Національний технічний університет України
«КИЇВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ
імені ІГОРЯ СІКОРСЬКОГО»

Department of
International Economics

Logistics in the organization of international transportation

Work program of the educational component (Syllabus)

Syllabus details	
Higher education level	**First (bachelor's)**
Branch of knowledge	**05 Social and behavioral sciences**
Specialty	**051 Economy**
Educational program	**International economics**
Discipline status	**Compulsory educational component**
Form of study	**Full-time**
Preparation year, semester	*4th year, first semester*
Discipline scope	120 hours; 4 credits
Semester control / control measures	*Credit, calculation work, modular work*
Schedule	*http://roz.kpi.ua/Schedules/*
Language	**English**
Course leader / teachers information	**Lecturer:**: *Doctor of science., Professor, Head of the Department of International Economics Serhii VOITKO, +3804420409103 s.voytko@kpi.ua* **Practical:** PhD, Associate Professor Olena KOROHODOVA, *+3804420409860* olena.korohodova@lll.kpi.ua
Course placement	**Google Drive cloud technology service in the Google Workspace for Education Fundamentals** https://campus.kpi.ua/

Syllabus program

1. Syllabus description, purpose, subject of study and learning outcomes

The discipline "Logistics in the organization of international transportation" is one of the professional disciplines that provides full training of students in the specialty 051 "Economics" according to the curriculum.

The purpose of the educational component "Logistics in the Organization of International Transportation" is to form future specialists in the international economy of modern economic-managerial and logical-mathematical thinking and a system of knowledge regarding the general laws of the development of transportation and logistics.

The subject of study of the educational component "Logistics in the organization of international transportation" is the need for transportation, supply, storage and logistical support of business activities.

Program learning outcomes:

- *competences: to form a clear and well-informed view of the essence of logistics and the peculiarities of managing logistics systems at the international level; determine the features of the modern market of local and international transportation, features of logistics systems, classification features of logistics services; acquire knowledge about the logistics system and the peculiarities of its functioning in the conditions of Industry 4.0; to put into practice the skills of planning local and international transportation, forming logistics chains and developing measures to increase the level of efficiency of logistics activities; analyze the functional types of logistics, study the interaction of logistics channels, choose forms of product promotion, develop optimal ways of linking systems; ensure the rational use of the material and technical base of production, transport and other components of the logistics infrastructure in the conditions of Industry 4.0 at the international level;*
- *knowledge: theoretical foundations of logistics systems management; general principles and patterns of integrated management of material, information, financial and other flows; principles of creation and operation of logistics systems, optimal management of international logistics processes; methods of identifying logistics costs and evaluating the level of efficiency of the logistics system; regulatory framework for managing logistics systems at the national and international levels;*
- *ability to: formalize, typify and categorize the system of logistics services; make rational use of the material and technical base of the company based on the use of the logistics system in Industry 4.0 in a global dimension; create optimal conditions for the functioning of international logistics systems; optimize flows in the main functional and integrated areas of logistics; create effective logistics chains for the movement of material flows on the basis of Industry 4.0; determine the logistics costs of the company and find ways to reduce them;*
- *skills: form logistical problems and choose methods of solving them; analyze the obtained results; carry out segmentation of suppliers and consumers of logistics services in view of the possibilities of using hardware, software products, the basics of*

Industry 4.0; form transport orders and optimize them; provide proposals for improving transport and material flows in the company on a global scale;

➔ *experience: practical skills in forming the conditions of tasks, solving simple transport tasks, analyzing completed transportation, supply, and delivery operations.*

2. Pre-requisites and post-requisites of the discipline (place in the structural and logical scheme of training according to the relevant educational program)

Prerequisites The discipline is based on the knowledge obtained during the study of the disciplines "Mathematics for economists" (SO 9), "Probability theory and mathematical statistics" (SO 10), "National economy" (PO 14), "Economic analysis of international business" (SO 16), as well as a basic level of English language proficiency not lower than A2.

Post-requisites. The discipline "Logistics in the organization of international transportation" is studied together with the educational component "Organization of production". The educational component ensures the mastery of program competencies and learning outcomes, which contributes to the successful completion of pre-diploma practice and the completion of a diploma thesis.

3. Syllabus content

Topic 1. Logistics in the organization of international transportation.

