

**MINISTRY OF DEFENCE OF UKRAINE**  
**MILITARY ACADEMY (ODESA)**

**EDUCATIONAL PROGRAMME OF THE  
PROFESSIONAL MILITARY EDUCATION**

***PROFESSIONAL COURSE OF TACTICAL LEVEL LOGISTICS  
(TRANSPORT LOGISTICS), L-1B (TRL)***

**in military registration** 703500 *"Organisation of transport and management  
speciality in motor transport"*

APPROVED

by the Academic Council of the Military  
Academy (Odesa)

(Minutes No. \_\_\_\_ dated \_\_\_\_ 20\_\_)

Chairman of the Academic Council of the  
Military Academy (Odesa)

Major General

Andriy KOVALCHUK

Entered into force

by order of the Head of the Military

Academy (Odesa) dated \_\_\_\_ 20\_\_ No.

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**APPROVAL SHEET**

**OF THE EDUCATIONAL PROGRAMME OF THE  
PROFESSIONAL MILITARY EDUCATION**

**PROFESSIONAL COURSE OF TACTICAL LEVEL OF LOGISTICS  
FORCES  
(TRANSPORT LOGISTICS), L-1B (TRL)**

**in the military registration speciality** *"Organisation of transport and management in motor transport"*

APPROVED

Director of the Department of Military  
Education and Science of the Ministry of  
Defence of Ukraine

Volodymyr MIRNENKO  
“ \_\_\_\_ ” \_\_\_\_\_ 20 \_\_\_\_ year

APPROVED

Head of the Central Administration of  
Military Education and Science of the  
General Staff of the Armed Forces of  
Ukraine  
Colonel

Oleg PAVLOMSCY  
“ \_\_\_\_ ” \_\_\_\_\_ 20 \_\_\_\_

APPROVED

Commander of the Logistics Forces  
Armed Forces of Ukraine  
Brigadier General

Volodymyr KARPENKO  
“ \_\_\_\_ ” \_\_\_\_\_ 20 \_\_\_\_

## **Developed and submitted**

### **Head of the Working Group**

#### **FOREWORD**

**DEVELOPED by the working group of the Logistics Forces Command of the Armed Forces of Ukraine and the Military Academy (Odesa).**

Order of the Commander of the Logistics Forces of the Armed Forces of Ukraine dated “\_\_\_” \_\_\_\_\_ 2024 No. \_\_\_\_\_.

#### **Head of the working group –**

Colonel IVAN ANATOLIYOVICH PROKOPENKO - Head of the Central Coordination Department for Military Transport and Transportation of the Logistics Forces Command of the Armed Forces of Ukraine.

#### **Members of the working group:**

Lieutenant Colonel RUSLAN VOLODYMYROVYCH BEREZENSKYI – Candidate of Technical Sciences, Associate Professor, Deputy Head of the Department of Repair and Maintenance of Automobiles and Special Equipment, Faculty of Training Specialists in the Maintenance and Operation of Military Equipment, Military Academy (Odesa)

Colonel VIKTOR MYKOLAIOVYCH MELENCHUK – Candidate of Technical Sciences, Associate Professor, Associate Professor of the Department of Repair and Maintenance of Automobiles and Special Equipment, Faculty of Logistics and Supply, Military Academy (Odesa)

Employee of the Armed Forces of Ukraine KLIMENKO VIKTOR Volodymyrovych – Candidate of Technical Sciences, Senior Research Fellow, Senior Lecturer at the Department of Repair and Operation of Automobiles and Special Equipment of the Faculty of Training of Specialists in Logistics of the Military Academy (Odesa);

#### **TAKEN INTO ACCOUNT:**

1. Professional standard for tactical-level officers of the Armed Forces of Ukraine "Transport Logistics (VOS 703500)"

# 1. PROFILE OF THE EDUCATIONAL PROGRAMME PROFESSIONAL MILITARY EDUCATION COURSE

<b>1 – General information</b>	
<b>Full name of the military higher educational institution (VNP ZVO)</b>	Military Academy (Odesa)
<b>Name of the document certifying completion and scope of the professional military education course</b>	Certificate of completion of the course "Professional Tactical Level Transport Logistics Course, L-1B (VBA), according to VOS 703500". Scope of the educational programme: 25 ECTS credits.
<b>Prerequisites</b>	Possession or acquisition (for cadets) of a higher education degree not lower than a bachelor's degree; completion of the basic tactical level course L-1A; for military personnel: completion of military service as a private, sergeant (senior sergeant); for civilians: fitness for military service in the Armed Forces of Ukraine.
Language(s) of instruction	Ukrainian (English)
Duration of the vocational education course	Until the renewal or introduction of a new educational programme.
<b>2 – Educational programme objectives</b>	
Training at the tactical level of qualified officers who are competent to perform professional tasks and duties of an applied nature in the speciality 254 "Troop (force) support".	
<b>3 – Characteristics of the educational programme</b>	
<b>Subject area</b>	Field of knowledge: "25 Military Sciences, National Security, State Border Security"; Speciality: "254 Troop (force) support"; Specialisation: "Transport Logistics".
<b>Main focus of the educational programme of the professional military education course</b>	Professional military education for military service in typical positions defined in the professional standard for tactical-level officers.
<b>Features of the programme</b>	The educational programme has been developed taking into account the educational programme of the basic tactical level course L-1A, approved by the Chief of the General Staff of the Armed Forces of Ukraine on 29 June 2024 No. 97672/C, and the current experience of combat operations gained during the anti-terrorist operation, the joint forces operation and the repulsion of a full-scale invasion of Ukraine by the Russian Federation.
<b>4 – Employment and further education opportunities for graduates</b>	
<b>Employment opportunities</b>	<ul style="list-style-type: none"> <li>- Commander of a motorised platoon (ammunition, fuel and lubricants, food, clothing, military equipment) of a logistics group (company).</li> <li>- commander of the military unit's logistics company;</li> <li>- commander of a motor vehicle company (platoon) of a motor vehicle military unit (oavtbr, oavtb);</li> </ul>

	- commander of a motor transport company (platoon) for the delivery of ammunition, fuel and lubricants, food, clothing and military equipment to a military unit's logistics department (obmz).
<b>Further training</b>	Training under the educational programme of the professional military education course “Tactical Level Command Course for Logistics Forces, L-1C”
<b>5 – Teaching and assessment</b>	
<b>Teaching and learning</b>	The main types of training activities used to teach the components of the educational programme: lectures; seminars, group, practical, group exercises; tactical (tactical-formation, tactical-special) independent training, including at a field training base.
<b>Assessment</b>	Assessment of the learning outcomes of course participants includes the full range of control measures provided for in the programmes of academic disciplines and is carried out on a 100-point scale, the ECTS scale and the national scale.
<b>6 – Programme competences</b>	
<b>Military-specific competences (MSC)</b>	MSC-1 Ability to use knowledge of the structure, design, and operating principles of assemblies, units, mechanisms, systems, and devices of automotive technology to ensure its proper operation and repair
	MSC-2 Ability to ensure the operability, reliability and durability of engines, to understand the essence of the processes occurring in their systems and main mechanisms
	MSC-3 Ability to use knowledge of the structure and operating principles of electronic and microprocessor equipment, systems (devices) of electrical and electronic equipment of military vehicles
	MSC-4 Ability to perform technical maintenance of military motor vehicles, carry out measures to organise the operation of military motor vehicles, and assess their technical condition.
	MSC-5 Ability to identify and classify hazardous factors in the operation of motor vehicles, use knowledge of traffic rules to resolve traffic situations in various road conditions and situations, and the order and rules for military motor transport.
	MSC-6 Ability to monitor the technical condition, use, safe and accident-free operation of equipment, knowledge to determine the directions of useful use of natural resources, energy and materials during operation.
	MSC-7 Ability to master technologies and forms of organisation of diagnostics, maintenance and repair of equipment, ability to analyse advanced scientific and technical experience and trends in the development of technology for the operation of technical means for various purposes
	MSC-8 Knowledge of the structure of the technical support system for combat operations of the Armed Forces of Ukraine, the role, place, tasks and basic principles of automotive technical support for transport logistics units.
	MSC-9 Ability to systematically analyse information, technical data, indicators and performance results in order to model transport logistics processes and ensure optimal performance
	MSC-10 Ability to use knowledge to ensure the safe and accident-free transportation of dangerous and special cargo.

	MSC-11 Ability to perform the duties of a platoon commander for the delivery of material and technical resources, a company commander for material and technical support
<b>7 –Training results</b>	
<b>Professional training</b>	RNvS-1 Acquire the knowledge and understanding necessary to analyse processes occurring in military motor vehicles, identify breakdowns and malfunctions, and, if necessary, take technical measures to ensure proper operation.
	RNvs-2 Understand the requirements for internal combustion engines in terms of ensuring their performance, reliability, durability, and be able to identify the nature of malfunctions and breakdowns that lead to their failure.
	RNvs-3 Apply acquired knowledge and understanding to analyse and evaluate processes occurring in electrical circuits and electronic devices of military vehicles and be able to use various devices to diagnose and promptly eliminate malfunctions.
	RNvS-4 Apply acquired knowledge and understanding of the basic principles of military vehicle operation and be able to direct their activities towards their implementation. Be able to evaluate, analyse, systematise and find the right solution for the implementation of measures related to the operation of military vehicles in various conditions.
	RNvS-5 Apply acquired knowledge when assessing road safety based on military vehicle operating data and organise accident-free operation. Apply acquired basic knowledge to assess the capacity of military motor transport, organise transport planning and management.
	RNvS-6 Organise and carry out control of the technical condition, use, safe and accident-free operation of military motor vehicles and, during operation, carry out repairs and maintenance of units, systems and components for various purposes.
	RNvs-7 Analyse the necessary information, technical data, indicators and performance of automotive equipment components and assemblies, and model technical support processes.
	RNvS-8 Know the structure of the technical support system for combat operations of the Armed Forces of Ukraine, the roles, places, tasks and basic principles of automotive technical support for transport logistics units. Plan and organise automotive technical e support for combat operations and manage automotive technical support forces and resources in the positions of platoon commander and company commander.
	RNvs-9 During the modelling of support processes, search for information, analyse, systematise, generalise, conduct experimental and theoretical research, and draw reasoned conclusions on transport issues and the solution of military logistics tasks.
	RNvS-10 Organise the safe and accident-free transportation of dangerous and special cargo. Transport special, explosive and fire-hazardous cargo in compliance with safety rules and sanitary and hygienic requirements.
	RNvS-11 Organise the work of a platoon (company) for the delivery of material and technical resources in the position of platoon (company) commander for material and technical support to the commander.

<b>8 – Resource provision for programme implementation</b>	
<b>Staff</b>	<p>The scientific and teaching staff involved in the educational programme are full-time employees of the Military Academy, a proportion of whom have scientific degrees, academic titles and a proven level of scientific and professional activity. Professional competencies are developed by professionals with experience in their field.</p> <p>The practical nature of the educational programme involves the broad participation of practitioners who correspond to the programme's focus, which strengthens the synergistic link between theoretical and practical training.</p> <p>The head and members of the programme development working group, as well as the teaching staff responsible for implementing the educational programme, meet the requirements set by the Ministry of Defence of Ukraine.</p>
<b>Material and technical support</b>	<p>To implement the competencies and learning outcomes specified in the educational programme, the material and technical resources of the Military Academy (Odesa) and the Military Academy's Centre for Educational Support are used. The material and technical resources meet the requirements for the provision of educational services and are sufficient to ensure the quality of the educational process, in particular: classrooms; computer classrooms (laboratories); specialised laboratories; sports halls, sports grounds; library, reading room; multimedia equipment; premises for scientific and teaching staff; barracks; canteen, etc.</p>
<b>Information and teaching materials</b>	<p>Teaching and methodological support has been developed in accordance with the current regulatory and legislative documents of the Ministry of Education and Science of Ukraine and orders of the Ministry of Defence of Ukraine, and consists of the following materials:</p> <ul style="list-style-type: none"> <li>instructional and methodological materials for practical classes;</li> <li>teaching and methodological materials for all types of training activities;</li> <li>methodological guidelines for the performance of work (projects);</li> <li>methodological guidelines for organising independent work;</li> <li>programmes for all types of practical training;</li> <li>diagnostic tools.</li> </ul> <p>The library fund is used in the training, including teaching materials and teaching aids developed by teaching staff.</p> <p>The programme is implemented using the virtual learning environment of the Military Academy (Odesa), original developments, textbooks and teaching aids, and other educational and methodological materials.</p> <p>The official website of the academy (<a href="http://vaodesa.mil.gov.ua/">http://vaodesa.mil.gov.ua/</a>) contains information about educational, scientific and educational activities, structural units, admission rules, contacts, and users have access to all available library resources. The educational process is provided with the necessary technological and material and technical support.</p>

**2. LIST OF COMPONENTS OF THE EDUCATIONAL PROGRAMME OF THE PROFESSIONAL MILITARY EDUCATION COURSE AND CORRESPONDENCE OF PROGRAMME COMPETENCES AND LEARNING OUTCOMES TO COMPONENTS OF THE EDUCATIONAL PROGRAMME**

**2.1. List of components of the educational programme**

Code	Components of the educational programme (academic disciplines/modules)	Number Credits	Form of final assessment
VS 1.	Logistical support for combat operations	3	Credit
VS 2.	Organisation of operation and repair of military motor vehicles.	8	Test, exam
VS 3.	Organisation of transportation of fuel and lubricants.	3	Test
VS 4	Organisation of transportation of material resources for food and clothing services.	3	Credit
VS 5	Organisation of transportation of missiles and ammunition	1	Credit
VS 6.	Organisation of movements and transportation (transfers) in the Armed Forces of Ukraine	6	Credit, Exam
Total for the programme credits		2	

**2.2 Compliance of programme competences with the components of the educational programme**

	VS 1	VS 2	VS 3	VS 4	VS 5	VS 6
MSC-1		+				
MSC-2		+				
MSC-3		+				
MSC-4		+				
MSC-5		+				+
MSC-6		+				
MSC-7		+				
MSC-8	+					+
MSC-9						+
MSC-10			+	+	+	+
MSC-11			+	+	+	+

### 2.3 Compliance of learning outcomes with the components of the educational programme

	VS 01	VS 02	VS 03	VS 04	VS 05	VS 06
RNvS -1		+				
RNvS -2		+				
RNvS-3		+				
RNvS -4		+				
RNvS-5		+				+
RNvS-6		+				
RNvS-7		+				
RNvS -8	+					+
RNvS-9						+
RNvS -10			+	+	+	+
RNvS-11			+	+	+	+



## 4. PROGRAMMES OF EDUCATIONAL DISCIPLINES OF THE EDUCATIONAL PROGRAMME

### VS 1. LOGISTICAL SUPPORT FOR COMBAT OPERATIONS

#### 1. General objective of the academic discipline (subject):

**Upon completion of the course, students should**

***know***

the organisation of logistical support for the mobilisation and combat readiness of military units;

the organisation of logistics planning in accordance with NATO standard operating procedures (MDMP);

the basics and rules of providing material resources to the rear during preparation and in the course of combat (march);

***be able to:***

manage the logistics support service (according to specialisation) of a military unit and organise its work during preparation and in the course of combat (march);

make decisions and manage units during combat missions regarding rear support;

read and maintain work charts (diagrams), understand tasks, assess the situation, and make decisions as a logistics support officer in various types of tactical operations.

#### **Organisational and methodological guidelines:**

##### **2.1. Features of the teaching methodology:**

The methodology for teaching this academic discipline is based on the fundamental principles of didactics (theory of justification and teaching). It provides a scientific and pedagogical description of teaching forms and methods, indicates the most appropriate combinations for achieving a specific level of learning, and determines the conditions for their most effective use.

To achieve the main goal of the programme, the following forms of teaching are provided:

frontal form of teaching, when all students perform the same task at the same time under the supervision of the teacher;

group form of teaching, when students are divided into groups (departments) depending on the staffing structure of the unit, which work in parallel;

individual form of training, when students perform tasks sequentially, one after another.

At the same time, depending on the level of knowledge or skills to be achieved, the teacher should use the following methods:

verbal-visual;

training;

situational-cognitive.

Verbal-visual method, in which the teacher systematically and sequentially presents the learning material, showing (demonstrating) the subjects being studied in order for learners to acquire new knowledge and form the appropriate imagination.

Training (reproductive) method – performing complex actions according to an algorithm (pre-established order) determined by the instructor to develop the necessary skills and ensure the coordination of military and organisational structures.

Situational-cognitive – conducting a review and discussion of real (probable) actions, familiarising oneself with the experience of managing troops (forces) in military conflicts and developing information and analytical skills.

The above methods provide students with knowledge, abilities and skills, but in order to develop their creative abilities, the instructor must use problem-based learning methods.

Problem-based teaching is when the instructor presents a problem to the students, solves it himself, but at the same time shows ways to solve it and reveals his train of thought. The immediate result of problem-based teaching should be the learner's mastery of the method and logic of solving a specific problem, but without the ability to apply them independently. This method teaches learners how to search for knowledge, helping them to acquire creative thinking skills.

The search (heuristic) method serves the purpose of gradually bringing students closer to independent problem solving by first teaching them how to perform individual elements of the solution. It is used during group exercises, when the method of finding the optimal solution is determined by the instructor, but the solution is found by the student.

Problem-solving methods ensure deep assimilation of knowledge at the level of its creative application, mastery of creative thinking methods, and practical experience.

#### **When conducting lectures:**

A lecture is the main type of educational activity designed to help students master the theoretical material of a topic.

The main purpose of a lecture is to systematise the scientific knowledge and practical experience on the topic, the state and prospects of the development of management science, the theory and practice of military leadership, and to focus attention on the most complex and crucial issues of the training material. The lecture should be problem-oriented, stimulate active cognitive activity among students, and contribute to the formation of creative thinking. To activate the cognitive activity of military personnel and develop their creative thinking during lectures, skilfully use technical teaching aids in combination with active forms and methods of lecturing. Classes should be conducted using oral presentation of the teaching material, with individual questions and teaching elements worked out in the form of a dialogue between the teacher and the students and by posing problem questions to them.

#### **When conducting group classes:**

A group class is a type of educational class during which the teacher presents new educational material using verbal and visual methods, checks the students' understanding of this material through questioning, and helps to reinforce it.

