

BUNIN YELETS STATE UNIVERSITY

**THE DISCIPLINE'S WORK PROGRAM**  
**B1.V.01.03 Production logistics**

**Course of study: 38.03.02 Management**

**Orientation (profile): Organization management and logistics**

**Qualification (degree): Bachelor's degree**

**Form of study: full-time**

**Institute: Economics, Management and service technologies**

**Department of Economics and Management named after N.G. Nechaev**

	<b>full-time form</b>	<b>full-time and part -time education</b>	<b>correspondence form</b>
<b>Course</b>	<b>2</b>		
<b>Semester/trimester</b>	<b>4</b>		

<b>Lectures</b>	<b>18</b>		
<b>Laboratory classes</b>	<b>2</b>		
<b>Practical (seminar) classes</b>			
<b>including practical training</b>	<b>36</b>		
<b>Interim assessment form(s)</b>	<b>2</b>		
<b>Control</b>			
<b>Other forms of work</b>	<b>Exam – 0,3 курсовой проект - 0,5</b>		
<b>Independent work</b>	<b>1</b>		
<b>Course</b>	<b>9</b>		
<b>Independent work</b>	<b>115,2</b>		

**Total hours: 180**

**Labor intensity: 5 credits.**

Developer of the work program:

Candidate of Economic Sciences, Associate Professor T.A. Kostenkova

## I. ORGANIZATIONAL AND METHODOLOGICAL SECTION

The purpose of studying the discipline: to study the basic principles and conditions for the construction and practical application of modern methods of effective organization and management of material flows of a production enterprise.

Objectives of the discipline study:

- study of tasks, principles, methods and tools of production logistics;
- acquisition of basic knowledge on the management of production processes in the flow and non-flow forms of production organization;
- mastering the methods of planning and managing material flows in production.

The place of the discipline in the structure of the OPOP: it is implemented within the framework of the part formed by the participants of educational relations, block B1.Disciplines (modules).

### Planned learning outcomes in the discipline:

Competence code	Indicators of competence achievement	Planned learning outcomes by discipline
PCS -2	<b>To know:</b> <ul style="list-style-type: none"><li>– fundamentals of tactical and operational management of logistics processes;</li><li>– methods of developing organizational, technical, organizational, economic and financial documentation of a modern enterprise.</li></ul>	<b>Knows:</b> <ul style="list-style-type: none"><li>- tasks, principles and basic tools of production logistics.</li></ul>
	<b>Be able to:</b> <ul style="list-style-type: none"><li>– to carry out tactical and operational management of logistics processes;</li></ul> to apply modern technologies in the process of developing organizational, technical, organizational, economic and financial documentation of the enterprise.	<b>Can:</b> <ul style="list-style-type: none"><li>- to use methods and tools of production logistics in order to increase the efficiency of management of logistics systems.</li></ul>
	<b>Own:</b> <ul style="list-style-type: none"><li>– skills of tactical and operational management of logistics processes;</li></ul> ways of using modern technologies in the process of developing organizational, technical, organizational, economic and financial documentation of the enterprise.	<b>He is proficient in:</b> <ul style="list-style-type: none"><li>- methods of planning and managing production processes within the framework of the logistic approach.</li></ul>

## II. II. CONTENT AND SCOPE OF THE DISCIPLINE

indicating the number of hours allocated for students' contact work with a teacher (by type of training) and for independent work

## Full-time education

№ п/п	Naming of sections and topics	Total	Classroom classes			Independent work
			ЛК	ПЗ	ЛБ	
	<b>Section 1. Theoretical aspects of production logistics.</b>	<b>37</b>	<b>4</b>	<b>8</b>		<b>25</b>
1	Topic 1. Fundamentals of production logistics .	20	2	4		14
2	Topic 2. Logistics as a concept for the development of production systems.	17	2	4		11
	<b>Section 2. Applied aspects of production logistics.</b>	<b>132,2</b>	<b>14</b>	<b>28</b>		<b>90,2</b>
3	Topic 3. System foundations for improving the organization of production processes.	19	2	4		13
4	Topic 4. Laws of logistic organization of production processes.	19	2	4		13
5	Topic 5. Logistical organization of the non-flow production process in space.	19	2	4		13
6	Topic 6. Traditional and logistical organization of the production process in time .	19	2	4		13
7	Topic 7. Route system and integrated management systems in logistics production process management.	19	2	4		13
8	Topic 8. Situational management in production logistics.	19	2	4		13
9	Topic 9. Software implementation of the MRP II methodology.	18,2	2	4		12,2
	<i>Control</i>	<i>9</i>				
	<i>Exam</i>	<i>0,3</i>				
	<i>Total for the 4th semester</i>	<i>1</i>				
	including practical training	0,5				
	<b>total:</b>	<b>180</b>	<b>18</b>	<b>36</b>		<b>115,2</b>
	<i>Control</i>	<i>4</i>	<i>2</i>	<i>2</i>		