1.1. Concept, essence and terminology of logistics.

1.2. Prerequisites, causes and trends of international logistics development.

1.3. Features of the development of logistics in Industry 4.0.

Topic 2. Concept and methodological apparatus of logistics

2.1. Conceptual basis of logistics.

2.2. Methodological basis of logistics and features

2.3. Strategic and operational goals of logistics.

2.4. Logistics channels, chains, networks and links.

Topic 3. Objects of logistics management.

3.1. Research objects in logistics.

3.2. Classification of material flows.

3.3. Integrated logistics flows based on Industry 4.0.

3.4. Criteria for optimal flow management.

3.5. Objects of logistics management and logistics activities.

Topic 4. Logistics operations and flow management in international activity.

4.1. International logistics operations and functions with material and service flows.

4.2. International logistics operations and functions with information and financial flows.

4.3. Criteria for optimal management of integrated flows.

4.4. Logistics operations in Industry 4.0.

Topic 5. Concepts of logistics.

5.1. Evolution of logistics concepts.

5.2. The essence and features of the concepts.

5.3. The concept of integrated logistics in Industry 4.0.

Topic 6. Formation of the logistics system.

6.1. A systematic approach in logistics.

6.2. Concepts, properties, elements, types, classification of the logistics system.

6.3. Construction of logistics systems in Industry 4.0

6.4. Characteristics of functional branches of logistics

Topic 7. Procurement logistics.

7.1. Objects of logistics management in supply.

7.2. The essence of procurement logistics (supply logistics).

7.3. Functions and object of procurement logistics in Industry 4.0.

7.4. Indicators of the effectiveness of material and technical support.

Topic 8. Procurement logistics and placing orders.

8.1. Organization of the supply system of material resources in world practice

8.2. Logistics order cycle

8.3. Placing orders in Industry 4.0. ProZorro public procurement system

8.4. Factors affecting the effectiveness of purchasing activities

Topic 9. Logistics of material flows in the field of production.

9.1. Logistics concept of production organization

9.2. Purpose, tasks and functions and functional scope of international production logistics.

9.3. The effectiveness of the application of the logistic approach in the management of material flows in production.

Topic 10. Logistical approach to the management of material flows in the sphere of circulation.

10.1. A logistic approach to managing the distribution of materials and finished products.

10.2. Logistics international channels and logistics chains in the field of circulation.

10.3. The effectiveness of the application of the logistics approach of Industry 4.0 in the management of material flows in the sphere of circulation

Topic 11. Inventory management in the logistics system.

11.1. The place, role and functions of stocks in the logistics system.

11.2. Concepts, types and risks of keeping stocks.

11.3. Systems of optimal inventory management.

Topic 12. Warehouse in logistics.

12.1. The warehouse as part of the logistics chain.

12.2. Types and functions of warehouses in the logistics system.

12.3. Characteristics of warehouse operations.

12.4. Modern trends in the formation of the warehouse network of Industry 4.0 in a global dimension.

Topic 13. Transport logistics.

13.1. Purpose, tasks and functions of transport logistics.

13.2. Types of transport and opportunities to use Industry 4.0

13.3. Effective organization of transportation of goods in the international economy.

13.4. Choosing the optimal carrier and method of transportation.

Topic 14. Integration of storage and transportation.

14.1. Ensuring the unity of the warehouse process with transport.

14.2. The role of containers and packaging in reducing logistics costs.

14.3. Characteristics of warehousing and stock placement systems in Industry 4.0.

14.4. Economic methods of state regulation of goods traffic.

Topic 15. Logistics in customer service.

15.1. Logistics principles of service.

15.2. Technological scheme of order processing.

15.3. Formation of the logistics service system in Industry 4.0.

15.4. Logistics service quality criteria.

Topic 16. Information logistics in Industry 4.0.

16.1. The essence and main tasks of information logistics.

16.2. The concept of information flow in Industry 4.0 logistics

16.3. Software for making and supporting logistic decisions.

16.4. Electronic commerce, virtual business and virtual enterprises.

Topic 17. Logistics of mediation in international business.

17.1. Mediation systems at the country level and at the international level

17.2. Logistics intermediaries in distribution.

17.3. Coordination and integration of actions of logistics intermediaries

17.4. Physical distribution (distribution) of goods in Industry 4.0.

Topic 18. The effectiveness of logistics and the use of logistics in international activities.