Group classes are conducted with the aim of providing students with a detailed study of the issues and problems discussed in lectures and a detailed examination of relevant issues in the teaching material. The main teaching methods used are explanation with demonstration and discussion in the form of a debate. To ensure clarity during classes, it is necessary to use technical means of information transfer, tables, diagrams, slides, filmstrips and posters.

#### **During practical classes:**

A practical class is a type of educational class during which the teacher organises the assimilation of theoretical concepts through the individual completion of specially designed tasks and helps students develop the skills and abilities to apply these theoretical concepts in practice.

Practical classes should be aimed at consolidating and deepening the knowledge acquired by students in lectures and group classes, as well as during independent work, and developing their skills in solving practical tasks of everyday military activities.

**When conducting group exercises:**

A group exercise is a type of training session conducted by trainees performing the functional duties of specific officials of military command and control bodies, military units and subunits.

During this type of class, cadets (students) acquire skills in organising and planning combat (combat operations), commanding troops and providing them with comprehensive support. Comprehensive tactical tasks are developed for group exercises.

**When organising independent work:**

Independent work should be carried out with the aim of practising and mastering the training material; consolidating and deepening knowledge, skills and abilities; preparing for subsequent classes and control measures; forming in those being trained a culture of intellectual work, independence and initiative in the search for, acquisition and enrichment of knowledge.

Independent work should be supported with educational literature, teaching aids, tasks and methodological recommendations. All teaching and methodological materials for classes should have electronic versions. Methodological materials for independent work should provide for the possibility of self-control.

**2.2. Material and technical support:**

Classes should be held in specialised classrooms equipped with personal computers at a ratio of one workstation per two students and a training centre for the educational process. Technical teaching aids must be used during classes.

**2.3. Information and methodological support:**

1. About the Strategic Defence Bulletin of Ukraine: Decree of the President of Ukraine No. 240/2016 of 06.06.2016 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/n0006525-16#Text> (accessed on 28.06.2021).

2. Nutritional standards for servicemen of the Armed Forces and other military formations, officers and enlisted personnel of the internal affairs agencies and the penal system, students of military lyceums, lyceums with enhanced physical training, and standards for feeding animals in wartime, approved by by Resolution of the Cabinet of Ministers of Ukraine No. 824-010 of 03.06.2003.

3. On approval of the Procedure for logistical support of the defence forces during the performance of tasks related to the defence of the state, protection of its sovereignty, territorial integrity and inviolability: Resolution of the Cabinet of Ministers of Ukraine dated 27.12.2018 No. 1208 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/1208-2018-%D0%BF#Text> (accessed on 28.06.2021).

4 Standards for providing material assets to servicemen of the Armed Forces of Ukraine and the State Special Transport Service in peacetime and during special periods: Order of the Ministry of Defence of Ukraine No. 232 of 29 April 2016 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 27.08.2019. URL: <https://zakon.rada.gov.ua/laws/show/z0767-16#Text> (accessed on 28.07.2020).

5. Instructions on the organisation of material support for servicemen of the Armed Forces of Ukraine in peacetime and during special periods: Order of the Ministry of Defence of Ukraine No. 232 of 29 April 2016 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 19 February 2021. URL: <https://zakon.rada.gov.ua/laws/show/z0768-16#Text> (accessed on 28 June 2021).
6. Norms for the consumption of fuel, oils, lubricants and special fluids during the operation, repair and maintenance of military equipment and weapons of the Armed Forces of Ukraine, approved by Order of the Minister of Defence of Ukraine No. 01 dated 6 January 1999.
7. Temporary procedure for the preparation of operational (combat) documents, approved by order of the Commander-in-Chief of the Armed Forces of Ukraine dated 11 September 2020 No. 140
8. Combat Regulations of Mechanised and Tank Forces of the Land Forces of the Armed Forces of Ukraine. Part I. Brigade. – Kyiv: KSZSU, 2016.
9. Combat Regulations for Mechanised and Tank Forces of the Armed Forces of Ukraine. Part II. Battalion, Company. – Kyiv: KSZ, 2016.
10. Combat Regulations "Logistics of the Land Forces of the Armed Forces of Ukraine" (tactical level). BP 4 – 32(11).01: Order of the Commander of the Land Forces of the Armed Forces of Ukraine dated 30 March 2021 No. 218.
11. Temporary instructions on bath and laundry services for personnel of the Armed Forces of Ukraine in peacetime and during special periods, approved by the commander of military unit A2516 dated 28 December 2017 No. 312.
12. Regulations on the procedure for the creation, storage, renewal (replacement) and use of immovable reserves of rear equipment and other material resources of the rear in the Armed Forces of Ukraine, approved by Order of the Ministry of Defence of Ukraine No. 6t dated 13 May 2016.
13. On approval of the Instructions on accounting for military property in the Armed Forces of Ukraine: order of the Ministry of Defence of Ukraine dated 17 August 2017 No. 440 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 23.08.2019. URL: <https://zakon.rada.gov.ua/laws/show/z1192-17#Text> (date of access: 28.06.2021).
14. Methodological recommendations on the organisation and maintenance of accounting in the Armed Forces of Ukraine, approved by Order of the Ministry of Defence of Ukraine No. 905 dated 19 December 2014 (as amended)
15. On approval of the Procedure for writing off military property in the Armed Forces of Ukraine: Order of the Ministry of Defence of Ukraine dated 12.01.2015 No. 17 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 28.02.2020. URL: <https://zakon.rada.gov.ua/laws/show/z0118-15#Text> (accessed on 28 June 2021).
16. On approval of the Procedure for determining the objectively necessary amount of fuel for domestic needs in the Armed Forces of Ukraine: Order of the Ministry of Defence of Ukraine dated 19 October 2018 No. 524 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/z1280-18#Text> (accessed on 28 June 2021).
17. On approval of the Procedure for the use of residential property in the Ministry of Defence of Ukraine and the Armed Forces of Ukraine: Order of the Ministry of Defence of Ukraine No. 34 of 30 January 2019 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/z0186-19#Text> (accessed on 28 June 2021).
18. On approval of the Instructions on the preparation and deployment of national contingents and national personnel in international peacekeeping and security operations: Order of the Ministry of Defence of Ukraine No. 23 of 18 January 2016 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 19 September 2017. URL: <https://zakon.rada.gov.ua/laws/show/z0206-16#Text> (accessed on 28 June 2021).

19 Standard of conventional signs (second standard) for the graphic design of operational (combat) documents STP 01.010.001-2014 (01), approved by order of the General Staff of the Armed Forces of Ukraine dated 24 July 2014 No. 187.

20 Methodological manual on the organisation and implementation of security and defence, daily activities of military units (subunits) of the Armed Forces of Ukraine located in base camps. – Kyiv: General Staff of the Armed Forces of Ukraine, 2014. – 60 p.

21 Methodological recommendations on ensuring the security and defence of convoys transporting military equipment, missiles, ammunition and material and technical resources. – Kyiv: Armed Forces of Ukraine, 2014. – 38 p.

22 Methodological recommendations for conducting staff training and radio training in the tactical command echelon, taking into account the experience of the Armed Forces of Ukraine in the Anti-Terrorist Operation in the Donetsk and Luhansk regions. – Kyiv: General Staff of the Armed Forces of Ukraine, 2015. – 52 p.

23 Methodological recommendations for organising logistical support in base camps of brigades (battalions), at company (platoon) strongholds and combat positions. – Kyiv: Logistics of the Armed Forces of Ukraine, 2016. – 19 p.

24 Methodological recommendations on the organisation and escort of convoys. – Kyiv: Logistics of the Armed Forces of Ukraine, 2016. – 9 p.

25 Features of the organisation of movements of military units (subunits) in territory controlled by separatist organisations. – Kyiv: CNDI, 2014. – 18 p.

### **Supplementary**

26 White Paper on the Anti-Terrorist Operation in Eastern Ukraine (2014–2016) / [ed. by I. Rusnak) – Kyiv: Ivan Chernyakhovsky National University of Defence of Ukraine, 2017. – 162 p.

27 Logistical support for mechanised (tank) battalions in combat and other operations. Part I. Logistics: training manual / E.A. Ivanchenko et al.; edited by G.I. Kryvohuz. – Odesa: Military Academy, 2018. – 316 p.

28 Preparation and maintenance of combat documents for logistics support (rear services) of a military unit (subunit): training manual / O.M. Masliy et al.; edited by G.I. Kryvohuz. – Odesa: Military Academy, 2020. – 190 p.

29 Military rear. Fundamentals of rear support for military units (subunits), tactical groups: manual adapted for the Rear of the Armed Forces of Ukraine, taking into account the experience of rear support for military units in the anti-terrorist operation – Kyiv: Rear of the Armed Forces of Ukraine, 2015. – 270 p.

30 Fundamentals of regiment (brigade) rear management. Part I. Training manual. – Odesa: OISV, 2000.

31 Fundamentals of regiment (brigade) rear management. Part II. Training manual. – Odesa: OISV, 2000.

### Types, topics of training sessions and training questions

**Note:** here and below, the terms **logistical support**, **logistical support service** are used in a general sense with a focus on specific specialisations studied at the faculty of rear support specialists, namely by types of logistical support: food supply, material supply, fuel and lubricant supply, transport support, engineering and infrastructure support.

No	Types of training activities, control measures	Total hours	of which		Name of topic and training questions.
			Classroom hours	Independent work	
1	2	3	4	5	6
		<b>20</b>	<b>2</b>		<b>Topic 1. Organisation of logistics support for mobilisation and bringing military units to combat readiness.</b>
1.	Lecture	2	2		<b>Lesson 1. Mobilisation and bringing military units to combat readiness.</b> 1. General provisions for the mobilisation deployment of troops. 2. Organisation of logistical support for mobilisation and bringing military units to combat readiness.
2.	Group session	2	2		<b>Lesson 2. Organisation of material support for mobilisation and bringing military units to combat readiness.</b> 1. Material and technical support for mobilisation and bringing military units to combat readiness. 2. Procedures for creating, storing, renewing (replacing) and using fixed reserves of material and technical resources. 3. Standards for maintaining fixed reserves of material and technical resources for mobilisation and bringing military units to combat readiness.
3.	Group session	2	2		<b>Lesson 3. Documents on logistical support for mobilisation and bringing a military unit to combat readiness.</b> 1. Personal documents of the head of the logistics support service regarding mobilisation and bringing military units to combat readiness. 2. Methods of calculation. 3. Logistics support for combat coordination of a military unit.
4.	Practical session	4	4		<b>Lesson 4. Working out planning documents for logistical support of mobilisation and bringing a military unit to combat readiness. (by specialisation)</b> 1. Development of a schedule of key activities for the head of the service.
5.	Practical session	6	6		<b>Lesson 5. Working out calculation and reference documents for logistical support for mobilisation and bringing military units to combat readiness. (by specialisation)</b> 1. Drawing up a schedule for the transport of material resources (...) to the concentration area. 2. Drawing up a calculation for the lifting of military unit material supplies. 3. Drawing up a calculation for the provision of material and technical resources for the service. 4. Compiling other calculations: Calculation for the issuance of technical means of service to subunits.

No	Types of training activities, control measures	Total hours	of which		Name of topic and training questions.
			Classroom hours	Independent work	
1	2	3	4	5	6
					Calculation-schedule for decommissioning and preparing technical equipment for use. Calculation of the return of surplus technical equipment. Calculation of the organisation of food, bread and water supplies for personnel.
6.	Seminar	4	4		<b>Lesson 6. Organisation of logistical support for mobilisation and bringing military units to combat readiness.</b> 1. General provisions for the mobilisation deployment of troops. 2. Organisation of logistical support for mobilisation and bringing military units to combat readiness.
		<b>18</b>	<b>14</b>	<b>4</b>	<b>Topic 2. Standard NATO operating procedures.</b>
7.	Group session	2	2		<b>Lesson 1. Methods and content of work of military unit logistics management bodies.</b> 1. Methods of work of logistics management bodies. 2. Sequence and content of the work of logistics management bodies.
8.	Group session	2	2		<b>Lesson 2. General principles of military decision-making (MDMP).</b> 1. History of the development of operations planning (conduct of combat operations) by NATO member states. 2. Combat documents.
9.	Group session	2	2		<b>Lesson 3. STAGE 1. Receipt of mission.</b> 1. Preparation (collection) of initial data, determination of priority measures for preparing logistics units for combat (march). 2. Calculating time. Briefing subordinates on combat (march) preparation. 3. Plotting the initial tactical and logistical situation on the logistics chief's working map. 4. Development of proposals for logistical support in the preliminary order WARNO#1.
10.	Group session	2	2		<b>Lesson 4. STAGE 2. Mission analysis. Part 1.</b> 1. Understanding the task set by the higher command (HC) and the commander. 2. Tasks and procedure for conducting logistical reconnaissance (reconnaissance).
11.	Group session	6	2	4	<b>Lesson 5. STAGE 2. Mission analysis. Part 2.</b> 1. Assessment of the situation and conclusions. 2. Calculating the military unit's material requirements and availability. 3. Development of proposals for logistical support in the preliminary order WARNO#2.
12.	Group session	2	2		<b>Lesson 7. STAGES 3-6.</b> 1. Development of options for action. Course of action (COA) development. 2. Analysis of options for action (war game/simulation). COA Analysis (War Game).

No	Types of training activities, control measures	Total hours	of which		Name of topic and training questions.
			Classroom hours	Independent work	
1	2	3	4	5	6
					3. Comparison of courses of action. COA Comparison. 4. Approval of course of action. COA Approval.
13.	Group session	2	2		<b>Lesson 8. STAGE 7. Development of a logistics support plan. Orders Production, Dissemination and Transition.</b> 1. Development, coordination and approval of the logistics support plan. 2. Refining and amending the OPLAN/OPORD.
		4	4		<b>Topic 3. Organisation of logistics support for a military unit on the march.</b>
14.	Group session	2	2		<b>Lesson 1. Measures for the logistical support of military units in combat and other operations.</b> 1. Preparation, deployment and movement of rear services. Routes for delivery and evacuation. 2. Organisation of logistics (rear) reconnaissance and logistics coordination (between rear services). 3. Use of the local industrial and economic base to supply troops and perform other tasks.
15.	Group session	2	2		<b>Lesson 2. Logistical support for a mechanised brigade on the march.</b> 1. Preparation and marching order of the rear on the march. Protection, security and defence of the rear. 2. Material support of the brigade during preparation and during the march. 3. Rear control.
		2	20		<b>Comprehensive tactical task No. 1</b> <b>"Logistical support for a military unit on the march."</b>
16.	Group exercise	4	4		<b>Lesson 3. STAGE 1. Receipt of mission.</b> 1. Preparation (collection) of initial data, determination of priority measures for preparing logistics units for the march. 2. Calculation of time. Briefing of subordinates on preparations for the march. 3. Plotting the initial tactical and logistical situation on the logistics officer's working map. 4. Development of proposals for logistical support in the preliminary order WARNO#1.
17.	Group exercise	4	4		<b>Lesson 4. STAGE 2. Mission analysis. Part 1.</b> 1. Understanding the task assigned by the higher command (HC) and the commander. 2. Tasks and procedure for conducting logistical reconnaissance (reconnaissance).
18.	Group exercise	4	4		<b>Lesson 5. Stage 2. Mission analysis. Part 2.</b> 1. Assessment of the situation and conclusions. 2. Calculating the military unit's material requirements and availability. 3. Development of proposals for logistical support in the preliminary order WARNO#2.
19.	Group	2	2		<b>Lesson 6. STAGES 3-6.</b>

No	Types of training activities, control measures	Total hours	of which		Name of topic and training questions.
			Classroom hours	Independent work	
1	2	3	4	5	6
	exercise				<ol style="list-style-type: none"> <li>1. Development of options for action. Course of action (COA) development.</li> <li>2. Analysis of options for action (war game/simulation). COA Analysis (War Game).</li> <li>3. Comparison of courses of action. COA Comparison.</li> <li>4. Approval of course of action. COA Approval.</li> </ol>
20.	Group exercise	4	4		<b>Lesson 7. STEP 7. Developing a logistics support plan. Orders Production, Dissemination and Transition.</b> <ol style="list-style-type: none"> <li>1. Development, coordination and approval of the logistics support plan.</li> <li>2. Refining and amending the OPLAN/OPORD.</li> </ol>
21.	Group exercise	2	2		<b>Lesson 8. Management of military unit logistics units during a march.</b> <ol style="list-style-type: none"> <li>1. Management of logistics units during a march.</li> <li>2. Situational tasks (actions based on introductory information).</li> </ol>
		<b>28</b>	<b>2</b>	<b>6</b>	<b>Topic 4. Organisation of logistics support for military units in defence.</b>
		<b>28</b>	<b>2</b>	<b>6</b>	<b>Comprehensive tactical task No. 2</b> <b>"Logistical support for military units in defence."</b>
22.	Group exercise	4	4		<b>Lesson 1. STAGE 1. Receipt of mission.</b> <ol style="list-style-type: none"> <li>1. Preparation (collection) of initial data, determination of priority measures for preparing logistics units for defence.</li> <li>2. Calculating time. Briefing subordinates on preparations for defence.</li> <li>3. Plotting the initial tactical and logistical situation on the logistics officer's working map.</li> <li>4. Development of proposals for logistical support in the preliminary order WARNO#1.</li> </ol>
23.	Group exercise	4	4		<b>Lesson 2. STAGE 2. Mission analysis. Part 1.</b> <ol style="list-style-type: none"> <li>1. Understanding the task assigned by the higher command (HC) and the commander.</li> <li>2. Tasks and procedure for conducting logistical reconnaissance.</li> </ol>
24.	Group exercise	4	4		<b>Lesson 3. Stage 2. Mission analysis. Part 2.</b> <ol style="list-style-type: none"> <li>1. Assessment of the situation and conclusions.</li> <li>2. Calculating the military unit's material requirements and availability.</li> <li>3. Development of proposals for logistical support in the preliminary order WARNO#2.</li> </ol>
25.	Group exercise	8	4	4	<b>Lesson 4. STAGES 3-6.</b> <ol style="list-style-type: none"> <li>1. Development of options for action. Course of action (COA) development.</li> <li>2. Analysis of options (war game/simulation). COA Analysis (War Game).</li> <li>3. Comparison of courses of action. COA Comparison.</li> </ol>

No	Types of training activities, control measures	Total hours	of which		Name of topic and training questions.
			Classroom hours	Independent work	
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
					4. Approval of course of action. COA Approval.
26.	Group exercise	6	4	2	<b>Lesson 6. STEP 7. Development of a logistics support plan. Orders Production, Dissemination and Transition.</b> 1. Development, coordination and approval of the logistics support plan. 2. Clarification and modification of OPLAN/OPORD.
27.	Group exercise	2	2		<b>Lesson 8. Management of military unit logistics units during defence.</b> 1. Management of logistics units during defence. 2. Situational tasks (actions according to instructions).
<b>Total</b>		<b>9</b>	<b>8</b>	<b>1</b>	

## VS 2. ORGANISATION OF OPERATION AND REPAIR OF MILITARY MOTOR VEHICLES

### 1. General objective of the academic discipline (subject):

*Upon completion of the course, students should know:*

the procedure for servicing and repairing cars and tracked vehicles in field conditions using mobile technical maintenance and routine repair;

the basic principles of operating motor vehicles;

the features of the structure of military motor vehicles;

the basics of organising technical maintenance, repair and evacuation of motor vehicles;

*be able to:*

monitor the technical condition and operation of vehicles;

organise the operation of motor vehicles in difficult conditions;

find and eliminate operational malfunctions of military vehicles;

use mobile repair equipment to repair military motor vehicles in field conditions;

keep records of equipment and report on its use in the unit.