	<i>Exam</i>	<b>180</b>	<b>18</b>	<b>36</b>		<b>115,2</b>
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**Full-time and part-time education (not implemented)**

**Correspondence education (not implemented)**

### **III. EVALUATION MATERIALS FOR THE CURRENT AND INTERMEDIATE CERTIFICATION OF STUDENTS IN THE DISCIPLINE**

The current certification is carried out in the form of a test paper (in test form), an abstract.

#### **A typical version of the test**

1. The object of management in logistics management is the processes:
  - 1) economic;
  - 2) service
  - 3) production facilities;
  - 4) labor relations;
  - 5) Streaming.
2. Methods and tools for managing business processes related to the promotion of goods and related services on the way to the end user in logistics management are ...
  - 1) the subject of study;
  - 2) the object of study;
  - 3) management methodology;
  - 4) all of the above is true;
  - 5) There is no correct answer.
3. The main objective of logistics management is characterized by:
  - 1) logistics mix "7R";
  - 2) the "4P" marketing mix;
  - 3) the concept of 5C "Ordering";
  - 4) the concept of "lean manufacturing".
4. In-house transportation and warehousing belongs to the functional area:
  - 1) Commercial logistics;
  - 2) procurement logistics;
  - 3) production logistics;
  - 4) Distribution logistics.
5. The KANBAN system is:
  - 1) a system that provides operational management of financial problems;
  - 2) a system that provides planning for the procurement of material resources in the amount necessary to fulfill a future order;
  - 3) an information system that ensures the operational regulation of production and the organization of a continuous production flow, capable of rapid restructuring and not requiring insurance reserves;
  - 4) an information system that ensures the functioning of management;

- 5) There is no correct answer.
6. Identify among the above a function that is not performed in the MRP (Needs/Resources Planning) system:
  - 1) the main production plan
  - 2) forecast of market demand;
  - 3) Inventory database and material resources database;
  - 4) Financial planning;
  - 5) There is no correct answer.
7. The strategic layer of logistics administration includes:
  - 1) Cargo insurance;
  - 2) controlling logistics activities;
  - 3) Order management;
  - 4) Trade service;
  - 5) There is no correct answer.
8. Among those listed, there is a function that is not related to logistics:
  - 1) definition of the procurement method;
  - 2) formation of a favorable public opinion about the manufacturer of goods and services;
  - 3) Inventory management;
  - 4) determining the optimal size of the delivered batch of goods
  - 5) everything is true.
9. The "production stock" category includes:
  - 1) Truck spare wheel;
  - 2) Current and insurance stock;
  - 3) finished products on the way from the manufacturer/supplier to the consumer;
  - 4) finished products held by a wholesale intermediary in the distribution system.
10. Financial flows in logistics are understood as financial resources that provide:
  - 1) the increase in managers' salaries;
  - 2) the movement of material flows in time and space;
  - 3) execution of production plans;
  - 4) high profitability of deposits.
11. The competitive advantages of enterprises using the logistics approach include:
  - 1) release of a new product;
  - 2) Mechanization of cargo operations;
  - 3) Shorter delivery time;
  - 4) improving the quality of goods;
  - 5) Flexible delivery;
  - 6) there is no correct answer.
12. Among the above provisions of the logistics concept of the organization of production, there is an inappropriate:
  - 1) Abandoning excess inventory;
  - 2) avoiding excessive time for performing basic operations;
  - 3) manufacture of products for which there is no order;
  - 4) elimination of losses from marriage;
  - 5) elimination of irrational intra-factory transportation.

13. The stock rate is:

- 1) the maximum amount of material that must be used for the production of products;
- 2) the estimated minimum amount of material resources required for the production of products;
- 3) the net weight of the finished products;
- 4) the volume of reserves for the implementation of the annual production plan.