18.1. System analysis as the main method of justifying and making logistical decisions.

18.2. The impact of logistics on the profitability of assets will increase

18.3. Incoterms in international transportation

18.4. Forecasting the development of logistics systems in Industry 4.0.

4. Training materials and resources

Basic literature:

1. Voitko, S. V. Logistics in the Organization of International Transportation. Educational and methodological complex of the discipline [Electronic resource] : textbook for bachelors who study the specialty 051 "Economics", educational program "International Economics" / S. V. Voitko, O. O. Korohodova ; Igor Sikorsky Kyiv Polytechnic Institute. – Electronic text data (1 file: 565 Kb). – Kyiv : Igor Sikorsky Kyiv Polytechnic Institute, 2023. – 71 p. – Title from the screen. https://ela.kpi.ua/handle/123456789/55930

2. Global Logistics Network. Modelling and Policy. Quantification and Analysis for International Freight. Edited by Ryuichi Shibasaki, Hironori Kato, Cesar Ducruet. Elsevier. Published 2020. Publisher Elsevier. ISBN: 978-0-12-814060-4. 400 pages

3. Optimizing Community Infrastructure : Resilience in the Face of Shocks and Stresses. Ryan Colker. Published 2019. Publisher Elsevier. ISBN 978-0-12-816240-8. 310 pages.

4. Sustainable Transportation and Smart Logistics. Javier Faulin, Scott Grasman, Angel Juan, Patrick Hirsch. Published 2018. Publisher Elsevier. ISBN 978-0-12-814242-4. 424 pages.

Додаткова література:

1. Trofymenko, O., Voitko, S., & Naraievskyi, S. (2022). Development of Energy Supply Infrastructure Based on Industry 4.0 (on the Example of Ukraine and Turkey). Ekonomika, 101(2), 70-91.

2. Ahmadreza Zare, Olena Korohodova. The Influence of Vuca Concept and Industry 4.0 on Supply Chain Management in the Instrument Design and Engineering sphere. Zbirnyk prats XVII Vseukrainskoi naukovo-praktychnoi konferentsii studentiv, aspirantiv ta molodykh vchenykh “Efektyvnist ta avtomatyzatsiia inzhenernykh rishen u pryladobuduvanni”, 07-08 hrudnia 2021 r. K.: PBF, KPI im. Ihoria Sikorskoho. – 2021. – P. 340-342.

3. Voitko, S., & Yurchyshyn, O. (2021). Principles of implementation of innovative policy based on the development of regional hubs 4.0. innovative economy, 0(5-6), 31-35. doi:https://doi.org/10.37332/2309-1533.2021.5-6.4 69

4. Sgarbossa, F., Grosse, E. H., Neumann, W. P., Battini, D., & Glock, C. H. (2020). Human factors in production and logistics systems of the future. Annual Reviews in Control, 49, 295-305.

5. Tang, C. S., & Veelenturf, L. P. (2019). The strategic role of logistics in the industry 4.0 era. Transportation Research Part E: Logistics and Transportation Review, 129, 1-11.

6. Peter Hosie, Balan Sundarakani, Albert Wee Kwan Tan and Aleksandra Koźlak International Journal of Logistics Systems and Management 13(3):287 - 316 DOI:10.1504/IJLSM.2012.049700 URL: https://www.researchgate.net/publication/264438495_Determinants_of_fifth_party_logistics_5PL_Service_providers_for_supply_chain_management.

7. Abdul Majid Z., Farid Shamsudin M., Abdul Rahman N. A. Innovation in Logistics. Google. URL: https://proceedings.itltrisakti.ac.id/index.php/ATLR/article/download/196/227.

8. Reid H. What is the difference between 1PL, 2PL, 3PL, 4PL, and 5PL? | DCL Logistics. DCL Logistics. URL: https://dclcorp.com/blog/3pl/difference-between-1pl-2pl-3pl-4pl-5pl/.