### 2. Organisational and methodological guidelines:

#### 2.1. Features of the teaching methodology:

The methodology for teaching this subject is based on the basic principles of didactics (theory of justification and teaching). It provides a scientific and pedagogical description of the forms and methods of teaching, indicates the most appropriate combinations for achieving a specific level of learning, and determines the conditions for their most effective use.

To achieve the main goal of the programme, the following forms of teaching are provided:

frontal form of teaching, when all students perform the same task at the same time under the supervision of the teacher;

group form of teaching, when students are divided into groups (departments) depending on the staffing structure of the unit, which work in parallel;

individual form of training, when students perform tasks sequentially, one after another.

At the same time, depending on the level of knowledge or skills to be achieved, the teacher should use the following methods:

verbal-visual;

training;

Situational-cognitive.

Verbal-visual method, in which the teacher systematically and consistently presents the educational material, showing (demonstrating) the subjects being studied in order for learners to acquire new knowledge and form the appropriate imagination.

Training (reproductive) method – performing complex actions according to an algorithm (pre-established order) determined by the instructor to develop the necessary skills and ensure the coordination of military and organisational structures.

Situational-cognitive – conducting a review and discussion of real (probable) actions, familiarising oneself with the experience of managing troops (forces) in military conflicts and developing information and analytical skills.

The above methods provide students with knowledge, abilities and skills, but in order to develop their creative abilities, the instructor must use problem-based learning methods.

Problem-based teaching is when the instructor presents a problem to the students, solves it himself, but at the same time shows ways to solve it and reveals his train of thought. The immediate result of problem-based teaching should be the learner's mastery of the method and logic of solving a specific problem, but without the ability to apply them independently. This method teaches learners how to search for knowledge, helping them to acquire creative thinking skills.

The search (heuristic) method serves the purpose of gradually bringing students closer to independent problem solving by first teaching them how to perform individual elements of the solution. It is used during group exercises, when the method of finding the optimal solution is determined by the instructor, but the solution is found by the student.

Problem-solving methods ensure deep assimilation of knowledge at the level of its creative application, mastery of creative thinking methods, and practical experience.

#### **When conducting lectures:**

A lecture is the main type of educational activity designed to help students master the theoretical material of a topic.

The main purpose of a lecture is to systematise the scientific knowledge and practical experience on the topic, the state and prospects of the development of management science, the theory and practice of military leadership, and to focus attention on the most complex and crucial issues of the training material. The lecture should be problem-oriented, stimulate active cognitive activity among students, and contribute to the formation of creative thinking. To activate the cognitive activity of military personnel and develop their creative thinking during lectures, skilfully use technical teaching aids in combination with active forms and methods of lecturing. Classes should be conducted using oral presentation of the teaching material, with individual questions and teaching elements worked out in the form of a dialogue between the teacher and the students and by posing problem questions to them.

#### **When conducting group classes:**

A group class is a type of educational class during which the teacher presents new educational material using verbal and visual methods, checks the students' understanding of this material through questioning, and helps to reinforce it.

Group classes are conducted with the aim of providing students with a detailed study of the issues and problems discussed in lectures and a detailed examination of relevant issues in the teaching material. The main teaching methods used are explanation with demonstration, and discussion in the form of a debate. To ensure clarity during classes, it is necessary to use technical means of information transfer, tables, diagrams, slides, filmstrips and posters.

**When conducting practical classes:**

A practical class is a type of educational activity during which the teacher organises the assimilation of theoretical concepts through the individual completion of specially designed tasks and helps students develop the skills and abilities to apply these theoretical concepts in practice.

Practical classes should be aimed at consolidating and deepening the knowledge acquired by students in lectures and group classes, as well as during independent work, and developing their skills in solving practical tasks of everyday military activities.

**When conducting group exercises:**

A group exercise is a type of training session conducted by trainees performing the functional duties of specific officials of military command and control bodies, military units and subunits.

During this type of class, cadets (students) acquire skills in organising and planning combat (combat operations), commanding troops and providing them with comprehensive support. Comprehensive tactical tasks are developed for group exercises.

**When organising independent work:**

Independent work should be carried out with the aim of practising and mastering the training material; consolidating and deepening knowledge, skills and abilities; preparing for subsequent classes and control measures; forming in those being trained a culture of intellectual work, independence and initiative in the search for, acquisition and enrichment of knowledge.

Independent work should be supported with educational literature, teaching aids, tasks and methodological recommendations. All teaching and methodological materials for classes should have electronic versions. Methodological materials for independent work should provide for the possibility of self-control.

**2.2. Material and technical support:**

Classes should be held in specialised classrooms equipped with simulators and specialised driving areas with training vehicles.

**2.3. Information and methodological support:**

1. Nikishin V.A., Kupriyenko O.M., Berezensky R.V., Melenchuk V.M. Fundamentals of Military Vehicle Operation. Training Manual. – Odesa; VA, 2014.
2. Order of the Ministry of Defence of Ukraine No. 440 of 17 August 2017 "On the Approval of Instructions for the Accounting of Military Property in the Armed Forces of Ukraine".
3. Doroshenko O.F. Operation of Military Motor Vehicles. Part 1. Textbook. – Lviv: LISV, 2006.
4. Doroshenko O.F. Operation of military motor vehicles. Part 2. Training manual. – Lviv: LISV, 2006.
5. Doroshenko O.F. Operation of military motor vehicles. Part 3. Training manual. – Lviv: LIVS, 2007.
6. Doroshenko O.F. Operation of Military Motor Vehicles. Part 4. Textbook. – Lviv: LISV, 2007.
7. Fornalchik, E.Y., Oliskievaya, M.S., Mastikas, O.L., Pelio, R.A. Technical Operation and Reliability of Automobiles. Textbook. – Lviv: Afisha, 2004.
8. Instructions on material and technical support for troops (forces). Draft. – Kyiv: General Staff of the Armed Forces of Ukraine, 2008.

9. Maintenance and servicing of storage batteries and equipment of military storage units. Recommendations. – Kyiv: Varta, 1996.
10. Storage of motor vehicles and property in the Armed Forces of Ukraine. Manual. – Kyiv: Varta, 1999.
11. Instructions on the procedure for conducting final inspections of the condition of motor vehicles, motor transport and technical support forces and means, and the technical training of personnel in the Armed Forces of Ukraine. – Kyiv: 1994.
12. Collection of technical training programmes for drivers (mechanics-drivers) in the Armed Forces of Ukraine. Kyiv. Military Publishing House "Varta". – 1996.
13. Armament and military equipment of the Armed Forces of Ukraine. Reference book. – Kyiv: AZSU, 1997.
14. Operation of Army Vehicles. – Moscow: Voennye Izdatelstvo, 1978.
15. Sakhn V.P. Operational properties of motor vehicles. In 3 parts. Part 1. Dynamics and fuel efficiency of motor vehicles / V.P. Sakhno, A.V. Kostenko, M.I. Zagorodnov, O.P. Sakhno, O.V. Lukichov, O.A. Englezi // Textbook. – Donetsk: Publishing House "Noulidzh" (Donetsk branch), 2014. – 444 p. ISBN 978-617-579-924-6; ISBN 978-617-579-925-3 (Part 1).
16. Sakhno V.P. Operational properties of motor vehicles. In 3 parts. Part 2. Smoothness and passability of motor vehicles / Sakhno V.P., Polyakov V.M., Kostenko A.V., Sakhno O.P., Petrov O.V., Lukichov O.V. // Textbook. – Donetsk: Published by "Noulidzh" (Donetsk branch), 2014. – 356 p. ISBN 978-617-579-924-6; ISBN 978-617-579-491-3 (Part 2).
17. Sakhno V.P. Operational properties of motor vehicles. In 3 parts. Part 3. Manoeuvrability. Controllability. Stability / V.P. Sakhno, V.M. Polyakov, A.V. Kostenko, O.P. Sakhno, O.V. Lukichov, O.V. Petrov, D.L. Moisa // Textbook. – Donetsk: LANDON-XXI, 2015. – 400 p. ISBN 978-617-579-924-6 (series, published by "Noulidzh" (Donetsk branch); ISBN 978-617-7280-17-9 (Part 3, LANDON-XXI)
18. DSTU B 3576-98. Operation and repair. Terms and definitions. – Kyiv: Publishing House of Standards, 1998.
19. DSTU 2860-94. Reliability of equipment. Terms and definitions. – Kyiv: Publishing House of Standards, 1998.
20. Order of the Ministry of Defence of Ukraine No. 678 of 12 December 2016 "On approval of the Instructions on the use of motor vehicles in the Ministry of Defence and the Armed Forces of Ukraine".
21. Resolution of the Cabinet of Ministers of Ukraine No. 137 dated 30 January 2012, On approval of the Procedure for mandatory technical inspection and scope of technical condition checks of vehicles...
22. Order of the Minister of Defence of Ukraine No. 300 dated 16 July 1997 on the approval of the Regulations on Military (Naval) Economy of the Armed Forces of Ukraine.
23. Appendix No. 2 to the Order of the Minister of Defence of Ukraine dated 06.01.1999 No. \*1. "Norms for the consumption of fuel, oils, lubricants and special fluids during the operation, repair and maintenance of military equipment and weapons of the Armed Forces of Ukraine".
24. Order of the Ministry of Defence of Ukraine No. 760 dated 09.12.2011, On approval and entry into force of the Instructions for determining annual consumption rates of motor resources of automotive equipment in peacetime.
25. Order of the Minister of Defence of Ukraine No. 219 dated 01.07.02 on the approval of the Guidelines for the operation of motor vehicles in the Armed Forces of Ukraine in peacetime.
26. Order of the Ministry of Defence of Ukraine No. 581 dated 05.03.2004 "On approval of the Instructions on inspection and the condition of with of armoured vehicles and military equipment in the Armed Forces of Ukraine".

27. Order of the Minister of Defence of Ukraine No. 714 of 05.12.2006 "On approval of amendments to the Guidelines for the operation of motor vehicles in the Armed Forces of Ukraine"
28. Order of the Minister of Defence of Ukraine No. 184 of 10.04.06 On approval of the Rules for the use of number plates, installation (application) of identification marks, colour schemes, inscriptions and special signals on vehicles of the Armed Forces of Ukraine.
29. Order of the Minister of Defence of Ukraine No. 366 of 22 June 2007. On approval of the Regulations on the procedure for supplying the Armed Forces of Ukraine with motor vehicles and property in peacetime.
30. Doroshenko O.F. Operation of military motor vehicles. Part 1. Training manual. – Lviv: LISV, 2006.
31. Doroshenko O.F. Operation of military motor vehicles. Part 2. Training manual. – Lviv: LISV, 2006.
32. Doroshenko O.F. Operation of military motor vehicles. Part 3. Training manual. – Lviv: LIVS, 2007.
33. Doroshenko O.F. Operation of Military Motor Vehicles. Part 4. Textbook. – Lviv: LISV, 2007.
34. Fornalchik, E.Y., Oliskievaya, M.S., Mastikas, O.L., Pelio, R.A. Technical Operation and Reliability of Automobiles. Textbook. – Lviv: Afisha, 2004.
35. Instructions on material and technical support for troops (forces). Draft. – Kyiv: General Staff of the Armed Forces of Ukraine, 2008.
36. Maintenance and servicing of storage batteries and equipment of military storage units. Recommendations. – Kyiv: Varta, 1996.
37. Storage of motor vehicles and property in the Armed Forces of Ukraine. Manual. – Kyiv: Varta, 1999.
38. Instructions on the procedure for conducting final inspections of the condition of motor vehicles, motor transport and technical support forces and means, and the technical training of personnel in the Armed Forces of Ukraine. – Kyiv: 1994.
39. Collection of technical training programmes for drivers (mechanics-drivers) in the Armed Forces of Ukraine. Kyiv. Military Publishing House "Varta".–1996.
40. Operation of army vehicles. – Moscow: Military Publishing House, 1978.
41. Motor vehicles and tracked vehicles ZIL-131, KamAZ-4310, GAZ-66, Ural-4320, KrAZ-260, MT-LB. Technical description and operating instructions. – Moscow: Military Publishing House.
42. Maintenance of vehicles and tracked vehicles ZIL-131, KamAZ-4310, GAZ-66, Ural-4320, KrAZ-260, MT-LB. Manuals, instructions. – Moscow: Voenivdyav.
43. Technical maintenance workshops MTO-AT-M1, MTO-ATG-M1 and MTO-CHOS-M1. Manual. – Moscow: Voenivdyav, 1986.
44. Collection of technical documentation for maintenance and repair stations (PTOR), book 1 (Technical documentation for mechanics and adjusters). – Moscow: Voenivdyav, 1981.
45. Collection of technical documentation for maintenance and repair stations (PTOR), book 2 (Technical documentation for auto electricians). – Moscow: Voenivdyav, 1981.
46. Collection of technical documentation for maintenance and repair stations (PTR) book 3 (Technical documentation for auto mechanics). – Moscow: Voenivdyav, 1982.
47. Collection of technical documentation for maintenance and repair stations (PTR) book 4 (Technical documentation for lubrication stations). – Moscow: Voenivdyav, 1981.
48. Semyon B.Y., Marchuk V.E., Ivanov V.I., Berdnik V.V., Kharchenko V.V., Shulga I.F., Koskov Yu.M., Saliy A.G., Shchepottev

O.I. Organisation of the operation of automotive and electric and gas aviation equipment: Textbook. – Kyiv: NAOU, 2004. – 290 p.

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2. Guidelines for unified workshops for technical maintenance and routine repair of motor vehicles and tracked vehicles (MTO-AT, MTO-4OS, MTO-ATG).
3. "Methodological recommendations for establishing and determining the norms of wear and tear (service life) for the repair of motor vehicles and motor vehicle property."
4. Order of the Minister of Defence dated 09.12.2011 No. 759 "On approval of amendments to the Regulations on the procedure for supplying the Armed Forces of Ukraine with motor vehicles and property in peacetime".
5. Order of the Minister of Defence dated 29 March 2021 No. 81 "On approval of the Procedure for writing off military property in the Armed Forces of Ukraine and the State Special Transport Service".
6. Order of the Minister of Defence dated 17 June 2013 No. 404 "On approval of the list of documents generated in the activities of the Ministry of Defence of Ukraine and the Armed Forces of Ukraine with indication of the terms of storage of documents".
7. Order of the Minister of Defence of Ukraine dated 6 January 1999 No. 01 "On determining the norms of consumption of fuel, oils, lubricants and special fluids during the operation of the Armed Forces of Ukraine".
8. Resolution of the Cabinet of Ministers of Ukraine dated 03.05.2000 No. 748 "Regulations on the inventory of military property in the Armed Forces of Ukraine".
9. Order of the Minister of Defence of Ukraine dated 14.08.1995 No. 201 "On approval of the Regulations on the material liability of military personnel for damage caused to the state".
10. Order of the Minister of Defence of Ukraine dated 28 December 1995 No. 341 "On approval of the List of military property, the shortage or theft of which shall be compensated by the persons responsible in proportion to its value.
11. V.F. Kislikov, V.V. Lutsk. Structure and operation of motor vehicles. Textbook, 4th edition. –K. Lybid, 2004.-400 p.
12. MO "The ZIL-131 vehicle and its modifications. Textbook, 1975, 327 p.
13. MO "The Ural-4320 Vehicle: Operating Manual." Textbook, 1987, 375 p.
14. P.M. Gashchuk, T.G. Myskiw, S.V. Nikipchuk. Automobile engines. Textbook. – Lviv 2006-144 p.
15. Automotive Service Manual.
16. B.A. Danov Electrical Equipment of Military Motor Vehicles. M. Voenivdydav, 1988-332p.
17. Sazhko V.A. Electrical Equipment of Automobiles and Tractors: Textbook. Karavela, 2008. 400 p.
18. Yutt V.E. Electrical Equipment of Automobiles: Textbook for Road Transport Universities. –M., Transport, 1989.-287p.
19. Order of the Ministry of Defence of Ukraine dated 12 December 2016 No. 678 "Instructions on the use of motor vehicles in the Armed Forces of Ukraine".

