, Channel Center Street Boston, MA02210 USA, 2016. – 639 p.

4. Kachru U. Logistics and Supply Chain Management /Upendra Kachru – Produced & Printed by Excel Books Private Limited A-45, Naraina, Phase-I, New Delhi-110028 for Lovely Professional University Phagwara, 2013. – 337 p.

Additional

5. Колодізева Т. О. Перспективи впровадження блокчейн-технології в транспортну логістику та управління ланцюгами поставок. Бізнес Інформ. 2023. №6. С. 184–190. [Electronic resource]. - Access mode: <http://repository.hneu.edu.ua/handle/123456789/30071>

6. Kolodzieva T. Assessment of logistics service quality based on the application of fuzzy methods modeling / T. Kolodzieva , E. Zhelezniakova , K. Melnykova et al. // Problems and Perspectives in Management. – 2022. – No. 20 (3). - P. 552-576. [Electronic resource]. - Access mode: <http://repository.hneu.edu.ua/handle/123456789/28191>

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8. Rushton, A. The handbook of logistics and distribution management: understanding the supply chain / Alan Rushton, Phil Croucher, Peter Baker. Revised edition of The handbook of logistics & distribution management, 5th ed., London , 2014. – 690 p.

Information resources

9. ULA Ukrainian Logistics Alliance [Electronic resource]. - Access mode: <http://ula-online.org/ua/>

10. ELA, the European Logistics Association [Electronic resource]. - Access mode: <http://www.elalog.eu/>

11. Site PNS, S. Kuznets KhNUE, discipline “Logistics”[Electronic resource]. - Access mode: <https://pns.hneu.edu.ua/course/view.php?id=8420>