9. Korohodova O., Lashyna Yu. Product development approaches in Industry 4.0 БІЗНЕС, ІННОВАЦІЇ, МЕНЕДЖМЕНТ: ПРОБЛЕМИ ТА ПЕРСПЕКТИВИ: зб. тез доп. III Міжнар. наук.-практ. конф., 08 груд. 2022 р. Київ : КПІ ім. Ігоря Сікорського, Вид-во «Політехніка», 2022. 289 с. С. 252-253. URL: https://www.researchgate.net/publication/366714522_PRODUCT_DEVELOPMENT_APPROACHES_IN_INDUSTRY_40

10. Didmanidze, I. Sh. Maritime transport logistics system / Didmanidze Ibraim Sh., Tsitskishvili Givi D., Kutshava Manana // Комп'ютерне моделювання і керування в техніці та технологіях КМКТТ-2021 : збірник наукових статей Дев'ятої міжнародної науково-практичної конференції, 70 Київ, 12-14 травня 2021 р. – Київ : КПІ ім. Ігоря Сікорського, 2021. – С. 70–72. – Бібліогр.: 2 назви.https://ela.kpi.ua/handle/123456789/41352

11. The Impact of Globalization on the Financial Sustainability and Logistics Infrastructure of Transition Economies / Olena Y. Tarasenko, Marta O. Derhaliuk, Nataliya V. Blaga, Ella M. Derkach, Viktoriia A. Budnyk // International Journal of Management (IJM). – 2020. – Volume 11, Issue 4. – P. 595-604. https://ela.kpi.ua/handle/123456789/48419

12. Using modified logistic regression to increase customer response rate to marketing campaigns / Y. V. Ivanova, O. N. Terentiev, L. O. Korshevnyuk, T. I. Prosyankina-Zharova // Системний аналіз та інформаційні технології : матеріали 18-ї Міжнародної науково-технічної конференції SAIT 2016, 30 травня–2 червня 2016 р., Київ. – Київ : НТУУ «КПІ», 2016. – С. 304-305. – Бібліогр.: 3 назви.https://ela.kpi.ua/handle/123456789/19599

13. Sattarov, T. M. Customer service chain management in the construction company / Sattarov T. M., Karpun O. V. // Міжнародна економіка: інтеграція науки та практики : збірник наукових праць / КПІ ім. Ігоря Сікорського, кафедра міжнародної економіки. – Київ : КПІ ім. Ігоря Сікорського, 2017. – Вип. 7. – С. 52-57. – Бібліогр.: 10 назв. https://ela.kpi.ua/handle/123456789/23879

14. Milovan Kovač, Snežana Tadić, Mladen Krstić, Violeta Roso. THE ROLE OF LOGISTICS CENTRES IN SPACE LOGISTICS SYSTEMS. International Journal for Traffic and Transport Engineering (IJTTE) 12(4):501-518. DOI: http://dx.doi.org/10.7708/ijtte2022.12(4).06

Recommendations and clarifications:

- ➔ materials from the list are in the Scientific and Technical Library named after G. I. Denisenko, on the websites https://opac.kpi.ua/F?RN=660892077%20 and https://ela.kpi.ua/;
- ➔ must-read literary sources numbered 1 and 3,
- ➔ other sources are optional;
- ➔ the student has sources 1; 3 from the basic list should be worked out completely, others should be used as references;

➔ the cited sources and online resources contain the main provisions that apply to each of the topics.

Educational content

5. Discipline mastering methods (educational component)

The educational discipline includes 18 hours of lectures and 36 hours of practical classes, modular control work (MKR), as well as individual tasks in the form of calculation work (RR). The planned types of training sessions are lectures, practical sessions, performance of individual tasks in the form of preparing a report for practical sessions.

Approaches of active individual and collective learning are applied, which are determined by the following methods and technologies:

1) methods of problem-based learning (problem presentation of the topic of the lecture, discussion of classical cases by discipline, formation and consideration of modern cases);

2) personal-oriented (developmental) technologies based on active forms and methods of learning ("brainstorming", "situation analysis", business, role-playing and simulation games, discussion, express conference, educational debates, round table, case technology, project technology, etc.);

3) information and communication technologies that ensure the problem-research nature of the learning process and the activation of students' independent work, as well as lectures and seminar classes based on the presentation.

The main goals of practical classes are to discuss and check the level of assimilation of theoretical material, to perform practical tasks that update students' theoretical knowledge and develop their practical application skills. These classes are aimed at developing students' ability to work with literature, conduct public speeches, formulate and defend their own position, the ability to take an active interactive part in a discussion, formulate and solve problems.