20. Order of the Ministry of Defence of Ukraine dated 22.11.16 No. 616 Instructions for determining annual motor vehicle fuel consumption rates in peacetime.
21. Order of the Ministry of Defence of Ukraine No. 440 dated 17 August 2017 "On Approval of the Instructions for Accounting for Military Property in the Armed Forces of Ukraine".
22. MAZ 631705, 642508, 531605 vehicles (BOGDAN - 631705, 642508, 531605). Operating instructions. Bogdan Motors Automobile Company. Cherkasy 2015.
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28. Instructions on material and technical support for troops (forces). Draft. – Kyiv: General Staff of the Armed Forces of Ukraine, 2008.
29. Maintenance and servicing of storage batteries and equipment of military storage units. Recommendations. – Kyiv: Varta, 1996.
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32. Weapons and Military Equipment of the Armed Forces of Ukraine. Reference Book. – Kyiv: AZSU, 1997.
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### Names of topics and distribution of teaching time by type of class

No	Types of educational activities, control measures	Total hours	Of which		Topic name and learning questions.
			Classroom hours	Independent work	
<b>Semester</b>					
<b>Section 1. Fundamentals of military vehicle operation.</b>					
	<b>Total hours per topic</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>Topic 1. General provisions for the organisation of motor vehicle operation.</b>
1.	Lecture	4	2	2	<b>Lesson 1. General provisions on the organisation of operation of motor vehicles.</b> 1. Basic terms and definitions. 2. Stages and types of operation. 3. Classification of large-scale enterprises by type and group. 4. Components of combat readiness of military equipment.
	<b>Total hours on the topic</b>	<b>2</b>	<b>1</b>	<b>8</b>	<b>Topic 2. Commissioning of the combat readiness system. Number and identification marks.</b>
2.	Group session	4	2	2	<b>Lesson 1. Preparing the VAT for use.</b> 1. Preparation for use. 2. Procedure for acceptance, introduction into service, assignment to units and drivers. 3. Practising the order on putting AT into service.
3.	Group session	6	4	2	<b>Lesson 2. Number plates, identification marks, warning signs, inscriptions and markings.</b> 1. General provisions on the use of number plates. 2. Range distribution, order of assignment of number plates, registration. 3. Identification signs and the procedure for their use and application
4.	Group session	6	4	2	<b>Lesson 3. Testing new samples and organising advertising work.</b> 1. Testing new samples of OJSC. 2. Complaints handling.
5.	Group session	6	4	2	<b>Lesson 4. Organisation and procedure for mandatory technical inspection.</b> 1. General provisions and regulatory framework. 2. Procedure for mandatory technical inspection. 3. Technical inspection documentation and procedure for its preparation.
		<b>18</b>	<b>14</b>	<b>4</b>	<b>Topic 3. Use of automotive equipment.</b>

6.	Group session	5	4	1	<b>Lesson 1. How to use OAT.</b> 1. Basic measures for the efficient use of machines, saving motor resources and fuel. 2. Procedure for using heavy machinery. 3. Planning and accounting for use.
7.	Group session	5	4	1	<b>Lesson 2. Annual motor resource consumption rates for joint-stock companies.</b> 1. General provisions and procedure for applying annual motor resource consumption rates. 2. Basic and additional annual motor resource consumption rates for military motor vehicles and the procedure for their application in the planning and use of vehicles. 3. Control over motor resource consumption.
8.	Group session	3	2	1	<b>Lesson 3. Procedure for training (retraining) drivers in the Armed Forces of Ukraine and admitting them to driving vehicles.</b> 1. Requirements of regulatory documents regarding the procedure for training (retraining) drivers in the Armed Forces of Ukraine and their admission to driving vehicles. 2. Conditions for admission of drivers of the Armed Forces of Ukraine to driving vehicles. 3. Planning and organisation of technical training for drivers and other motor transport service specialists.
9.	Group session	5	4	1	<b>Lesson 4. Departmental registration and accounting of military motor vehicles.</b> 1. General provisions on the registration of vehicles. 2. Requirements of regulatory documents regarding the procedure for registration (registration and deregistration) of military motor vehicles. 3. Procedure for registration (re-registration) and deregistration of vehicles. 4. Forms of registration (accounting) documents for the registration of military vehicles.
		<b>16</b>	<b>10</b>	<b>6</b>	<b>Topic 4. Organisation of technical maintenance of military motor vehicles in a military unit.</b>
10.	Group session	6	4	2	<b>Lesson 1. Organisation of technical maintenance of motor vehicles in a military unit.</b> 1. Maintenance planning procedure. 2. Development of a maintenance schedule.
11.	Group session	6	4	2	<b>Lesson 3. Organisation of seasonal technical maintenance at a joint-stock company.</b> 1. General provisions. 2. Planning seasonal maintenance. 3. Organisation of work. 4. Quality control of seasonal maintenance work. 5. Procedure for processing planning and reporting documentation for seasonal maintenance of a joint-stock company.
12.	Group session	4	2	2	<b>Lesson 5. Standards for providing military units with park equipment, the procedure for its accounting and write-off.</b> 1. General provisions on provision of park equipment. 2. Table (standards) of provision. 3. Procedure for accounting and writing off park equipment.
<b>Total for the semester</b>		<b>60</b>	<b>4</b>	<b>2</b>	
<b>Semester</b>					

<b>Section 1. Fundamentals of military vehicle operation.</b>					
		<b>6</b>	<b>4</b>	<b>2</b>	<b>Topic 5. Organisation of storage of military motor vehicles.</b>
13.	Group session	6	4	2	<b>Lesson 1. Organisation of storage of military motor vehicles.</b> 1. General provisions for the storage of motor vehicles and property 2. Procedure for storing motor vehicles. 3. Preparation of vehicles for storage. 4. Preparing vehicles for use after storage.
		<b>18</b>	<b>12</b>	<b>6</b>	<b>Topic 6. Organisation of transportation of military motor vehicles.</b>
14.	Group session	6	4	2	<b>Lesson 1. Organization of motor vehicle transportation.</b> 1. Organisation and provision of military transport. 2. Transportation by road, rail, water and air. 3. Preparation for the transportation of motor vehicles.
15.	Group session	6	4	2	<b>Lesson 2. Features of transportation by rail.</b> 1. Loading and placing equipment on rolling stock. 2. Materials and devices for loading and securing wheeled and tracked equipment. 3. Practical calculations.
16.	Group session	6	4	2	<b>Lesson 3. Features of transporting machines by air and sea (river) transport.</b> 1. Features of transportation by sea (river) transport. 2. Features of transportation by air transport.
		<b>2</b>	<b>1</b>	<b>6</b>	<b>Topic 7. Organisation of accounting and control over the operation of military motor vehicles.</b>
17.	Group session	4	2	2	<b>Lesson 1. Organisation of accounting and control over the operation of motor vehicles.</b> 1. Types of control over the technical condition of vehicles. 2. Frequency of control over the operation of motor vehicles by officials. 3. Overview of military motor vehicles.
18.	Practical session	10	8	2	<b>Lesson 2. Procedure for maintaining documentation on accounting and control over the use of VAT.</b> 1. Purpose of accounting. 2. Distribution list and waybill. 3. Book for recording machine operation and fuel consumption. 4. Monthly results of vehicle operation.
19.	Group session	6	4	2	<b>Lesson 3. Basic and additional fuel consumption rates during operation of open-pit mining equipment.</b> 1. Fuel consumption rates. 2. Lubricant consumption rates. 3. Consumption rates for special fluids.
		<b>2</b>	<b>16</b>	<b>8</b>	<b>Topic 8. Operation of batteries, tyres and tarpaulins.</b>

20.	Group session	6	4	2	<p><b>Lesson 1. General information about rechargeable batteries. Types and characteristics of rechargeable batteries. Operation of rechargeable batteries.</b></p> <p>1. General information about rechargeable batteries. Types and characteristics of rechargeable batteries.</p> <p>2. Operating rechargeable batteries.</p> <p>3. Procedure for bringing rechargeable batteries into working condition.</p> <p>4. Bringing dry-charged rechargeable batteries into working condition.</p> <p>5. Accelerated bringing of rechargeable batteries into working condition.</p>
21.	Group session	6	4	2	<p><b>Lesson 2. Charging batteries that are in use.</b></p> <p>1. Technical maintenance.</p> <p>2. Storage of batteries.</p> <p>3. Storage and operating life of batteries, procedure for writing off batteries, filing complaints.</p>
22.	Group session	6	4	2	<p><b>Lesson 3. Types and characteristics of car tyres.</b></p> <p>1. General information about pneumatic tyres.</p> <p>2. Types and design features of pneumatic tyres</p>
23.	Group session	6	4	2	<p><b>Lesson 4. Trademarks of tyre manufacturers.</b></p> <p>1. Fitting tyres to vehicles.</p> <p>2. Tyre installation and removal.</p> <p>3. Tyre maintenance.</p>
<b>Section 2. Basic principles of military vehicle repair.</b>					
		<b>16</b>	<b>10</b>	<b>6</b>	<b>Topic 1. Basic principles of repairing military motor vehicles.</b>
24.	Lecture	4	2	2	<p><b>Lesson 1. System and types of repair of vehicles and assemblies.</b></p> <p>1. Vehicle repair system.</p> <p>2. Types of repair of machines and assemblies</p> <p>3. Principles of organising vehicle repairs.</p>
25.	Group session	6	4	2	<p><b>Lesson 2. Methods of repairing VAT and methods of organising repair work. Operating hours (service life) of VAT before repair and write-off.</b></p> <p>1. Methods of repairing heavy machinery. Methods of organising repair work.</p> <p>2. Organisation of occupational health and safety during machine repair.</p> <p>3. General requirements for the application of operating hours (service life) standards for automotive equipment.</p> <p>4. Operating hours (service life) standards for the write-off of automotive property.</p>
26.	Group session	6	4	2	<p><b>Lesson 3. Procedure for handing over machines for repair and receiving machines after repair.</b></p> <p>1. General and technical requirements for preparing and handing over vehicles for repair. Procedure for handing over vehicles for routine and medium repairs.</p> <p>2. Receipt of vehicles after repair from the repair unit of your military unit.</p> <p>3. Procedure for receiving vehicles and units from repair plants.</p>
27.		<b>36</b>	<b>24</b>	<b>1</b>	<b>Topic 2. Mobile vehicle repair workshops repair platoon.</b>

28.	Lecture	4	2	2	<p><b>Lesson 1. Purpose, characteristics, composition and production capabilities of repair platoon workshops.</b></p> <p>1. Purpose, characteristics, composition and production capabilities of repair platoon workshops.</p> <p>2. Basic tactical and technical data of repair platoon workshops.</p> <p>3. Purpose, characteristics, composition and production capabilities of the MRS-AT-M1 workshop.</p> <p>4. Placement of production equipment in the MRS-AT-M1 workshop.</p>
29.	Group session	4	2	2	<p><b>Lesson 2. Repair and mechanical workshop MRM-M1, special vehicle ZIL-131.</b></p> <p>1. Purpose, characteristics, composition and production capabilities of the MRM-M1 workshop.</p> <p>2. Location of production equipment in the MRM-M1 workshop.</p> <p>3. Purpose, equipment set, technical characteristics of the ZIL-131 special vehicle.</p> <p>4. Location of equipment and property in the body of the ZIL-131 special vehicle.</p> <p>5. Welding unit on a single-axle trailer.</p>
30.	Practical session	8	6	2	<p><b>Lesson 3. Procedure for setting up and dismantling production tents, equipment, and posts of production units of the repair platoon.</b></p> <p>1. Procedure for setting up production tents, equipment, and posts of production units of the repair platoon.</p> <p>2. Preparation of equipment and posts of production units of the repair platoon for work.</p> <p>3. Procedure for dismantling production tents, equipment, and posts of production units of the repair platoon.</p>
31.	Practical session	8	6	2	<p><b>Lesson 4. Characteristics of production posts and equipment in the repair company's workshops.</b></p> <p>1. Procedure for setting up and dismantling the disassembly and assembly department and routine repair of Ts-21 E units.</p> <p>2. Location of equipment in the disassembly and assembly department and routine repair of units Ts-21 E.</p> <p>3. Procedure for setting up and dismantling the woodworking, upholstery and painting department of the Ts-22E.</p> <p>4. Placement of equipment in the woodworking, upholstery and painting department Ts-22E.</p> <p>5. Procedure for setting up and dismantling the thermal works department Ts-23E.</p> <p>6. Placement of equipment in the heating works department Ts-23E.</p>
32.	Practical session	10	6	4	<p><b>Lesson 5. Characteristics of production posts and equipment in the repair company's workshops.</b></p> <p>1. Procedure for setting up and dismantling the disassembly and assembly department and routine repair of Ts-21 E units.</p> <p>2. Location of equipment in the disassembly and assembly department and routine repair of units Ts-21 E.</p> <p>3. Procedure for setting up and dismantling the woodworking, upholstery and painting department of the Ts-22E.</p> <p>4. Placement of equipment in the woodworking, upholstery and painting department Ts-22E.</p> <p>5. Procedure for setting up and dismantling the thermal works department C-23E.</p> <p>6. Placement of equipment in the heating works department Ts-23E.</p>
		2	2		<b>Differential credit</b>
<b>Total for the semester</b>		<b>12</b>	<b>80</b>	<b>40</b>	
<b>Semester 7</b>					
<b>Section 2. Basic principles of military vehicle repair.</b>					

		<b>12</b>	<b>8</b>	<b>4</b>	<b>Topic 2. Mobile vehicle repair workshops of the repair platoon.</b>
33.	Group session	6	4	2	<b>Lesson 1. Electrical equipment of repair company workshops.</b> 1. Purpose and composition of electrical equipment in repair company workshops. 2. Cable electrical network. 3. Electrical equipment of production departments Ts-21E, Ts-22E, Ts-23E. 4. Unrolling and rolling up the cable electrical network.
34.	Group session	6	4	2	<b>Lesson 2. Organisation of the production process for medium-sized repair of machines in field conditions.</b> 1. Organisation of the production process for medium repair of machines in field conditions. 2. Sequence of deployment and dismantling of material resources of repair company workshops. 3. Occupational safety rules during maintenance and repair of machines in repair company workshops. Organization of security and defence.
<b>Section 3. Basics of evacuation of weapons and military equipment.</b>					
		<b>18</b>	<b>12</b>	<b>6</b>	<b>Topic 1. Evacuation of weapons and military equipment.</b>
35.	Lecture	4	2	2	<b>Lesson 1. Basics of evacuation.</b> 1. Basics of equipment evacuation. 2. Purpose and objectives of evacuating damaged equipment.
36.	Group session	4	2	2	<b>Lesson 2. Preparing equipment for evacuation.</b> 1. Preparing equipment for evacuation. 2. Performing evacuation work.
37.	Practical session	7	6	1	<b>Lesson 3. Basics of evacuation.</b> 1. Stages of evacuation. 2. Evacuation procedure. 3. Evacuation using pulleys and blocks.
38.	Group session	3	2	1	<b>Lesson 4. Technical means of evacuation.</b> 1. Tactical and technical characteristics of evacuation equipment for motor vehicles. 2. Tactical and technical characteristics of armoured vehicle evacuation equipment.
<b>Total semester</b>		<b>3</b>	<b>2</b>	<b>1</b>	
<b>Semester</b>					
<b>Section 4. Organisation of military property accounting in a military unit.</b>					
		<b>30</b>	<b>20</b>	<b>1</b>	<b>Topic 1. Organisation of military property accounting in a military unit.</b>
39.	Group session	6	4	2	<b>Lesson 1. Organisation and procedure for keeping records in a unit.</b> 1. Study of the provisions of Order No. 440 of the Minister of Defence of Ukraine. 2. Rules and procedures for record keeping in a unit.

40.	Practical session	8	6	2	<p><b>Lesson 2. Procedure for handing over vehicles for repair and receiving them back from repair.</b></p> <p>1 Study of the requirements of the order of the Minister of Defence of Ukraine dated 09.11.16 No. 596.</p> <p>2. Study of the provisions of the Guidelines for Motor Vehicle Service.</p> <p>3. Procedure for drawing up a technical condition report</p> <p>4. Rules and procedure for maintaining sections of the vehicle passport (form).</p> <p>5. Procedure for drawing up a report on changes in quality.</p> <p>6. Procedure for determining residual value.</p>
41.	Practical session	10	6	4	<p><b>Lesson 3. Procedure for writing off military motor vehicles and motor vehicle property.</b></p> <p>1. Study of the provisions of Order No. 81 of the Minister of Defence of Ukraine dated 29 March 2021 "On approval of the procedure for writing off military property in the Armed Forces of Ukraine and the State Security Service".</p> <p>2. Procedure for drawing up a write-off report.</p> <p>3. Procedure for drawing up a technical condition report</p> <p>4. Procedure for drawing up a quality change report</p> <p>5. Procedure for filling in information on the residual value of property.</p>
42.	Group session	6	4	2	<p><b>Lesson 4. Organisation of military motor transport.</b></p> <p>1. Organisation of the delivery of material resources in the anti-terrorist operation zone (ATO, OOS).</p> <p>2. Purpose and types of military motor transport.</p> <p>3. Basic principles of supplying material and technical resources (MTR).</p> <p>4. Order of movement of vehicles in a military convoy.</p>
<b>Total for the semester</b>		<b>30</b>	<b>2</b>	<b>1</b>	
		<b>6</b>	<b>6</b>	<b>-</b>	<b>EXAM</b>
<b>Total</b>		<b>240</b>	<b>160</b>	<b>8</b>	

### VS 3. ORGANISATION OF TRANSPORTATION OF FUEL AND LUBRICANTS

#### 1. General objective of the academic discipline (subject):

*Upon completion of the course, students should know:*

the content and methods of work the functional duties and order of work of the platoon commander responsible for the delivery of material and technical resources;

the general provisions and basic principles of the use of logistical support units;

the methods of action of units during the performance of tasks;

the rules and regulations necessary to ensure the safe and accident-free transportation of dangerous and special cargo.

*be able to:*

perform duties assigned to primary military positions;

transport special, explosive and fire-hazardous cargo in compliance with safety rules and sanitary and hygienic requirements;

take measures to keep records of transported material and technical resources;

monitor the condition of material and technical resources in storage;

manage and provide comprehensive support to food service units during preparation and execution of assigned tasks;

maintain interaction with other units for the successful completion of tasks.

#### 2. Organisational and methodological guidelines:

##### 2.1. Features of the teaching methodology:

The methodology for teaching this subject is based on the basic principles of didactics (theory of justification and teaching). It provides a scientific and pedagogical description of the forms and methods of teaching, indicates the most appropriate combinations for achieving a specific level of learning, and determines the conditions for their most effective use.

To achieve the main goal of the programme, the following forms of teaching are provided:

frontal form of teaching, when all students perform the same task at the same time under the supervision of the teacher;

group form of teaching, when students are divided into groups (departments) depending on the staffing structure of the unit, which work in parallel;

individual form of training, when students perform tasks sequentially, one after another.

At the same time, depending on the level of knowledge or skills to be achieved, the teacher should use the following methods:

verbal-visual;

training;

situational-cognitive.