14. When determining the value of the current stock, two main indicators are used:

- 1) the load capacity of the vehicle and the transit rate of material resource supply from the supplier;
- 2) the delivery interval and the average daily consumption of the material resource;
- 3) the need for a material resource and the period during which the production of these products is planned;
- 4) the amount of cash in the safe of the director of the company and in the cash register of the enterprise.

15. Supporting logistical functions include:

- 1) warehousing, transportation, sales;
- 2) Packaging, service and supply;
- 3) information support, warehousing;
- 4) all of the above is true.

16. Lean Production conceptually implies exclusion:

- 1) Stocks, lunch breaks, waits and downtime;
- 2) all types of losses that occur in production;
- 3) exclusion of transportation within the framework of technological processes;
- 4) information support of production processes;
- 5) all of the above is true.

17. Insurance and circulating stocks are stored in warehouses:

- 1) Transshipment;
- 2) commission payments;
- 3) saving;
- 4) buffered;
- 5) all of the above is true.

18. The main functions of transport logistics include:

- 1) Warehousing;
- 2) Customs clearance;
- 3) cargo handling;
- 4) cargo transportation;
- 5) There is no correct answer.

19. The "push-out" system of the above includes:

- 1) KANBAN;
- 2) MRP II and JIT;
- 3) ERP and KANBAN;
- 4) MRP II and DRP II;
- 5) all of the above is true;
- 6) there is no correct answer.

20. For the first time, the KANBAN micrologistic system was used in a company:
- 1) Toyota Motor in 1972;
  - 2) General Motors in 1926;
  - 3) Cheboksary Aggregate Plant in 1971.;
  - 4) Ford, 1921
21. At the cargo terminal:
- 1) consolidation of cargo units with delivery addresses in one direction is carried out;
  - 2) transportation and storage operations for the conversion of cargo units are carried out;
  - 3) cargo is loaded onto the mainline transport;
  - 4) all of the above is true;
  - 5) There is no correct answer.
22. Transportation management software products provide solutions to the following logistics management tasks:
- 1) drawing up optimal transport routes;
  - 2) choosing the optimal fuel for vehicles;
  - 3) distribution of rolling stock;
  - 4) reducing the cost of transportation services.
23. Depending on the degree of mechanization and automation, warehouses are distinguished:
- 1) sorting rooms;
  - 2) automated;
  - 3) distribution centers;
  - 4) with manual recycling;
  - 5) all of the above is true;
  - 6) 2) and 3).
24. Liquid cargoes on railway transport, which are transported by wagons in plastic containers, belong to:
- 1) tarot-piece;
  - 2) bulk;
  - 3) bulk;
  - 4) liquid.
25. Note the type of warehouse incorrectly included in the above classification of warehouses, depending on the nature of cargo storage:
- 1) sorting rooms;
  - 2) transit;
  - 3) Seasonal;
  - 4) cumulative;
  - 5) Cyclical.

### **Approximate topics of the essays**

1. Logistics as a flow process management system
2. Logistics as a science of material flow management
3. The logistics system of the enterprise and the principles of its formation
4. Procurement management in the logistics system

5. Physical distribution and its organization in the logistics system
6. The relationship between marketing and logistics at the enterprise in modern conditions
7. Logistical support of the product lifecycle
8. Organization of material flows in the production and distribution system
9. Management of material flows in production
10. Order management in the logistics system
11. Warehousing in the logistics system
12. Organization of the cargo handling process in the warehouse
13. Packaging industry as an element of the logistics system
14. Transport as an element of the logistics system
15. Organization of cargo transportation by road
16. Organization of cargo delivery in the logistics system
17. Economics of freight transportation
18. Logistics service support system
19. Inventory management in the logistics system
20. Planning and estimation of the value of production stocks in the enterprise
21. Rationing and inventory management
22. Optimization of logistics costs of the enterprise
23. Price and tariff policy in the logistics system
24. Organization of logistics management at the enterprise
25. Information support of the logistics process

The intermediate certification of students is carried out in the form of a course project and an exam using the following assessment materials: sample topics of course projects, a list of exam questions.