Table 1

Content of lessons, number of academic hours for study and teaching methods

Course topics	Number of academic hours		Teaching methods
	Lectures	Practice	
Topic 1. Logistics in the organization of international transportation	1	2	showing slides, presentations, educational films; dialogue on issues
Topic 2. Concept and methodological apparatus of logistics	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research

Topic 3. Objects of logistics management	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 4. Logistics operations and flow management in international activities	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 5. Concepts of logistics	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 6. Formation of the logistics system	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 7. Procurement logistics	1	1	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Modular control work (part 1)	0	1	providing feedback between the teacher and students in the learning process and to check the level of theoretical and practical training of students at the second stage of studying the academic discipline (educational component)
Topic 8. Procurement logistics and placing orders	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 9. Logistics of material flows in the field of production	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 10. Logistical approach to the management of material flows in the sphere of circulation	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical

			cases; problem solving, analytical research
Topic 11. Inventory management in the logistics system	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 12. Warehouse in logistics	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 13. Transport logistics	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 14. Integration of storage and transportation	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 15. Logistics in customer service	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Topic 16. Information logistics in Industry 4.0	1	1	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research
Modular control work (part 2)	0	1	providing feedback between the teacher and students in the learning process and to check the level of theoretical and practical training of students at the second stage of studying the academic discipline (educational component)
Topic 17. Logistics of mediation in international business	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research

Topic 18. The effectiveness of logistics and the use of logistics in international activities	1	2	showing slides, presentations, educational films; dialogue on issues; consideration of practical cases; problem solving, analytical research

6. Student's self-study

Independent work is organized by the teacher at each practical session by setting a task for students to find, classify and systematize information that will be necessary for the next practical session. Also, at the first lecture session, students are announced a list of questions and literary sources that contain the necessary material for independent study. Materials are provided (a list of calculation topics) for the preparation of calculation work according to the problems of the academic discipline - estimated time expenditure of 10 hours.

Table 2

Type of independent work, amount of hours to perform

№	Hours on SSS	Topics and questions submitted for self-study and references to educational literature
1	**2**	**3**
1	**48**	Preparation for classroom classes
2	**2**	Preparation for the implementation of modular control work
3	**10**	Performing calculation work
4	**6**	Preparation for the semester control in the form of an exam / credit
Total	**66**	

Policy and control

7. Syllabus policy (educational component)

The methodology of studying the educational component is based on a combination of the sequence of studying the lecture material, studying the program material in practical classes, performing an individual task in the form of a calculation work, performing a modular control work, as well as independent work of students using the main and additional material from information sources.

Independent work of students in the course of studying the discipline "Logistics in the organization of international transportation" is carried out according to the following forms:

- elaboration of the lecture material and deepening of the considered problems

in practical classes;

– preparation for modular control work;

– preparation for performing calculation work;

- preparation for the test.

The evaluation of the success of students in the discipline "Logistics in the organization of international transportation" is formed according to the rating system on a 100-point scale, taking into account various types of work: solving problems and surveys in practical classes, modular control work, calculation work.

Attending classes. Attendance at lectures, practical classes, as well as absence from them are not evaluated. However, students are recommended to attend the classes, as they teach theoretical material and develop the skills necessary to complete the semester's individual task - calculation work. The evaluation system is focused on receiving points for the student's activity, as well as the performance of tasks that can develop practical skills and abilities.

Missed evaluation control measures. Every student has the right to make up lessons missed for a valid reason (illness confirmed by a doctor's certificate, mobility, etc.) by independent work. More details at the link: https://kpi.ua/files/n3277.pdf

The procedure for contesting the results of assessment control measures. A student can ask any question that concerns the control measures procedure and expect that it will be dealt with according to predetermined procedures. Students have the right to challenge the results of control measures with arguments, explaining which criterion they disagree with according to the evaluation. More details at the link: https://kpi.ua/files/n3277.pdf

Academic integrity. Any manifestations of academic dishonesty will not be tolerated. The consequences of such manifestations are determined by the decision of the department meeting and are regulated in accordance with the "Temporary Regulation on the System of Prevention of Academic Plagiarism at the National Technical University of Ukraine "Ihor Sikorskyi Kyiv Polytechnic Institute". More details at the link: https://osvita.kpi.ua/files/downloads/Pologen_pro_plagiat.pdf

Norms of ethical behavior. Standards of ethical behavior of students and employees are defined in Chapter 2 of the Code of Honor of the National Technical University of Ukraine "Ihor Sikorskyi Kyiv Polytechnic Institute". More details: https://kpi.ua/code

Inclusive education. The assimilation of knowledge and skills in the course of studying the discipline can be accessible to most people with special educational needs and is carried out in accordance with the Regulation on the organization of inclusive education at KPI named after Igor Sikorsky. More details at the link: https://kpi.ua/inclusive-education-regulation

Studying in a foreign language. In the course of the tasks, students may be recommended to refer to English-language sources.