Verbal-visual method, in which the teacher systematically and sequentially presents the learning material, showing (demonstrating) the subjects being studied in order for learners to acquire new knowledge and form the appropriate imagination.

Training (reproductive) method – performing complex actions according to an algorithm (pre-established order) determined by the instructor to develop the necessary skills and ensure the coordination of military and organisational structures.

Situational-cognitive – conducting a review and discussion of real (probable) actions, familiarising oneself with the experience of managing troops (forces) in military conflicts and developing information and analytical skills.

The above methods provide students with knowledge, abilities and skills, but in order to develop their creative abilities, the instructor must use problem-based learning methods.

Problem-based teaching is when the teacher presents a problem to the students, solves it himself, but at the same time shows ways to solve it and reveals his train of thought. The immediate result of problem-based teaching should be the learner's mastery of the method and logic of solving a specific problem, but without the ability to apply them independently. This method teaches learners how to search for knowledge and helps them acquire creative thinking skills.

The search (heuristic) method serves the purpose of gradually bringing students closer to independent problem solving by first teaching them how to perform individual elements of the solution. It is used during group exercises, when the method of finding the optimal solution is determined by the instructor, but the solution is found by the student.

Problem-solving methods ensure deep assimilation of knowledge at the level of its creative application, mastery of creative thinking methods, and practical experience.

#### **When conducting lectures:**

A lecture is the main type of educational activity designed to help students master the theoretical material of a topic.

The main purpose of a lecture is to systematise the scientific knowledge and practical experience on the topic, the state and prospects of the development of management science, the theory and practice of military leadership, and to focus attention on the most complex and crucial issues of the training material. The lecture should be problem-oriented, stimulate active cognitive activity among students, and contribute to the formation of creative thinking. To activate the cognitive activity of military personnel and develop their creative thinking during lectures, skilfully use technical teaching aids in combination with active forms and methods of lecturing. Classes should be conducted using oral presentation of the teaching material, with individual questions and teaching elements worked out in the form of a dialogue between the teacher and the students and by posing problem questions to them.

#### **When conducting group classes:**

A group class is a type of educational class during which the teacher presents new educational material using verbal and visual methods, checks the students' understanding of this material through questioning, and helps to reinforce it.

Group classes are conducted with the aim of providing students with a detailed study of the issues and problems discussed in lectures and a detailed examination of relevant issues in the teaching material. The main teaching methods used are explanation with demonstration and discussion in the form of a debate. To ensure clarity during classes, it is necessary to use technical means of information transfer, tables, diagrams, slides, filmstrips and posters.

**During practical classes:**

A practical class is a type of educational class during which the teacher organises the assimilation of theoretical concepts through the individual completion of specially designed tasks and helps students develop the skills and abilities to apply these theoretical concepts in practice.

Practical classes should be aimed at consolidating and deepening the knowledge acquired by students in lectures and group classes, as well as during independent work, and developing their skills in solving practical tasks of everyday military activities.

**When conducting group exercises:**

A group exercise is a type of training session conducted by trainees performing the functional duties of specific officials of military command and control bodies, military units and subunits.

During this type of class, cadets (students) acquire skills in organising and planning combat (combat operations), commanding troops and providing them with comprehensive support. Comprehensive tactical tasks are developed for group exercises.

**When organising independent work:**

Independent work should be carried out with the aim of practising and mastering the training material; consolidating and deepening knowledge, skills and abilities; preparing for subsequent classes and control measures; forming in those being trained a culture of intellectual work, independence and initiative in the search for, acquisition and enrichment of knowledge.

Independent work should be supported with educational literature, teaching aids, tasks and methodological recommendations. All teaching and methodological materials for classes should have electronic versions. Methodological materials for independent work should provide for the possibility of self-control.

**2.2. Material and technical support:**

Classes should be held in specialised classrooms equipped with simulators and specialised driving areas with training vehicles.

**2.3. Information and methodological support:**

1. On the Statute of Internal Service of the Armed Forces of Ukraine: *Law of 24 March 1999* № 548-XIV // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 03.07.2020. URL: <https://zakon.rada.gov.ua/laws/show/548-14#Text> (date of access: 28.07.2020).
2. Resolution of the Cabinet of Ministers of Ukraine dated 05.08.2020 No. 686 "On approval of norms for losses of petroleum products during their acceptance, storage, release, reloading and transportation" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/748-2000-11#Text> (accessed on 30.08.2020).
3. Resolution of the Cabinet of Ministers of Ukraine No. 748 of 03.05.2000 "On approval of the Regulations on the inventory of military property in the Armed Forces" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/748-2000-11#Text> (accessed on 28 July 2020).

4. Resolution of the Cabinet of Ministers of Ukraine dated 04.08.2000 No. 1225 "On approval of the Regulations on the procedure for accounting, storage, write-off and use of military property in the Armed Forces of Ukraine" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: [http://search.ligazakon.ua/l\\_doc2.nsf/link1/KP001225.html](http://search.ligazakon.ua/l_doc2.nsf/link1/KP001225.html) (accessed on 28 July 2020).
5. Resolution of the Cabinet of Ministers of Ukraine No. 759 of 1998 (as amended) "On Approval of the Methodology for Determining the Residual Value of Property of the Armed Forces of Ukraine and Other Military Formations" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: [http://search.ligazakon.ua/l\\_doc2.nsf/link1/KP980759.html](http://search.ligazakon.ua/l_doc2.nsf/link1/KP980759.html) (accessed on 28 July 2020).
6. Law of Ukraine "On the Material Liability of Servicemen and Persons Equivalent to Them for Damage Caused to the State" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/160-20#Text> (accessed on 08.08.2021).
7. Resolution of the Cabinet of Ministers of Ukraine No. 604 of 15 July 2020 "On approval of the list of armaments, weapons and ammunition, the shortage or theft of which shall be compensated by the persons responsible in proportion to their value" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/604-2020-%D0%BF#n9> (accessed on 08.08.2021).
8. Order of the Deputy Minister of Defence of Ukraine - Chief of Logistics of the Armed Forces **No. 112 dated 12 November 1998** "On approval of the Guidelines for the operation of military fuel depots of the Armed Forces of Ukraine"
9. Order of the Ministry of Finance of Ukraine **No. 572 dated 17 June 2015** "On approval of standard forms for reporting inventory results by budgetary institutions."
10. Order of the Minister of Defence of Ukraine No. 300 of 1997 "On approval of the Regulations on the military economy of the Armed Forces of Ukraine" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/z0615-97#Text> (accessed on 28 July 2020).
11. On approval of the Instructions on accounting for military property in the Armed Forces of Ukraine: Order of the Ministry of Defence of Ukraine **No. 440 of 17 August 2017** // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 23.08.2019. URL: <https://zakon.rada.gov.ua/laws/show/z1192-17#Text> (accessed on 28.07.2020).
12. Order of the Minister of Defence of Ukraine "On Approval of the Procedure for the Write-off of Military Property in the Armed Forces of Ukraine and the State Special Transport Service" dated **29 March 2021 No. 81** // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/z0655-21#Text> (accessed on 10.08.2021).
13. Order of the Ministry of Defence of Ukraine **No. 590 of 12 November 2010** "Regulations on the financial management of of Military Units of the Armed Forces of Ukraine".
14. Order of the Ministry of Defence of Ukraine **No. 905 of 19.12.2014** "On approval of the Instructions on the organisation and maintenance of accounting in the Armed Forces of Ukraine". –K.: -2014. Database URL: <https://studfile.net/preview/2265825/> (accessed on 28 July 2020).
15. Order of the General Staff of the Armed Forces of Ukraine **No. 124 of 2017** "On Approval of the Instructions on Document Management in the Armed Forces of Ukraine." – Kyiv: 2017. Database URL: [https://zsu.at.ua/load/akti\\_ngsh\\_zsu/nakaz\\_ngsh\\_zsu\\_vid\\_07\\_04\\_2017\\_124\\_pro\\_zatverdzhennja\\_instrukciji\\_z\\_dilovodstva\\_v\\_zbrojnikh\\_silakh\\_ukrajini/5-1-0-19](https://zsu.at.ua/load/akti_ngsh_zsu/nakaz_ngsh_zsu_vid_07_04_2017_124_pro_zatverdzhennja_instrukciji_z_dilovodstva_v_zbrojnikh_silakh_ukrajini/5-1-0-19) (accessed on 28 July 2020).
16. Order of the Ministry of Defence of Ukraine **No. 474 of 28 August 2019** "On approval of the Procedure for using the List of documents generated in the activities of the Ministry of Defence of Ukraine and the Armed Forces of Ukraine, with indication of the terms of storage of documents and the List of documents generated in the activities of the Ministry of Defence of Ukraine and the Armed Forces of Ukraine, with

- indication of the terms of storage of documents". Database URL: [https://www.mil.gov.ua/content/mou\\_orders/\\_mou\\_474.pdf](https://www.mil.gov.ua/content/mou_orders/_mou_474.pdf) (accessed on 10.08.2021).
17. Order of the Ministry of Defence of Ukraine **No. 777 of 16 December 2011** "On approval of instructions for quality control of fuel and lubricants, special fluids and rocket fuel components in the Armed Forces of Ukraine".
  18. Order of the Ministry of Defence of Ukraine **No. 6T-2016** "On the norms for the echelonment of military stocks material resources in the Armed Forces of Ukraine".
  19. Order of the Ministry of Defence of Ukraine **No. 01 dated 6 January 1999** "On establishing norms for the consumption of fuel, oils, lubricants and special fluids during the operation, repair and maintenance of military equipment and weapons of the Armed Forces of Ukraine".
  20. Order of the Ministry of Defence of Ukraine **No. 513 of 13 October 2009** "On approval of amendments to the order of the Minister of Defence of Ukraine No. 01 of 06.01.99".
  21. Order of the Ministry of Defence of Ukraine **No. 303 of 7 June 2019** "On approval of amendments to the order of the Minister of Defence of Ukraine dated 6 January 1999 No. 01".
  22. Order of the Ministry of Defence of Ukraine **No. 662 of 8 December 2016** "On approval of the Instructions on quality control of fuel and lubricants and special fluids in state aviation of Ukraine" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 17 February 2017. URL: <https://zakon.rada.gov.ua/laws/show/z0060-17#Text> (accessed on 28.07.2020).
  23. Order of the Ministry of Defence of Ukraine **No. 1 of 11.01.2010** "On Amendments to Certain Orders of the Minister of Defence of Ukraine".
  24. Order of the Ministry of Defence of Ukraine **No. 469 of 09.11.2006** "On approval of the regulations on providing the Armed Forces of Ukraine with fuel and technical means for fuel services in peacetime".
  25. Order of the Ministry of Defence of Ukraine **No. 685 of 29 September 2014** "On approval of the Regulations on fire safety in the Ministry of Defence of Ukraine and the Armed Forces of Ukraine".
  26. Order of the Ministry of Defence of Ukraine **No. 686 of 14.12.2007** "On approval of the Instructions on the organisation representing the interests of the Ministry of Defence of Ukraine, military command bodies, army corps, air commands, formations, units, military units, military educational institutions, agencies and organisations of the Armed Forces of Ukraine during the consideration of cases by courts of general jurisdiction, the conduct of claims and litigation and the enforcement of court decisions".
  27. Order of the Ministry of Defence of Ukraine **No. 596 dated 09.11.2016** "On approval of the Instructions on the organisation of the transfer of weapons, military equipment and property for repair".
  28. Order of the Ministry of Defence of Ukraine **No. 374 dated 11.06.14** "On approval of the list of sets of standard technical equipment and property of the fuel and lubricants service of military units of the Armed Forces of Ukraine in peacetime and wartime". DSK.
  29. Joint Order of the Ministry of Defence of Ukraine with other ministries **No. 791 of 17 December 2016** "On approval of the Procedure for settlements for fuel and lubricants and food products received between entities directly involved in combating terrorism in the area of the anti-terrorist operation -".
  30. Order of the Military-Industrial Complex of Ukraine on the rear – NT ZSU **No. 60 of 23 May 2000** "On the introduction of the Instructions for conducting a documentary audit (inspection) of the fuel service of a military unit, warehouse, base and fuel supply centre".

31. Order of the Military-Technical Administration of Ukraine on Rear Services – NT ZSU No. 7 dated 11 April 1994 "On the introduction of Instructions on the handling of toxic technical fluids."
32. Order of the Military Medical Directorate of Ukraine on Logistics No. 24 dated 2 February 1994 "On the introduction of the Guidelines for the handling of ethyl alcohol".
33. Order of the Military Medical Directorate of Ukraine on rear services – NT ZS Ukraine No. 45 of 30 May 1997 "On the organisation of operation and inspection of the condition of technical means of the fuel service of the Armed Forces of Ukraine".
34. Order of the Military-Technical Administration of Ukraine on Rear Services – NT of the Armed Forces of Ukraine No. 46 dated 30 May 1997 "On the organisation of mass distribution of fuel to motor transport".
35. Order of the Military-Technical Administration of Ukraine on Logistics – NT ZSU No. 112 dated 12 November 1998 "On the approval of the Guidelines for the operation of military fuel depots of the Armed Forces of Ukraine".
36. Order of the Chief of the General Staff of the Armed Forces of Ukraine No. 85 dated 31 August 2020 "On the approval and entry into force of the Methodological Recommendations for determining the need for weapons and military equipment, logistical resources by supply class, land plots and accommodation of troops (forces) necessary for the preparation and execution of tasks to repel armed aggression."
37. Order of the Chief of the General Staff of the Armed Forces of Ukraine No. 508 of 30 December 2016 "On the approval of instructions for establishing the service life of technical means for fuel and lubricants before repair and decommissioning."
38. Order of the Chief of the General Staff of the Armed Forces of Ukraine No. 509 of 30 December 2016, "Guidelines for the organisation of fuel supply centres, bases and warehouses of the Armed Forces of Ukraine."
39. Order of the Chief of the General Staff of the Armed Forces of Ukraine No. 170 of 25 April 2018 "On the procedure for drawing up operational (combat) documents".
40. Order of the Chief of the General Staff of the Armed Forces of Ukraine No. 340 of 29 August 2016, "On the approval of instructions on the organisation of internal control in the Armed Forces of Ukraine".
41. Order of the Chief of the General Staff – Commander-in-Chief of the Armed Forces of Ukraine No. 55 of 12 April 2010 "On the approval and entry into force of the Table of urgent reports on operational and logistical support of troops (forces) in peacetime" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: [http://catalog.nuou.org.ua/index.php?option=com\\_sobipro&pid=128&sid=315183:book-81271&Itemid=0](http://catalog.nuou.org.ua/index.php?option=com_sobipro&pid=128&sid=315183:book-81271&Itemid=0) (accessed on 28 July 2020).
42. Order of the Command of the Air Force of the Armed Forces of Ukraine No. 131 of 25 October 2017 "On the approval of temporary norms for the consumption of fuel, oils, lubricants and special fluids during the operation of aviation equipment of the Armed Forces of Ukraine".
43. Order of the Command of the Naval Forces of the Armed Forces of Ukraine No. 113 of 18 December 2017 "On approval of temporary norms for the consumption of fuel and lubricants during the operation of the shipboard inventory of the Naval Forces of the Armed Forces of Ukraine".
44. Order of the Head of the Central Administration of the Logistics of the Armed Forces of Ukraine dated 09.07.1997 "Methodological guidelines on the procedure for organising claims and complaints and their consideration in the fuel service units of the Armed Forces of Ukraine". units of the fuel service of the Armed Forces of Ukraine".
45. Guidelines for the storage of technical means of the fuel service. Kyiv, Varta, 2000.
46. "Use of fuel in military equipment", Military Publishing House, 1994.

47. "Fuel supply to military units." Military Publishing House.
48. "Basic provisions for supplying military units with fuel and lubricants. Published by Phoenix, 2009.
49. Recommendations for planning the supply of fuel to military units and formations. Military Publishing House. 1992.
50. Lecture course on the subject "Organisation of fuel and lubricant supply." VA, Odesa, 2015.
51. Standards for equipping fuel services with technical means.
52. Fundamentals of fuel and lubricant production, part 1. OISV, 2005.
53. Basics of fuel and lubricant production, part 2. OISV, 2006.
54. Application of fuel quality control. VA (Odesa), 2012.