### **Sample course project topics (4th semester full-time education)**

1. 1. The influence of the state of material and technical support on the efficiency of the production and economic activity of an industrial enterprise.
2. 2. Material supply of an industrial enterprise.
3. 3. Methodology and experience of metal consumption rationing in industrial production.
4. 4. Methodology for evaluating the effectiveness of the production logistics system.
5. 5. Methodology for calculating the company's need for material resources to carry out research and development work.
6. 6. Methodology for calculating the company's need for material resources for repair and maintenance needs.
7. 7. Methods of developing assortment supply plans at industrial enterprises.
8. 8. Directions for improving the management of material and technical support of the enterprise.
9. 9. Optimization of the value of current production, preparatory and insurance reserves of material resources at industrial enterprises.
10. 10. Optimization of the material flow of the production enterprise.
11. 11. Organizational forms of logistics management at industrial enterprises.

- 12.12. Organization of control over the process of material and technical support at enterprises.
- 13.13. Organization of the provision of material resources to the company's production units.
- 14.14. Organization of enterprise services for the preparation of material resources for production consumption.
- 15.15. The main directions of saving and rational use of fuel in industrial production.
- 16.16. The main ways to reduce logistical costs during the production process.
- 17.17. Planning, accounting and analysis of logistics costs of an industrial enterprise.
- 18.18. The procedure and methodology for determining the needs of an enterprise for material resources for the manufacture of spare parts.
- 19.19. The procedure and methodology for determining the needs of an enterprise for material resources for the production of finished products.
- 20.20. Direct long-term economic ties and their economic effectiveness.
- 21.21. Ways to improve the efficiency of logistics systems in industrial enterprises.
- 22.22. Improving the rationing of material consumption in industrial enterprises at the procurement and machining stages of the production process.
- 23.23. Feasibility study of the company's need for certain types of equipment.
- 24.24. "Pushing" logistics production management systems.
- 25.25. "Pulling" logistics production management systems.
- 26.26. Economic methods of logistics systems management in enterprises.

### **Exam questions (4th semester full-time education)**

1. The essence and basic concepts of production logistics.
2. The structure of the production process.
3. Types of movement of material resources in production.
4. Characteristics of production types. In-line and non-flow forms of organization of production processes.
5. Fundamentals of operational planning and management of material flows in production.
6. Calendar method of planning material needs (MRP I system standard).
7. Volumetric calendar planning method (standard of MRP II and ERP concepts).
8. Just-in-time (JIT) concept in comparison with RP standards.
9. Strategic management in production logistics.
10. Logistics as a science of improving the organization of production systems.
11. Conceptual provisions of logistics for the development of production systems.
12. The influence of the basic principles of production organization on increasing the organization of production processes.
13. Requirements for the logistical organization of production processes.
14. Indicators for improving the organization of the production process.
15. Logistical, system-wide principles of production organization.
16. Indicators for assessing the level of organization of the production process.

17. The law of orderly movement of objects of labor in production.
18. The law of continuity of the production process.
19. The law of the rhythm of the production cycle of order fulfillment.
20. The law of calendar synchronization of product manufacturing cycles and their parts.
21. The law of emergence and correspondence of the main and auxiliary production processes.
22. The law of resource reservation in production.
23. Organization of unidirectional production processes.
24. Analysis of constructive, technological, organizational and planning signs of grouping of objects of labor.
25. Optimization of the composition of the machine park of production sites.
26. The traditional organization of the production process in time.
27. Logistical organization of the production process in time.
28. Progressive elements of the operational production management system.
29. Functional and organizational construction of a route system for operational management of non-threaded production.
30. Integrated Enterprise Management System standards: MRP and MRP II.
31. Standards of the integrated enterprise management system: ERP and CSRP.
32. Management decision-making based on recognition of production situations.
33. Situational management in production logistics systems.
34. Application of recognition systems in production logistics systems.
35. Software implementation of the MRP II methodology: general characteristics; functionality of sales, production and procurement planning.
36. Software implementation of the MRP II methodology: regulatory and reference subsystem of operations management.
37. Programmatic implementation of the MRP II methodology: a mechanism for consolidated planning of sales, production and procurement.
38. Programmatic implementation of the MRP II methodology: preliminary planning of production (sales, purchases).
39. Programmatic implementation of the MRP II methodology: operational (shift) planning and operational production management.
40. Programmatic implementation of the MRP II methodology: operational procurement management.