Assignment of incentive and penalty points. According to the Regulation on the system of evaluation of training results, incentive and penalty points are not included in the main scale of RSO, and their sum cannot exceed 10% of the rating scale. Incentive points can be provided for the performance of creative works in the discipline. Penalty points are not provided. The distribution of incentive points is given in table 3.

Table 3.

Distribution of incentive points

Incentive points	
Criterion	*Weight score*
Participation (with publication of theses) in a scientific and practical conference	5 points
Publication of an article in a professional publication (on the topic of the educational component) or participation in a competition of scientific papers / Olympiad (on the topic of the educational component)	10 points

Preparation for practical classes and control measures is carried out during independent work of students with the possibility of consulting with the teacher by means of electronic correspondence (e-mail, messengers). Communication with the teacher is carried out during lectures and practical classes, through the electronic campus, e-mail, Google Drive cloud technology service in the Google Workspace for Education Fundamentals environment, as well as through Telegram.

8. Types of control and rating system for evaluation of learning outcomes (RSE)

The evaluation of the results of current, calendar and semester control is carried out in accordance with the rating system for evaluating the results of students' learning from the educational component, which contains evaluation criteria that are formed taking into account the requirements of the Regulation on the system of evaluating learning results at KPI named after Igor Sikorsky.

Entrance control is carried out at the beginning of teaching a new educational component in order to determine the readiness of students to learn it. Based on the results of the entrance control, measures are developed to provide individual assistance to students, adjust the educational process, etc.

Current control is carried out during the semester in order to provide feedback between the teacher and students in the learning process and to check the level of theoretical and practical training of students at each stage of studying the educational component. The results of current control are regularly entered by the teacher in the "Current control" module of the Electronic Campus. The results of current monitoring are used both by the teacher to adjust teaching methods and tools, and by the student to plan independent work. Means of current control: express survey, evaluation of students' participation in work in practical classes, evaluation of reports, discussions, presentations, as well as evaluation of modular (MKR) and calculated (RR) works.

Calendar control is carried out twice a semester as a monitoring of the current state of meeting the syllabus requirements. Calendar control is carried out from the educational component, as a rule, on weeks 7-8 and 14-15 of each semester of students' studies, and is implemented by determining the level of compliance of the student's current achievements (rating) with the criteria established and defined in the RSO. The condition for receiving a positive evaluation from the calendar control of the educational component is the value of

the applicant's current rating of not less than 50% of the maximum possible at the time of such control. The results of the calendar control are entered by the teacher in the "Calendar control" module of the Electronic Campus. An unsatisfactory result of two calendar controls from the educational component cannot be a reason for not admitting a student to the semester control from this educational component, if the student has fulfilled all the admission conditions stipulated by the RSO before the start of the semester control.

Semester control is carried out to establish the level of achievement by students of program learning outcomes from the educational component. Semester control is carried out in accordance with the curriculum in the terms established by the schedule of the educational process. The final assessment of students' work is carried out to diagnose their level of acquired knowledge and skills and the formation of necessary competencies based on the developed packages of control tasks. Before the test, according to the schedule, a consultation must be held, at which the teacher must inform the students of the rules of conducting the test and the list of materials that are allowed to be used during the test, remind the evaluation criteria, inform the students of their ratings based on the results of the work in the semester, announce not admitted to credit (if available) and answer students' questions.

Description of the RSE of the learning outcomes of students from the educational component "Logistics in the Organization of International Transportation"

Assessment of student learning outcomes is based on a rating system. The basis of the rating system for evaluating the results of students' learning from the educational component is post-operational control according to defined criteria and the accumulation of rating points for the versatile educational, cognitive and practical activities of students in the learning process.

The purpose of the rating system is to ensure the quality of specialist training by:

• increasing students' motivation for active, conscious learning, systematic independent work during the semester and responsibility for the results of educational activities;

• establishment of constant feedback with each student and timely adjustment of his educational activities;

• ensuring competitiveness and healthy competition in education;

• increasing the objectivity of evaluating the results of students' studies;

• reduction of psychological, emotional and physical overload during examination sessions.