### Names of topics and distribution of teaching time by type of teaching activity

No	Type of educational activities, control measures	Total hours	Of which		Topic and learning objectives.
			Classroom hours	Independent work	
<b>Semester</b>					
<b>Section 1. Motor vehicles for refuelling and transporting fuel. Pumping equipment. Fuel storage and transport equipment.</b>					
		<b>2</b>	<b>14</b>	<b>8</b>	<b>Topic 1. Motor vehicles for refuelling and transporting fuel.</b>
1	Lecture	4	2	2	<b>Class 1. Requirements and general layout of technical refuelling equipment.</b> 1. Requirements for technical refuelling equipment. 2. Layout of automotive fuel and oil filling equipment.
2	Group session	2	2		<b>Lesson 2. Purpose, equipment and principle of operation of ATMZ-5– 4320 and ATZ-9,3-260 auto fuel dispensers.</b> 1. Technological diagram of auto fuel dispensers. 2. Operation of fuel and oil dispensers.
3	Lecture	5	2	3	<b>Lesson 3. Individual and group refuelling equipment.</b> 1. Purpose, classification of individual and group refuelling devices. 2. Layout of refuelling equipment components and assemblies.
4	Practical session	4	4		<b>Lesson 4. Equipment for individual and group refuelling devices.</b> 1. Purpose, technical characteristics and equipment of group refuelling equipment. 2. Equipment and principle of operation of PZP-14 units and assemblies 3. Purpose, technical characteristics of individual refuelling equipment. 4. Equipment and principle of operation of KR-40 units and assemblies.
5.	Lecture	2	2		<b>Lesson 5. Fuel tanker.</b> 1. Purpose, technical characteristics of road tankers and trailers. 2. Layout of components and assemblies, principle of operation.
6	Group session	5	2	3	<b>Lesson 6. Application of tank trucks AC-5.5-4320, AC-10-260, AC-12-63221</b> 1. Equipment and principle of operation of components and assemblies of AC-5.5-4320, AC-12-63221. 2. Preparation for operation, operation of AC-5.5-4320, AC-10-26 3. Shutdown and maintenance after operation of AC-5.5-4320.
		<b>2</b>	<b>1</b>	<b>6</b>	<b>Topic 2. Pumping equipment.</b>

7	Lecture	2	2		<b>Lesson 1. Classification of technical pumping equipment.</b> 1. Requirements for technical means. 2. Layout of fuel pumping stations.
8	Group session	7	4	3	<b>Lesson 2. Purpose and equipment of fuel transfer stations PSG-160, PSG-240.</b> 1. Purpose and technical characteristics of PSG-160. 2. Design and principle of operation of components and assemblies.
9	Practical session	7	4	3	<b>Lesson 3. Use of motor pump units for pumping fuel.</b> 1. Purpose and principle of operation of MNUG-20 and MNUG-80 units. 2. Unpacking and preparing MNUG-20 for operation. 3. Monitoring the operation of MNUG-20. 4. Folding and maintenance after operation.
10	Practical session	4	4		<b>Lesson 4. Use of a motor pump unit for oils</b> 1. Purpose and principle of operation of MNUM-14 and MNUM-60 units. 2. Unpacking and preparing MNUM-14 for operation. 3. Monitoring the operation of MNUM-14. 4. Folding and maintenance after operation.
		<b>14</b>	<b>8</b>	<b>6</b>	<b>Topic 3. Fuel storage and transportation equipment.</b>
11	Lecture	5	2	3	<b>Lesson 1. Fuel storage facilities.</b> 1. Classification of fuel storage facilities and requirements for them. 2. Means of transporting fuel by rail. 3. Means of transporting fuel by water transport. 4. Main pipelines.
12	Practical session	7	4	3	<b>Lesson 2. Use of fuel storage facilities.</b> 1. Procedure for deploying fuel storage facilities in the field. 2. Procedure for measuring fuel in storage and transport containers. 3. Procedure for using refuelling modules.
13	Group session	2	2		<b>Lesson 3. Summary class on the topic: Technical means of storage and transportation of fuel.</b>
14		<b>4</b>	<b>4</b>		<b>Differential credit</b>
<b>Total for the semester</b>		<b>6</b>	<b>4</b>	<b>2</b>	
<b>Semester 4</b>					
<b>Section 2. Organisation of transportation of fuel and lubricants.</b>					
		<b>45</b>	<b>30</b>	<b>1</b>	<b>Topic 4. Organisation of transportation of fuel and lubricants.</b>

15	Lecture	4	2	2	<b>Lesson 1. Organisation of military motor transport.</b> 1. Purpose and types of military motor transport. 2. Technical and economic indicators of the technical condition and operation of motor transport.
1	Group session	6	4	2	<b>Lesson 2. Requirements for the transportation of fuel and lubricants.</b> 1. Regulatory documents governing the requirements for the transportation of fuel and lubricants. 2. Basic requirements for the transportation of fuel and lubricants.
17	Group session	6	4	2	<b>Lesson 3. Organising driver training for the transport of fuel and lubricants.</b> 1. Classification of dangerous goods. 2. Procedure for organising the transport of dangerous goods; 3. Marking of dangerous goods on vehicles.
18	Practical session	6	4	2	<b>Lesson 4. Equipment of technical means of transportation of fuel and lubricants for transportation.</b> 1. Regulatory documents governing the requirements for equipment for technical means of transporting fuel and lubricants. 2. Equipment for motor vehicles used to transport fuel.
19	Group session	6	4	2	<b>Lesson 5. Safety precautions when handling fuel and lubricants.</b> 1. Fire safety when handling fuel and flammable liquids. 2. Safety precautions when handling toxic liquids and ethyl alcohol.
2	Group session	6	4	2	<b>Lesson 6. Providing security and defence for convoys transporting goods in the presence of an enemy threat while travelling to their destinations.</b> 1. Methods of action of illegal armed groups 2. Organisation of the delivery of material and technical resources during an armed conflict. 3. Structure of a convoy.
21	Group session	4	4		<b>Lesson 7. Legislation on environmental protection when working with fuel and lubricants.</b> 1. Guiding documents on environmental protection. 2. Liability for damage caused to the environment.
22	Group session	5	2	3	<b>Lesson 8. Developing a motorcade formation plan.</b> 1. Practising the formation of a motorcade within a company. 2. Responsibilities of the motorcade commander after receiving a transport order. 3. Technical means of motorcade control.
23	Group session	2	2		<b>Lesson 16. Final class on the topic: Organisation of transportation of fuel and lubricants.</b>
<b>Total for the semester</b>		<b>45</b>	<b>3</b>	<b>1</b>	
<b>Total subject</b>		<b>105</b>	<b>70</b>	<b>3</b>	

## VS 4. ORGANISATION OF TRANSPORTATION OF MATERIAL RESOURCES FOR FOOD AND MATERIAL SUPPLY

### 1. General objective of the academic discipline (subject of study):

*Upon completion of the course, students should know:*

the content and methods of work the functional duties and order of work organisation of the platoon commander for the delivery of material and technical resources;

the general provisions and basic principles of the use of logistical support units;

the methods of action of units during the performance of tasks;

rules and regulations necessary to ensure the safe and accident-free transport of dangerous and special cargo.

*be able to:*

perform duties assigned to primary military positions;

transport special, explosive and fire-hazardous cargo in compliance with safety rules and sanitary and hygienic requirements;

take measures to keep records of the material and technical resources being transported;

monitor the condition of material and technical resources in storage;

manage and provide comprehensive support to food service units during preparation and execution of assigned tasks;

maintain interaction with other units for the successful completion of tasks.

### 2. Organisational and methodological guidelines:

#### 2.1. Features of the teaching methodology:

The methodology for teaching this subject is based on the basic principles of didactics (theory of justification and teaching). It provides a scientific and pedagogical description of the forms and methods of teaching, indicates the most appropriate combinations for achieving a specific level of learning, and determines the conditions for their most effective use.

To achieve the main goal of the programme, the following forms of teaching are provided:

frontal form of teaching, when all students perform the same task at the same time under the supervision of the teacher;

group form of teaching, when students are divided into groups (departments) depending on the staffing structure of the unit, which work in parallel;

individual form of training, when students perform tasks sequentially, one after another.

At the same time, depending on the level of knowledge or skills to be achieved, the teacher should use the following methods:

verbal-visual;

training;

situational-cognitive.

Verbal-visual method, in which the teacher systematically and sequentially presents the learning material, showing (demonstrating) the subjects being studied in order for learners to acquire new knowledge and form the appropriate imagination.

Training (reproductive) method – performing complex actions according to an algorithm (pre-established order) determined by the instructor to develop the necessary skills and ensure the coordination of military and organisational structures.

Situational-cognitive – conducting a review and discussion of real (probable) actions, familiarising oneself with the experience of managing troops (forces) in military conflicts and developing information and analytical skills.

The above methods provide students with knowledge, abilities and skills, but in order to develop their creative abilities, the instructor must use problem-based learning methods.

Problem-based teaching is when the instructor presents a problem to the students, solves it himself, but at the same time shows ways to solve it and reveals his train of thought. The immediate result of problem-based teaching should be the learner's mastery of the method and logic of solving a specific problem, but without the ability to apply them independently. This method teaches learners how to search for knowledge, helping them to acquire creative thinking skills.

The search (heuristic) method serves the purpose of gradually bringing students closer to independent problem solving by first teaching them how to perform individual elements of the solution. It is used during group exercises, when the method of finding the optimal solution is determined by the instructor, but the solution is found by the student.

Problem-solving methods ensure deep assimilation of knowledge at the level of its creative application, mastery of creative thinking methods, and practical experience.

#### **When conducting lectures:**

A lecture is the main type of educational activity designed to help students master the theoretical material of a topic.

The main purpose of a lecture is to systematise the scientific knowledge and practical experience on the topic, the state and prospects of the development of management science, the theory and practice of military leadership, and to focus attention on the most complex and crucial issues of the training material. The lecture should be problem-oriented, stimulate active cognitive activity among students, and contribute to the formation of creative thinking. To activate the cognitive activity of military personnel and develop their creative thinking during lectures, skilfully use technical teaching aids in combination with active forms and methods of lecturing. Classes should be conducted using oral presentation of the teaching material, with individual questions and teaching elements worked out in the form of a dialogue between the teacher and the students and by posing problem questions to them.

#### **When conducting group classes:**

A group class is a type of educational class during which the teacher presents new educational material using verbal and visual methods, checks the students' understanding of this material through questioning, and helps to reinforce it.

Group classes are conducted with the aim of providing students with a detailed study of the issues and problems discussed in lectures and a detailed examination of relevant issues in the teaching material. The main teaching methods used are explanation with demonstration and discussion in the form of a debate. To ensure clarity during classes, it is necessary to use technical means of information transfer, tables, diagrams, slides, filmstrips and posters.

**During practical classes:**

A practical class is a type of educational class during which the teacher organises the assimilation of theoretical concepts through the individual completion of specially designed tasks and helps students develop the skills and abilities to apply these theoretical concepts in practice.

Practical classes should be aimed at consolidating and deepening the knowledge acquired by students in lectures and group classes, as well as during independent work, and developing their skills in solving practical tasks of everyday military activities.

**When conducting group exercises:**

A group exercise is a type of training session conducted by trainees performing the functional duties of specific officials of military command and control bodies, military units and subunits.

During this type of class, cadets (students) acquire skills in organising and planning combat (combat operations), commanding troops and providing them with comprehensive support. Comprehensive tactical tasks are developed for group exercises.

**When organising independent work:**

Independent work should be carried out with the aim of practising and mastering the training material; consolidating and deepening knowledge, skills and abilities; preparing for subsequent classes and control measures; forming in those being trained a culture of intellectual work, independence and initiative in the search for, acquisition and enrichment of knowledge.

Independent work should be supported with educational literature, teaching aids, tasks and methodological recommendations. All teaching and methodological materials for classes should have electronic versions. Methodological materials for independent work should provide for the possibility of self-control.

**2.2. Material and technical support:**

Classes should be held in specialised classrooms equipped with simulators and specialised driving areas with training vehicles.

**2.3. Information and methodological support:**

1. On the Statute of Internal Service of the Armed Forces of Ukraine: *Law of 24 March 1999* № 548-XIV // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 3 July 2020. URL: <https://zakon.rada.gov.ua/laws/show/548-14#Text> (accessed on 28 July 2020).
2. Resolution of the Cabinet of Ministers of Ukraine No. 880 (NMO No. 341) of 1995 "On approval of the list of military property, the shortage or theft of which shall be compensated by the persons responsible in proportion to its value" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/880-95-п#Text> (accessed on 28 July 2020).
3. Order of the Minister of Defence of Ukraine dated 09.12.2002 № 402 (as amended) "Regulations on food supply for the Armed Forces of Ukraine in peacetime" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://ips.ligazakon.net/document/REG7280?an=1149> (accessed on 28 July 2020).
4. Order of the Minister of Defence of Ukraine No. \*200 of 1985 "On Approval of the Regulations on Food Supply to the Armed Forces in Wartime" - Kyiv: 1985.

5. Order of the Ministry of Defence of Ukraine dated 29 April 2016 No. 232 "On the material support of servicemen of the Armed Forces of Ukraine and the State Special Transport Service" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/z0767-16#Text> (accessed on 28 July 2020).
6. Order of the General Staff of the Armed Forces of Ukraine No. 2 of 2016 "On approval of the norms of irretrievable losses of weapons and military equipment sent for repair, and expenses for other material and technical resources in operations of the Armed Forces of Ukraine." – Kyiv: 2016.
7. Order of the Minister of Defence of Ukraine No. 300 of 1997 "On the Approval of the Regulations on the Military Economy of the Armed Forces of Ukraine" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: <https://zakon.rada.gov.ua/laws/show/z0615-97#Text> (accessed on 28 July 2020).
8. On approval of the Instructions on accounting for military property in the Armed Forces of Ukraine: Order of the Ministry of Defence of Ukraine dated 17 August 2017 No. 440 // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. Date of update: 23.08.2019. URL: <https://zakon.rada.gov.ua/laws/show/z1192-17#Text> (accessed on 28.07.2020).
9. Order of the Minister of Defence of Ukraine dated 14 August 1995 No. 201 "On the announcement of the Resolution of the Verkhovna Rada of Ukraine dated 23 June 1995 No. 243/95-VR On the approval of the Regulations on the material liability of military personnel for damage caused to the state" – Kyiv: -1995.
10. Resolution of the Cabinet of Ministers of Ukraine dated 04.08.2000 No. 1225 "On approval of the Regulations on the procedure for accounting, storage, write-off and use of military property in the Armed Forces of Ukraine" // Database "Legislation of Ukraine" / Verkhovna Rada of Ukraine. URL: [http://search.ligazakon.ua/l\\_doc2.nsf/link1/KP001225.html](http://search.ligazakon.ua/l_doc2.nsf/link1/KP001225.html) (accessed on 28.07.2020).
11. Order of the Minister of Defence of Ukraine No. 115 (as amended) "On equipping motor vehicles with spare parts and accessories and providing military units with fleet equipment" - K.1995.
12. Order of the Deputy Minister of Defence of Ukraine – Chief of Logistics of the Armed Forces of Ukraine No. 75 "On the norms of natural losses of food, fodder and tableware during storage and transportation" – K.: -1998.
13. Order of the General Staff of the Armed Forces of Ukraine No. 266 of 2016 "On the approval of standards for equipping the food service of the Armed Forces of Ukraine." – Kyiv: -2016.
14. Order of the Chief of Logistics of the Armed Forces of Ukraine No. 269 of 2016 "On Approval of the Guidelines for the Organisation of Operation and Repair of Equipment of the Food Service of the Armed Forces of Ukraine" – Kyiv: -2016.
15. Order of the Minister of Defence of Ukraine No. 434 of 2013 "Instructions on the procedure for establishing and determining the norms of operation (service life) for the repair of motor vehicles and motor vehicle property" – Kyiv, 2013.
16. Order of the Minister of Defence of Ukraine No. 910 of 2014 "On the approval of guidelines for the operation and repair of food service equipment" – Kyiv: -2014.
17. Order of the Chief of the Logistics Service of the Armed Forces of Ukraine No. 262 of 18 November 2016 "On approval of the guidelines for the organisation of operation and repair of equipment of the logistics service of the Armed Forces of Ukraine." – Kyiv: 2016 (date of reference: 28 July 2020).

### **Supplementary**

18. Order of the Minister of Defence of Ukraine No. 590 of 2010 "Regulations on the financial management of military units of the Armed Forces of Ukraine." – Kyiv: 2012.
19. Order of the Minister of Defence of Ukraine No. 608 of 2017 "On approval of the Procedure for conducting official investigations in the Armed Forces of Ukraine." – Kyiv: 2017.
20. Order of the Minister of Defence of Ukraine No. 210 of 2001 "On compliance with sanitary requirements for the organisation of accommodation, water supply, food and bathing and laundry services for troops (forces) at training grounds (camps)". –K.: -2001.
21. NT ZSU of 2014. Methodological recommendations on the organisation of accommodation for military units (subunits) in base camps (areas of deployment) during the performance of specific tasks.
22. NT ZSU from 2015. Methodological recommendations on the organisation of food and food storage at company and platoon strongholds and checkpoints in the autumn-winter period.
23. NT ZSU from 2016. Methodological recommendations on the organisation of logistical support in base camps of brigades (battalions), at company (platoon) strongpoints and combat positions.

### Names of topics and distribution of training time by type of training activity

No	Types training activities, control measures	Total hours	Of which		Name of topic and learning objectives.
			Classroom hours	Independent work	
1	2	3	4	5	6
<b>Semester 5</b>					
<b>Section 1. Organisation of transportation of material resources</b>					
		<b>18</b>	<b>1</b>	<b>6</b>	<b>Topic 1. Technical means of food and material services.</b>
1	Lecture	2	2		<b>Lesson 1. Technical means of food and water delivery.</b> 1. Purpose of technical means for transporting food and drinking water and their classification. 2. Rules for operating technical means of transporting food and water.
2	Group session	5	2	3	<b>Lesson 2. Operation of technical means for transporting food and water.</b> 1. Preparation for work and operation of food and water delivery equipment. 2. Safety rules for operating food and water delivery equipment.
3	Practical session	4	4		<b>Lesson 3. Structure, design features and operation of technical means for preparing and transporting food in field conditions.</b> 1. Principle, structure and design features of technical means for food preparation and transportation in field conditions. 2. Main systems and equipment of technical means for food preparation and transportation in field conditions and their brief characteristics. 3. Rules for operating technical means for preparing and transporting food in field conditions.
4.	Group session	7	4	3	<b>Lesson 4. Technical means of the material service.</b> 1. Purpose of technical means of the quartermaster service and their classification. 2. Rules for operating technical means of the supply service.
		<b>2</b>	<b>18</b>	<b>9</b>	<b>Topic 2. Organisation of the operation and storage of food and supply service equipment.</b>
5	Lecture	2	2	3	<b>Lesson 1. Organisation of food service equipment operation.</b> 1. Tasks, stages and planning of food service equipment operation. 2. Documentation of food service equipment operation. 3. Categorisation of food service equipment.

6	Practical session	4	4		<b>Lesson 2. Technical maintenance of food service equipment.</b> 1. Maintenance of technical means of transportation.
7.	Group session	2	2		<b>Lesson 3. Maintaining operational documentation for food service equipment.</b> 1. Drawing up a plan for the operation of food service equipment in a military unit. 2. Documenting the commissioning of equipment. 3. Procedure for maintaining forms for food service equipment.
8	Lecture	5	2	3	<b>Lesson 4. Organisation of the operation of material service equipment.</b> 1. Tasks, stages and planning of the operation of logistics equipment. 2. Documentation of the operation of logistics equipment. 3. Categorisation of logistics equipment.
9	Practical session	2	2		<b>Lesson 5. Maintenance of technical equipment of the material service.</b> 1. Maintenance of technical equipment of the supply service.
10	Group session	4	4		<b>Lesson 6. Storage of rear services equipment.</b> 1. General concepts of military equipment storage. 2. Types of storage of technical equipment. 3. Methods of conservation and deconservation of equipment.
11	Group session	5	2	3	<b>Lesson 7. Monitoring the technical condition of rear services equipment.</b> 1. Tasks and content of technical condition control. 2. Classification of types of equipment control. Control methods.
<b>Total for the semester</b>		<b>4</b>	<b>3</b>	<b>1</b>	
<b>Semester</b>					
		<b>2</b>	<b>16</b>	<b>9</b>	<b>Topic 3. Accounting for material resources of food and clothing services.</b>
12	Lecture	2	2		<b>Lesson 1. Accounting documents of the food service.</b> 1. Purpose of accounting documents. 2. Characteristics of accounting documents.
13	Lecture	5	2	3	<b>Lesson 2. Accounting documents of the material service.</b> 1. Purpose of accounting documents. 2. Characteristics of accounting documents.
14	Group session	4	4		<b>Lesson 3. Receipt of food and containers by military units from various sources.</b> 1. Organisation and procedure for obtaining food and containers from the Ministry of Defence Supply Centres. 2. Organisation and procedure for obtaining food and containers from other military units.