#### **IV. THE LIST OF LITERATURE NECESSARY FOR MASTERING THE DISCIPLINE**

##### **4.1. Basic literature**

1. Anikin, B. A. Production logistics: theory and practice : textbook and practical course for universities / B. A. Anikin, R. V. Seryshev, V. A. Volochienko ; responsible lecturer B. A. Anikin. Moscow : Yurait Publishing House, 2023. 454 p. (Higher education). — ISBN 978-5-534-15849-6. — Text : electronic // Educational platform Yurayt [website]. — URL: <https://urait.ru/bcode/509874> (date of access: 04/19/2024).

2. Grigoriev, M. N. Logistics : a textbook for universities / M. N. Grigoriev, S. A. Uvarov. — 4th ed., ispr. and add. Moscow : Yurait Publishing House, 2023. 836 p. (Higher education). — ISBN 978-5-9916-2731-3. — Text : electronic // Yurayt educational platform [website]. — URL: <https://urait.ru/bcode/531356> (date of access: 04/19/2024).

#### 4.2. Additional literature

1. Grigoriev, M. N. Logistics. Advanced course. In 2 hours, Part 1 : textbook for universities / M. N. Grigoriev, A. P. Dolgov, S. A. Uvarov. — 4th ed., revised and add. Moscow : Yurait Publishing House, 2023. 472 p. (Higher education). — ISBN 978-5-534-02569-9. — Text : electronic // Educational platform Yurayt [website]. — URL: <https://urait.ru/bcode/512832> (date of access: 04/19/2024).

2. Grigoriev, M. N. Logistics. Advanced course. Part 2: textbook for universities / M. N. Grigoriev, A. P. Dolgov, S. A. Uvarov. — 4th ed., revised and add. Moscow : Yurait Publishing House, 2023. 341 p. (Higher education). — ISBN 978-5-534-02571-2. — Text : electronic // Yurayt educational platform [website]. — URL: <https://urait.ru/bcode/512833> (date of access: 04/19/2024).

### V. THE LIST OF RESOURCES OF THE INTERNET INFORMATION AND TELECOMMUNICATION NETWORK NECESSARY FOR MASTERING THE DISCIPLINE

№ III	Link to an information resource	The name of the development in electronic form	Availability
1.	<a href="http://www.logirus.ru/">http://www.logirus.ru/</a>	<b>Information portal "Logistics in Russia". It includes a dictionary of logistics terms, logistics news, books on logistics, transportation, and customs.</b>	Free access
2.	<a href="https://www.logistika-prim.ru/">https://www.logistika-prim.ru/</a>	<b>The website of the specialized scientific journal Logistika. Logistika magazine highlights current problems and experiences of optimal organization, management of material, as well as information, financial and service flows of resources, doing a lot of work on the selection of effective practices and solutions for logisticians.</b>	Free access

### VI. MODERN PROFESSIONAL DATABASES AND INFORMATION REFERENCE SYSTEMS

1.	<a href="http://www.biblioclub.ru">http://www.biblioclub.ru</a>	Electronic Library System (EBS) University Library Online	Registration via any university computer. In the future, unlimited individual access is provided from any point where Internet access is available.
2.	<a href="http://www.e.lanbook.com">http://www.e.lanbook.com</a>	The Electronic Library System (EBS) of the Lan Publishing House	Free access
3.	нэб.рф	National Electronic Library	Access is provided only within the framework of an organized electronic reading room from terminals installed on the territory. IGU Scientific Library (28 Kommunarov St.): reading room, room 305 b; YSU Electronic Information Center, room 406 a

## **VII. LICENSED AND FREELY DISTRIBUTED SOFTWARE**

The following licensed and freely distributed software is used in the implementation of the academic discipline:

- Microsoft Windows;
- Microsoft Office;
- LibreOffice, etc.

## **VIII. EQUIPMENT AND TECHNICAL TRAINING FACILITIES NECESSARY FOR THE IMPLEMENTATION OF THE EDUCATIONAL PROCESS IN THE DISCIPLINE**

Training sessions are held in classrooms equipped with specialized furniture, including stationary or portable technical training equipment (projector, screen, computer/laptop).

Independent work is carried out in classrooms equipped with computer technology with the ability to connect to the Internet and provide access to the electronic information and educational environment of the university.