When teaching the educational component "Logistics in the organization of international transportation", the first type of RSO is used, which provides for the assessment of the results of the student's educational activities during the semester - passing or performing certain types of work provided for by current control measures.

*) REGULATIONS on the system of evaluation of learning results in KPI named after Igor Sikorskyi, appendix B, more details http://osvita.kpi.ua/sites/default/files/downloads/Pol_systema_ociniuvannia.pdf

Evaluation of learning results is carried out on a 100-point scale with subsequent transfer to evaluations on the university scale. For each control measure, taking into account the importance, laboriousness and volume of certain educational and cognitive activities of the student, evaluation criteria have been developed in the system "quality of learning results - rating points" with the determination of certain levels of assimilation of educational material and the formation of skills.

The lower limit of a positive assessment of each control measure (question, task) must be at least 60% of the points determined for this control measure (question, task), and a negative result is estimated at 0 points. If the student did not pass or did not appear for the test, his result is evaluated at 0 points.

With students who have fulfilled all the admission requirements and have a rating of less than 60 points, as well as with those students who wish to increase their rating, at the last scheduled practical lesson in the discipline in the semester, the teacher conducts a semester control in the form of a written assessment control work.

In order to increase the interest of students in the high-quality performance of individual semester tasks provided for in the student's individual study plan, the rating assessment, in the case of performance of credit control work, can be defined as the sum of points for credit control work and points for an individual semester task. In this case, the size of the evaluation scale of the credit test paper is reduced by the maximum value of the points provided for the performance of the corresponding individual semester task.

Table 4.

Evaluation control measures

№	Assessment control measure	%	Weight score	Number	Total
1.	Work at lectures	8%	1	8	8*
2.	Work in practical classes	32%	2	16	32**
3.	Calculation work	30%	30	1	30***
4.	Modular control work	30%	15	2	30****
	Total				100

**8 points cover work in lectures. Weighted point: 1. Maximum number of points in lectures: 1x8 = 8 points.*

Work in lectures is evaluated according to the following criteria:

- "credited" - complete answer / solution of the problem (at least 90% of the required information), as well as active participation in discussions: 1 p.;

- "not counted" - the answer / solution of the problem does not meet the requirements, the student did not participate in the discussion: 0 b.

***32 points cover work in practical classes. Weighted point: 2. Maximum number of points in practical classes: 2x16= 32 points.*

Work in classes is evaluated according to the following criteria:

- "excellent" - complete answer / solution to the problem or case (at least 95% of the required information), as well as active participation in discussions: 2 points;

- "good" - sufficiently complete answer / solution of the problem or case (at least 75% of the required information) or a complete answer with minor inaccuracies, as well as some participation in discussions: 1 point;

- "satisfactory" - incomplete answer / solution of the problem or case (at least 60% of the required information) and certain errors: 0.5 points;

- "unsatisfactory" - the answer / solution to the problem or case does not meet the requirements for "satisfactory": 0 points.

The criteria for evaluating the student's answer should correspond to the planned level of achievement of program learning outcomes.

****30 points cover the calculation work. Weighted score: 30. Maximum number of points per RR: 30 points. It is performed in written form and in the form of a 5-minute report at a practical session. The received assessment varies depending on the relevance and degree of disclosure of the stated topic, the oratorical skill of the speaker, the compliance of the work with the requirements, the completeness of the solution of the practical task, the content of the RR.*

RR is evaluated according to the following criteria::

- "excellent" - creative approach to solving the problem, in-depth disclosure of the topic, reflecting one's own position, the work is designed in accordance with the requirements, clear answers to questions, the presence of visual material during the presentation: 28-30 points;

- "good" - insignificant deficiencies in the requirements listed in the previous point: 24-27 points;

- "satisfactory" - the material is presented illogically, the topic is not fully disclosed, clear conclusions are not formed, insufficient number of sources, presentation is missing: 20-23 points;

- "unsatisfactory" - task not completed, RR not credited: 0 b.

The deadline for handing in work is the penultimate practical session. A necessary condition for admission to credit is a positive assessment from the calculation work.