15	Group session	7	4	3	<b>Lesson 4. Receipt of material property by a military unit from various sources.</b> 1. Organisation and procedure for obtaining material property from the Ministry of Defence Supply Centres. 2. Organisation and procedure for receiving material property from other military units.
16.	Group session	2	2		<b>Lesson 5. Organisation of food supply for personnel of a unit located separately from its part (base camps, checkpoints, ROP/company strongpoints).</b> 1. Accounting for the issuance of food from the military unit's warehouse. 2. Completing food report cards, daily reports on food availability and movement.
17	Group session	5	2	3	<b>Lesson 6. Documentary registration of the transfer of property from one military unit to another.</b> 1. Accounting operations when transferring property from one military unit to another
		<b>2</b>	<b>1</b>	<b>6</b>	<b>Topic 4. Material responsibility and documentation of the transfer of property.</b>
18	Lecture	2	2		<b>Lesson 1. Material liability of officials for damage caused to the state.</b> 1. Types of material liability. 2. Material liability of officials for damage caused to the state.
19	Group session	5	2	3	<b>Lesson 2. Compensation for damage caused to the state.</b> 1. Writing off losses of food service property at the expense of the persons responsible. 2. Procedure for writing off food and property of the food service at the expense of the state. 3. Procedure for writing off material resources during joint forces operations (ATO).
20	Group session	2	2		<b>Lesson 3. Loss of material resources and the procedure for their write-off.</b> 1. Material liability of officials for losses caused to the state. 2. Compensation for damage caused to the state.
21	Practical session	5	2	3	<b>Lesson 4. Documentary registration of the acceptance and transfer of property of food and material services during relocation.</b> 1. Documentary registration of the transfer of property of the food service. 2. Documentary registration of the receipt and transfer of property of the clothing service.
22	Practical session	2	2		<b>Lesson 5. Procedure for transferring property of the food and material services to military units.</b> 1. Procedure for transferring food service property to military units 2. Procedure for transferring property of the clothing service to military units.
23		4	4		Differential credit
<b>Total for the semester</b>		<b>4</b>	<b>3</b>	<b>15</b>	
<b>Total for the academic discipline</b>		<b>90</b>	<b>6</b>	<b>3</b>	

## VS 5. ORGANISATION OF TRANSPORTATION OF ROCKETS AND AMMUNITION

### 1. General objective of the academic discipline (subject):

*Upon completion of the course, students should know:*

the rules and regulations necessary to ensure the safe and accident-free transportation of dangerous and special cargo;  
the rules for completing accounting documents for the receipt and transfer of missiles and ammunition

*be able to:*

organise the transportation of special, explosive and fire-hazardous cargo in compliance with safety rules and regulations correctly complete accounting documents for the receipt and transfer of missiles and ammunition.

### 2. Organisational and methodological guidelines:

#### 2.1. Features of the teaching methodology:

The methodology of teaching the academic discipline is based on the fundamental principles of didactics (theory of justification and teaching). It provides scientific and pedagogical characteristics of forms and methods of teaching, indicates their most appropriate combinations for achieving a specific level of learning, and determines the conditions for their most effective use.

To achieve the main goal of the programme, the following forms of teaching are provided:

frontal form of teaching, when all students perform the same task at the same time under the supervision of the teacher;

group form of teaching, when students are divided into groups (departments) depending on the staffing structure of the unit, which work in parallel;

individual form of training, when students perform tasks sequentially, one after another.

At the same time, depending on the level of knowledge or skills to be achieved, the teacher should use the following methods:

verbal-visual;

training;

situational-cognitive.

Verbal-visual method, in which the teacher systematically and sequentially presents the learning material, showing (demonstrating) the subjects being studied in order for learners to acquire new knowledge and form the appropriate imagination.

Training (reproductive) method – performing complex actions according to an algorithm (pre-established order) determined by the instructor to develop the necessary skills and ensure the coordination of military and organisational structures.

Situational-cognitive – conducting a review and discussion of real (probable) actions, familiarising oneself with the experience of managing troops (forces) in military conflicts and developing information and analytical skills.

The above methods provide students with knowledge, abilities and skills, but in order to develop their creative abilities, the instructor must use problem-based learning methods.

Problem-based teaching is when the instructor presents a problem to the students, solves it himself, but at the same time shows ways to solve it and reveals his train of thought. The immediate result of problem-based teaching should be the learner's mastery of the method and logic of solving a specific problem, but without the ability to apply them independently. This method teaches learners how to search for knowledge, helping them to acquire creative thinking skills.

The search (heuristic) method serves the purpose of gradually bringing students closer to independent problem solving by first teaching them how to perform individual elements of the solution. It is used during group exercises, when the method of finding the optimal solution is determined by the instructor, but the solution is found by the student.

Problem-solving methods ensure deep assimilation of knowledge at the level of its creative application, mastery of creative thinking methods, and practical experience.

**When conducting lectures:**

A lecture is the main type of educational activity designed to help students master the theoretical material of a topic.

The main purpose of a lecture is to systematise the scientific knowledge and practical experience on the topic, the state and prospects of the development of management science, the theory and practice of military leadership, and to focus attention on the most complex and crucial issues of the training material. The lecture should be problem-oriented, stimulate active cognitive activity among students, and contribute to the formation of creative thinking. To activate the cognitive activity of military personnel and develop their creative thinking during lectures, skilfully use technical teaching aids in combination with active forms and methods of lecturing. Classes should be conducted using oral presentation of the teaching material, with individual questions and teaching elements worked out in the form of a dialogue between the teacher and the students and by posing problem questions to them.

**When conducting group classes:**

A group class is a type of educational class during which the teacher presents new educational material using verbal and visual methods, checks the students' understanding of this material through questioning, and helps to reinforce it.

Group classes are conducted with the aim of providing students with a detailed study of the issues and problems discussed in lectures and a detailed examination of relevant issues in the teaching material. The main teaching methods used are explanation with demonstration and discussion in the form of a debate. To ensure clarity during classes, it is necessary to use technical means of information transfer, tables, diagrams, slides, filmstrips and posters.

**During practical classes:**

A practical class is a type of educational class during which the teacher organises the assimilation of theoretical concepts through the individual completion of specially designed tasks and helps students develop the skills and abilities to apply these theoretical concepts in practice.

Practical classes should be aimed at consolidating and deepening the knowledge acquired by students in lectures and group classes, as well as during independent work, and developing their skills in solving practical tasks of everyday military activities.

**When conducting group exercises:**

A group exercise is a type of training session conducted by trainees performing the functional duties of specific officials of military command and control bodies, military units and subunits.

During this type of class, cadets (students) acquire skills in organising and planning combat (combat operations), commanding troops and providing them with comprehensive support. Comprehensive tactical tasks are developed for group exercises.

### **When organising independent work:**

Independent work should be carried out with the aim of practising and mastering the training material; consolidating and deepening knowledge, skills and abilities; preparing for subsequent classes and control measures; forming in those being trained a culture of intellectual work, independence and initiative in the search for, acquisition and enrichment of knowledge.

Independent work should be supported with educational literature, teaching aids, tasks and methodological recommendations. All teaching and methodological materials for classes should have electronic versions. Methodological materials for independent work should provide for the possibility of self-control.

### **2.2. Material and technical support:**

Classes should be held in specialised classrooms equipped with simulators and specialised driving areas with training vehicles.

### **2.3. Information and methodological support:**

1. Order of the Ministry of Defence of Ukraine No. 440 of 17 August 2017 "On the approval of the Instructions on the accounting of military property in the Armed Forces of Ukraine".
2. Order of the Ministry of Infrastructure of Ukraine dated 26 July 2013 No. 550 "On approval of the Rules for the operation of wheeled vehicles".
3. Order of the Ministry of Infrastructure of Ukraine dated 5 June 2013 No. 348 "On approval of the Rules for the provision of services in seaports of Ukraine".
4. Order of the Ministry of Transport and Communications of Ukraine dated 20 May 2006 No. 488 "On Approval of Operating Standards for the Average Service Life of Pneumatic Tyres for Road Vehicles and Special Machines Built on Wheel Chassis".
5. Order of the Ministry of Industrial Policy of Ukraine dated 15 February 2010 No. 70 "On Approval of the Rules for Technical Operation of Railway Transport of Industrial Enterprises".
6. Order of the Ministry of Internal Affairs of Ukraine dated 04.08.2018 No. 656 "On approval of the Procedure for approval and registration of the movement of vehicles during the road transport of dangerous goods".
7. Law of Ukraine "On the Statute of Internal Service of the Armed Forces of Ukraine" (Bulletin of the Verkhovna Rada of Ukraine (VVR), 1999, No. 22-23, Article 194).
8. Order of the Ministry of Defence of Ukraine dated 29 June 2005 No. 359 "On approval of the Instructions on the organisation of accounting, storage and issuance of small arms and ammunition in the Armed Forces of Ukraine".
9. Order of the General Staff No. 191 of 30 May 2017 "On the Approval of Regulations on Arsenals, Bases and Storage Facilities for Missiles and Ammunition of the Armed Forces of Ukraine".
10. Order of the Ministry of Defence No. 5 dsk dated 06.06.17 "On approval of the Procedure for organising access control at particularly important and restricted facilities of the Ministry of Defence of Ukraine and the Armed Forces of Ukraine".
11. Order of the General Staff of the Armed Forces of Ukraine No. 386/dsk dated 04.10.2019 "Regulations on field artillery depots of the Armed Forces of Ukraine".
12. Military Standard 01.310.001 "Logistical support of troops (forces). Basic terms and definitions." Part 2, Ministry of Defence.

- 13 Vodchits O.G., Yegorov S.N., Pavilch V.M. Aviation Weapons. Training Manual. – Kyiv: National Aviation University, 2008 -245 p.
14. MarkoMSCy K., Perov M. Descendants of the "ErEs". // Wings of the Motherland, 1994.
  15. Combat aviation equipment. Edited by D.I. Gladkov. V/V, 1987.
  16. Aviation Weapons. Edited by F.P. Myropolsky. V/V, 1995.
  17. Combat Means of the Naval Forces. Textbook. Edited by S.M. Rozgonayev. – Sevastopol: P.S. Nakhimov Naval Academy, 2013.
  18. Transfer of Airborne Units. – Odesa: OISV, 2002. – 76 p.
  19. Textbook for Airborne Troops Sergeants. – Kyiv: 2006. – 400 p.
  20. Airborne Assault Troops of the Armed Forces of Ukraine, Current Status and Prospects for Development. Lecture by Lieutenant General M.V. Zabrodsky, Commander of the Airborne Assault Troops of the Armed Forces of Ukraine. – Odesa: Military Academy, 2018.
21. Organisation of the safe operation of arsenals, bases and ammunition depots: [training manual] Bagdasaryan N. K., Gavrilyuk A. O., Karas V. B., Kopashinsky S. A., Tereshchenko A. M., Shishanov M. O. – National Defence Academy of Ukraine. Department of Logistics. Training manual. 2009. -183 p.
- 22 NATO Standard AASTP -5. NATO Recommendations for the Storage, Maintenance and Transport of Ammunition in Deployment Missions or Operations. 2016, 127 p.
  23. Methodological manual for heads of missile and artillery armament services of formations, units and military units. Central Armament Administration of the Main Logistics Directorate of the Support Forces Command of the Armed Forces of Ukraine, 2008.
24. Training manual "Ammunition and rockets. Part I. Artillery ammunition." Va (Odesa), 2016.
25. Training manual "Construction and basics of ammunition and missile design. Part I. Explosives and powders." OISV, 1999.
26. Manual "General Provisions, General Structure, Main Tactical and Technical Characteristics of Rockets and Ammunition, Organisation of Their Storage in the Land Forces of the Armed Forces of Ukraine." Kyiv, 2010.
27. Reference book "On the structure, classification, marking and tactical and technical characteristics of ammunition for small arms, close combat weapons and artillery." DnipropetroMSC. 2007.
28. Lecture course "Ammunition for small arms" OISV, 1997.

**Names of topics and distribution of teaching time by type of training activity**

No	Types of training activities, control activities	Total hours	of which		Name of topic and learning questions.
			Classroom hours	Independent work	
1	2	3	4	5	6
<b>Chapter 1. Organisation of the transport of missiles and ammunition.</b>					
		<b>17</b>	<b>1</b>	<b>5</b>	<b>Topic 1. General concepts of means of destruction.</b>
1	Lecture	2	2		<b>Lesson 1. Introductory lecture.</b> 1. Tasks, content and structure of the discipline "Organisation of rocket and ammunition transportation". 2. History of the development of ammunition. 3. General concepts of ammunition and its classification.
2	Group session	4	2	2	<b>Lesson 2. Means of destroying ground forces.</b> 1. Ammunition for small arms and close combat weapons. 2. Artillery ammunition. 3. Rocket projectiles and missiles.
3	Group session	2	2		<b>Lesson 3. Aviation weapons.</b> 1. Purpose and classification of aviation weapons. 2. Characteristics of aviation weapons.
4	Group session	4	2	2	<b>Lesson 4. Naval weapons.</b> 1. Purpose and classification of naval weapons. 2. Artillery ammunition for naval artillery. 3. Mine, torpedo and anti-submarine weapons.
5.	Group session	5	4	1	<b>Lesson 5. Basics of the structure of rockets and ammunition.</b> 1. Purpose and general structure of cartridges for small arms. 2. Purpose and general structure of artillery shells. 3. Purpose and general structure of rocket projectiles and missiles.
		<b>13</b>	<b>8</b>	<b>5</b>	<b>Topic 2. Rules for the transport of dangerous goods: Ukrainian and international dimensions.</b>
6	Group session	2	2		<b>Lesson 1. Rules for the transport of dangerous goods.</b> 1. Relevance of the topic of dangerous goods transport. 2. Ukrainian legislation in the field of dangerous goods transport 3. Procedure for organising transport and transportation in the Armed Forces of Ukraine.
7	Group session	5	2	3	<b>Lesson 2. Safety measures during the transportation of rockets and ammunition.</b>

					1. Safety measures when working with explosives and ammunition. 2. Safety measures during the transportation of missiles and ammunition.
8	Group session	2	2		<b>Lesson 3. Specifics of transporting missiles and ammunition by rail, water and air.</b> 1. Organisation and provision of military transport. 2. Specific features of organising the transport of missiles and ammunition by rail. 3. Specific features of organising the transport of missiles and ammunition by sea and river transport.
9	Group session	4	2	2	<b>Lesson 4. Organisation of the transport of rockets and ammunition in accordance with international standards.</b> 1. UN requirements (MTBP-08.10) for the transport of explosives and ammunition. 2. NATO standard AASTP-5 requirements for the special features of transporting explosives and ammunition.
		<b>13</b>	<b>8</b>	<b>5</b>	<b>Topic 3. Organisation of accounting for missiles and ammunition during transport.</b>
10	Group session	2	2		<b>Lesson 1. Organisation of the receipt and transfer of missiles and ammunition for transport.</b> 1. Procedure for receiving and transferring missiles and ammunition in the armed forces. 2. General requirements for the preparation of documents for the receipt and transfer of missiles and ammunition for transport.
11	Group session	5	2	3	<b>Lesson 2. Accounting for missiles and ammunition during transport.</b> 1. General requirements of regulatory documents for accounting for missiles and ammunition. 2. Organisation of accounting for missiles and ammunition during transport.
12	Group session	2	2		<b>Lesson 3 Loading standards and methods of stowage (packaging) of missiles and ammunition.</b> 1. Loading standards for missiles and ammunition on motor vehicles and rail transport. 2. Methods of stowage of missiles and ammunition on motor vehicles and rail transport.
1	Group session	4	2	2	<b>Lesson 4. General requirements for the operation of vehicles during transport.</b> 1. General rules for the operation of wheeled vehicles. 2. General rules for the operation of rail transport.
14		<b>2</b>	<b>2</b>		<b>Differentiated assessment</b>
<b>Total</b>		<b>4</b>	<b>3</b>	<b>1</b>	

## VS 6. ORGANISATION OF MOVEMENTS, TRANSPORTATION (TRANSPORT) IN THE ARMED FORCES OF UKRAINE

### 1. General objective of the academic discipline (subject of study):

*Upon completion of the course, students should know:*

the procedure for organising and carrying out military transport by road using various modes of transport;  
the procedure for organising, planning and managing transport at the tactical level of troop (force) deployment;  
be able to organise military motor transport according to the classes of supply of armoured vehicles and military equipment

*be able to:*

organise and carry out military transport (shipping) by rail, air and sea transport according to supply classes;  
organise military motor transport according to the supply classes of military equipment and military technical means

### 2. Organisational and methodological guidelines:

#### 2.1. Features of the teaching methodology:

The methodology for teaching this subject is based on the basic principles of didactics (theory of justification and teaching). It provides a scientific and pedagogical description of the forms and methods of teaching, indicates the most appropriate combinations for achieving a specific level of learning, and determines the conditions for their most effective use.

To achieve the main goal of the programme, the following forms of teaching are provided:

frontal form of teaching, when all students perform the same task at the same time under the supervision of the teacher;

group form of teaching, when students are divided into groups (departments) depending on the staffing structure of the unit, which work in parallel;

individual form of training, when students perform tasks sequentially, one after another.

At the same time, depending on the level of knowledge or skills to be achieved, the teacher should use the following methods:

verbal-visual;

training;

situational-cognitive.