*****30 points cover the completion of the modular control work. The weighted point is 30. The maximum number of points for a modular control work, which is divided into 2 parts, is equal to 15x2 = 30 points.*

Evaluation criteria for each part of the MKR:

- "excellent" - correct solution of all tasks using multivariate approaches, correct answers to tasks - 15 points;

- "good" - some arithmetic inaccuracies in calculations; most of the problems were solved correctly; 10-20% of tasks are not completed, or wrong options are chosen - 13-14 p.;

- "satisfactory" - a smaller part of the problems were solved correctly, there are arithmetic inaccuracies in the calculations, 30-40% of the problems were not completed, or incorrect options were chosen - 12 points;

- non-fulfillment of MKR - 0 b.

When compiling the assessment, all scored points, except for points for calculation work, are canceled. The credit control work is estimated at 70 points. The control task of this paper consists of a task, a test, and two questions.

Tasks are evaluated as follows:

a) Task. Weighted point: 20. Maximum number of points for the problem: 20 points.

The task is evaluated according to the following criteria:

"excellent", complete answer, at least 90% of the required information; complete, error-free solution of the problem, there are conclusions - 19-20 points;

"good", sufficiently complete answer, at least 75% of the required information or minor inaccuracies; complete solution of the problem with minor inaccuracies - 15-18 points;

"satisfactory", incomplete answer, at least 60% of the required information and some errors; the task was completed with certain shortcomings - 10-14 points;

"unsatisfactory", the answer does not meet the conditions for "satisfactory" - 0 points.

b) Test task consisting of 10 closed test questions. Weighted point of each test question: 4. Maximum number of points for a test task: 40 points.

Each test question is evaluated according to the following criteria:

- correct answer — 4 points;

- incorrect answer - 0 points.

c) 2 questions. Weighted point of each question: 5. Maximum number of points per question: 10 points.

Each question is evaluated according to the following criteria:

"excellent", complete answer (at least 90% of the required information): 5 points;

"good", sufficiently complete answer (at least 75% of the required information, or minor inaccuracies): 4 points;

"satisfactory", incomplete answer (at least 60% of the required information and some errors): 3 points;

"unsatisfactory", the answer does not meet the conditions for "satisfactory": 0 points.

After completion of the credit control work, if the grade for the credit control work is greater than the rating, the student receives a grade based on the results of the credit control work. If the grade for the final test is lower than the rating, the student's previous rating (with the exception of the points for the semester individual task - calculation paper) is canceled and he receives a grade based on the results of the final test. This option forms a responsible attitude of the student towards making a decision to perform the assessment test, forces him to critically assess the level of his training and carefully prepare for the assessment.

Table 5.

Correspondence of rating points to grades on the university scale:

Scores	***Rating***
100-95	*Excellent*
94-85	*Very good*
84-75	*Good*
74-65	*Satisfactorily*
64-60	*Enough*
Менше ніж 60	*Not enough*
Невиконання умов допуску до семестрового контролю	*Not allowed*
Порушення принципів академічної доброчесності або морально-етичних норм поведінки	Eliminated

*) Source: Provisions on current, calendar and semester control of study results at KPI named after Igor Sikorsky. More details - https://kpi.ua/document_control

When conducting a semester control, the teacher must, in the case of a written form of control, announce the grades and add them to the student's information and record book no later than the next day after the control event.

Carrying out semester control, the teacher has the right to:

not to allow an outsider (who does not have the permission of the rector, vice-rector, director of the institute/dean of the faculty or head of the department) to be present at the control event;

ask additional questions within the framework of the syllabus - work program of the educational component "Logistics in the organization of economic transportation" for a more objective assessment of the student's training level;

remove the student from the assessment, if the fact of violation of the principles of academic integrity or moral and ethical norms of behavior was discovered.

In case of removal of a student from the semester control event, the teacher makes an entry "removed" in the information and submits a letter to the dean stating the reasons for removal. A student's refusal to complete the semester control task is evaluated as an unsatisfactory response.

Working program of the educational component (syllabus):

Folded::

Professor, Doctor of Economics, Head of the Department of International Economics Voitko Serhii

Associate Professor, PhD, Associate Professor of the Department of International Economics Korohodova Olena

Approved by *Department of International economics (Protocol № 12 from 14.06.2023)*

Agreed by *the Faculty of Management and Marketing Methodical Council (Protocol № 11 from 30.06.2023)*