Verbal-visual method, in which the teacher systematically and sequentially presents the learning material, showing (demonstrating) the subjects being studied in order for learners to acquire new knowledge and form the appropriate imagination.

Training (reproductive) method – performing complex actions according to an algorithm (pre-established order) determined by the instructor to develop the necessary skills and ensure the coordination of military and organisational structures.

Situational-cognitive – conducting a review and discussion of real (probable) actions, familiarising oneself with the experience of managing troops (forces) in military conflicts and developing information and analytical skills.

The above methods provide students with knowledge, abilities and skills, but in order to develop their creative abilities, the instructor must use problem-based learning methods.

Problem-based teaching is when the instructor presents a problem to the students, solves it himself, but at the same time shows ways to solve it and reveals his train of thought. The immediate result of problem-based teaching should be the learner's mastery of the method and logic of solving a specific problem, but without the ability to apply them independently. This method teaches learners how to search for knowledge, helping them to acquire creative thinking skills.

The search (heuristic) method serves the purpose of gradually bringing students closer to independent problem solving by first teaching them how to perform individual elements of the solution. It is used during group exercises, when the method of finding the optimal solution is determined by the instructor, but the solution is found by the student.

Problem-solving methods ensure deep assimilation of knowledge at the level of its creative application, mastery of creative thinking methods, and practical experience.

#### **When conducting lectures:**

A lecture is the main type of educational activity designed to help students master the theoretical material of a topic.

The main purpose of a lecture is to systematise the scientific knowledge and practical experience on the topic, the state and prospects of the development of management science, the theory and practice of military leadership, and to focus attention on the most complex and crucial issues of the training material. The lecture should be problem-oriented, stimulate active cognitive activity among students, and contribute to the formation of creative thinking. To activate the cognitive activity of military personnel and develop their creative thinking during lectures, skilfully use technical teaching aids in combination with active forms and methods of lecturing. Classes should be conducted using oral presentation of the teaching material, with individual questions and teaching elements worked out in the form of a dialogue between the teacher and the students and by posing problem questions to them.

#### **When conducting group classes:**

A group lesson is a type of educational activity during which the teacher presents new material using verbal and visual methods, checks the students' understanding of the material through questioning, and helps to reinforce it.

Group classes are conducted with the aim of enabling students to study in detail the issues and problems discussed in lectures and to examine in detail relevant issues in the teaching material. The main teaching methods used are explanation with demonstration and discussion in the form of a debate. To ensure clarity during classes, it is necessary to use technical means of information transfer, tables, diagrams, slides, filmstrips and posters.

#### **During practical classes:**

A practical class is a type of educational class during which the teacher organises the assimilation of theoretical concepts through the individual completion of specially designed tasks and helps students develop the skills and abilities to apply these theoretical concepts in practice.

Practical classes should be aimed at consolidating and deepening the knowledge acquired by students in lectures and group classes, as well as during independent work, and developing their skills in solving practical tasks of everyday military activities.

**When conducting group exercises:**

A group exercise is a type of training session conducted by trainees performing the functional duties of specific officials of military command and control bodies, military units and subunits.

During this type of class, cadets (students) acquire skills in organising and planning combat (combat operations), commanding troops and providing them with comprehensive support. Comprehensive tactical tasks are developed for group exercises.

**When organising independent work:**

Independent work should be carried out with the aim of practising and mastering the training material; consolidating and deepening knowledge, skills and abilities; preparing for subsequent classes and control measures; forming in those being trained a culture of intellectual work, independence and initiative in the search for, acquisition and enrichment of knowledge.

Independent work should be supported with educational literature, teaching aids, tasks and methodological recommendations. All teaching and methodological materials for classes should have electronic versions. Methodological materials for independent work should provide for the possibility of self-control.

**2.2. Material and technical support:**

Classes should be held in specialised classrooms equipped with simulators and specialised driving areas with training vehicles.

**2.3. Information and methodological support:**

1. Joint Logistics Doctrine. Military doctrinal publication for military organisational structures, defining the views and basic provisions on logistics support for the Armed Forces of Ukraine. – Kyiv, Main Logistics Directorate of the General Staff of the Armed Forces of Ukraine, 2020. – 39 p.
2. Order of the Ministry of Defence of Ukraine No. 522 of 11 October 2016 "On the Approval of the Basic Provisions of Logistics Support for the Armed Forces of Ukraine".
3. Allied Joint Doctrine for Logistics, Edition B Version 1, December 2018 (NATO Doctrine on Logistics).
4. NATO Glossary of Terms and Definitions.
5. JOINT LOGISTICS February 2019, INCORPORA UNO CHANGE May 2019 (Joint Logistics Doctrine, US MO).
6. NATO Principles and Policies for Logistics
7. Order of the Ministry of Defence of Ukraine No. 522 of 11 October 2016 "On Approval of the Basic Provisions of Logistics Support for the Armed Forces of Ukraine".
8. Law of Ukraine "On Transport".
9. Law of Ukraine "On Defence".
10. Law of Ukraine "On the Functioning of the Unified Transport System of Ukraine in Special Periods".
11. Doctrine on the organisation of movements and transport (transportation) in the Armed Forces of Ukraine. Military guidance publication for military organisational structures on the organisation of movements and transport (transportation) in the Armed Forces of Ukraine. – Kyiv, KSL ZSU, 2020. – 29 p.

12. Order of the Ministry of Defence of Ukraine dated 05.09.2011 No. 595 "On approval of the Regulations on military transport by rail, sea, river and air transport".
13. Regulations for the management (command) of military communications. Military guidance publication for military communications bodies of the Armed Forces of Ukraine. – Kyiv, KSL ZSU, 2020. – 45 p.
14. Resolution of the Cabinet of Ministers of Ukraine No. 891 of 04.11.2015 "On approval of the Procedure for organising railway transport during military railway transport".
15. Order of the Ministry of Defence of Ukraine and the Ministry of Infrastructure of Ukraine dated 01.12.2015 No. 666/503 "On approval of the Instructions for planning military railway transport".
16. Order of the Ministry of Defence dated 01.12.2014 No. 853 "On approval of the Instructions for the management of military railway transport".
17. Order of the Ministry of Defence of Ukraine and the Ministry of Infrastructure of Ukraine dated 12 October 2016 No. 526/350 "On approval of the Instructions for planning and management of military transport by water transport in the Armed Forces of Ukraine".
18. Order of the Ministry of Defence of Ukraine and the Ministry of Infrastructure of Ukraine dated 08.11.2011 No. 684/525 "On approval of the Regulations on interaction between military transport authorities in maritime and river transport of Ukraine with the Ministry of Infrastructure of Ukraine, the central executive body responsible for implementing state policy in the field of maritime and river transport safety, enterprises, institutions and organisations under the jurisdiction of the Ministry of Infrastructure of Ukraine in the field of military maritime and river transport".
19. Order of the General Staff of the Armed Forces of Ukraine dated 27 March 2013 No. 67 "On approval of the Instructions on the organisation and maintenance of records of civil shipowners' vessels and water transport facilities for the needs of the Armed Forces of Ukraine".
20. Order of the Minister of Defence of Ukraine dated 10 June 2011 No. 322 "On approval of the Instructions on the organisation and planning of cargo and passenger transport by road in the Armed Forces of Ukraine" (as amended).
21. Instruction for motor vehicle brigades (regiments, separate motor vehicle battalions). Military guidance publication for military organisational structures on the organisation of movements and transport (transportation) in the Armed Forces of Ukraine. – Kyiv, KSL ZSU, 2020. – 83 p.
22. Marchuk V.E., Grygorak M.Yu., Garmash O.M. Warehouse logistics. Training manual. – Kherson, "Oldi+", 2020. – 256 p.
23. Bosniak M.G. Freight Motor Transport. Textbook for students majoring in 7.100403 "Transportation Organisation and Management (Motor Transport)". – Kyiv: Publishing House "Slovo", 2010. – 408 p.
24. Marchenko V.M. Logistics: Textbook / V.M. Marchenko, V.V. Shutyuk. - Kyiv: Publishing House "Artek". 2018. - 312 p.
25. Methodological recommendations on motor transport service. – Kyiv, KSL ZSU, 2015. – 56 p.
26. Military rear. Fundamentals of rear support for military units (subunits) and tactical groups (manual adapted for the Rear of the Armed Forces of Ukraine, taking into account the experience of rear support for military units in anti-terrorist operations). - Kyiv, Rear of the Armed Forces of Ukraine, 2015. - 273 p.
27. DSTU 4500-3:2008. – Kyiv, State Consumer Standards of Ukraine, 2010. – 37 p.
28. Resolution of the Cabinet of Ministers of Ukraine No. 30 of 18 January 2001 "On the movement of large and heavy vehicles on motorways, streets and railway crossings".
29. Law of Ukraine "On Motor Transport".

30. Order of the Minister of Internal Affairs of Ukraine dated 04.08.2018 No. 656 "On approval of certain regulatory and legal acts on road transport of dangerous goods"
31. European Agreement concerning the International Carriage of Dangerous Goods by Road of 30 September 1957 (ADR).
32. Order of the Chief of the General Staff of the Armed Forces of Ukraine dated 23.12.2019 No. 482-DSK "On approval of temporary guidelines for the organisation of movements and transportation (transport) in the Armed Forces of Ukraine".
33. Order of the Chief of the General Staff of the Armed Forces of Ukraine dated 17 October 2016 No. 387 "On approval of the Instructions on the organisation and planning of cargo and passenger transportation by road in the Armed Forces of Ukraine".
34. Order of the Minister of Defence of Ukraine and the Ministry of Infrastructure of Ukraine dated 1 December 2015 No. 666/503 "On Approval of the Instructions on the Planning of Military Rail Transport".
35. Order of the Minister of Defence of Ukraine dated 07.05.2019 No. 210 "On approval of regulations on the protection and escort of military cargo by rail and water transport".
36. Law of Ukraine "On Road Traffic", published by "DTP", 1993.
37. Illustrated traffic rules of Ukraine 2022. Training manual, 26th edition, revised and supplemented. – Kharkiv, Monolit, 2022, 67 p.
38. Order of the Commander of the Land Forces of the Armed Forces of Ukraine dated 29 January 2016 No. 57 "On approval of the Instructions on the organisation of security and defence of motor convoys transporting missiles (ammunition) and other material and technical resources from central supply agencies (centres, arsenals, bases, warehouses) to the troops during a special period".
39. Methodological recommendations for ensuring the security and defence of convoys transporting military equipment, missiles, ammunition and military-technical property: Methodological recommendations. - Kyiv: Armed Forces of Ukraine, 2014

**Names of topics and distribution of training time by type of training activity**

No	Types of training sessions, control activities	Total hours	Of which		Name of topic and learning questions
			Classroom hours	Independent work	
1	2	3	4	5	6
<b>Semester 6</b>					
<b>Section 2. Organisation of military transport.</b>					
		<b>7</b>	<b>5</b>	<b>2</b>	<b>Topic 3. Organisation of military motor transport</b>
1.	Lecture	2	2		<b>Lesson 1. Types of military motor transport</b> 1. Purpose and types of military motor transport. 2. Methods of organising transport by road. 3. Calculation and supply units.
2.	Group session	2	2		<b>Lesson 2. Motor vehicle parts (subdivisions), their purpose and use.</b> 1. Purpose, composition and tasks of automotive parts (subunits). 2. Typical organisational and staffing structure of an automotive part (subunit). 3. Capabilities of an automotive part (subunit).
3.	Group session	4	2	2	<b>Lesson 3. Logistics units (subunits), their purpose and order of use.</b> 1. Purpose, composition and tasks of material and technical support units (subunits). 2. Typical organisational and staffing structure of a motor vehicle unit (subdivision) of material and technical support. 3. Capabilities of a material and technical support unit (subunit).
4.	Lecture	4	2	2	<b>Lesson 4. Internal warehouse transportation</b> 1. Classification of warehouses, their structure and main functions. 2. Technological zones of a warehouse. 2. Organisation of the technological process in a warehouse.
5	Group session	4	2	2	<b>Lesson 5. Warehouse equipment</b> 1. Warehouse equipment for storing cargo and its design features 2. Warehouse equipment for loading and unloading areas. 3. Lifting and transport equipment.
6	Group session	4	2	2	<b>Lesson 6. Packaging, labelling and sealing of goods in transport logistics.</b> 1. Containers and packaging of cargo. 2. Methods and technologies for marking cargo. 3. Methods of preparing cargo for transport
7	Group session	4	2	2	<b>Lesson 7. Military cargo.</b>

No	Types of training sessions, control activities	Total hours	Of which		Name of topic and learning questions
			Classroom hours	Independent work	
1	2	3	4	5	6
					1. Military cargo and its classification. 2. Packaging and marking of military cargo. 3. Rules for loading and unloading military cargo.
8	Practical session	4	4		<b>Lesson 8. Calculating the parameters of loading and unloading stations, the number of stations and their workload</b> 1. Calculation of the loading and unloading front of trucks. 2. Calculation of the throughput capacity of loading and unloading points. 3. Determining the number of loading and unloading stations.
9	Lecture	4	2	2	<b>Lesson 9. Supply transportation of goods by motor transport.</b> 1. Organisation and planning of centralised supply transport of material resources. 2. Organisation and planning of motor transport of material resources in military units and support units. 3. Carrying out transportation of material resources by road transport in military units and support units.
10.	Group session	2	2		<b>Lesson 10. Formalised documents for the organisation and planning of centralised supply transport of material resources.</b> 1. Plans (annual, monthly, daily) and application for the organisation of centralised supply transport of material resources. 2. Route and accompanying letters for a motor convoy, list of the composition and loading of a motor convoy, report (run) on vehicle downtime.
11.	Group session	4	2	2	<b>Lesson 11. Organisation of transport of passengers, wounded and sick persons in the Armed Forces of Ukraine.</b> 1. General provisions on the organisation of personnel transport. 2. Rules for transporting wounded and sick personnel. 3. Standards for loading personnel, wounded and sick persons into vehicles.
12	Group session	4	2	2	<b>Lesson 12. Technical and economic indicators of the technical condition and operation of motor transport.</b> 1. Indicators characterising the technical condition of the rolling stock of a motor vehicle fleet. 2. Indicators characterising the operation of the motor vehicle fleet.
13	Practical session	4	4		<b>Lesson 13. Calculation of road transport performance indicators.</b> 1. Calculation of indicators characterising the production capacity of motor transport. 2. Calculation of indicators characterising the efficiency of motor transport use.
14	Group session	4	2	2	<b>Lesson 14. Rules and formulas for calculating rolling stock performance indicators on different routes</b> 1. Performance indicators for rolling stock on different routes. 2. Calculation of vehicle performance indicators on different routes per day (shift). 3. The influence of individual factors on vehicle performance indicators per day (shift).
15	Practical session	7	4	3	<b>Lesson 15. Calculation of rolling stock performance indicators on different routes</b> 1. Performance indicators for rolling stock on different routes.

No	Types of training sessions, control activities	Total hours	Of which		Name of topic and learning questions
			Classroom hours	Independent work	
1	2	3	4	5	6
					2. Calculation of vehicle performance indicators on different routes per day (shift). 3. The influence of individual factors on vehicle performance indicators per day (shift).
16	Group session	2	2		<b>Lesson 16. Indicators of the production programme for the operation of the motor vehicle fleet.</b> 1. Indicators characterising the readiness of the rolling stock fleet to perform its intended tasks. 2. Indicators characterising the productivity of vehicles and the fleet.
17.	Practical session	6	4	2	<b>Lesson 17. Calculation of rolling stock operating efficiency indicators.</b> 1. Calculation of indicators characterising the readiness of the rolling stock fleet to perform its intended tasks. 2. Calculation of indicators characterising the productivity of vehicles and rolling stock in the fleet.
18	Group session	4	2	2	<b>Lesson 18. Organisation and planning of evacuation transport.</b> 1. Conditions and organisation of evacuation. 2. Evacuation forces and means. 3. Procedure for their use.
19	Modular control	2	2		<b>Lesson 19. Modular control on topic No. 3.</b> 1. Types of military motor transport and formalised documents for their organisation and planning. 2. Calculation of technical and economic indicators of the technical condition and operation of motor transport. 3. Calculation of rolling stock performance indicators on different routes.
20		2	2		<b>Differentiated credit</b>
<b>Total for the semester</b>		<b>73</b>	<b>4</b>	<b>2</b>	
<b>Semester 7</b>					
		<b>45</b>	<b>3</b>	<b>15</b>	<b>Topic 4. Organisation of transportation of large-sized, heavy, dangerous, bulk and liquid cargo.</b>
21	Lecture	2	2		<b>Lesson 1. Organisation of transportation of oversized and heavy cargo.</b> 1. Conditions and rules for the movement of large-size and heavy-weight vehicles. 2. Procedure for approving routes for oversized and heavy vehicles. 3. Requirements for drivers, equipment of large-size and heavy-weight vehicles and placement of cargo.
22.	Lecture	2	2		<b>Lesson 2. Organisation of the transport of dangerous goods.</b> 1. DSTU 4500-3:2008: terms, designation of dangerous goods and general requirements for dangerous goods. 2. Classification of dangerous goods (class, subclass, group) 3. Classification code for dangerous goods.

No	Types of training sessions, control activities	Total hours	Of which		Name of topic and learning questions
			Classroom hours	Independent work	
1	2	3	4	5	6
2	Group session	4	4		<b>Lesson 3. Indicators and criteria for the classification of dangerous goods.</b> 1. Indicators and criteria for classifying dangerous goods by hazard class. 2. Classification tables and diagrams of dangerous goods by hazard classes.
24	Practical session	7	4	3	<b>Lesson 4. Levels of cargo danger.</b> 1. Procedure for determining the main degree of cargo hazard. 2. Procedure for determining the additional degree of cargo danger.
25	Group session	2	2		<b>Lesson 5. Rules for the transport of dangerous goods.</b> 1. General provisions. 2. Powers of the Ministry of Internal Affairs and the National Police regarding the transport of dangerous goods. 3. Supervision and control of the road transport of dangerous goods
26	Group session	4	2	2	<b>Lesson 6. Procedure for issuing and registering certificates of approval for the transport of certain dangerous goods</b> 1. Procedure for issuing certificates of approval for the transport of specified dangerous goods 2. Procedure for issuing certificates of approval for vehicles for the transport of specified dangerous goods
27	Group session	2			<b>Lesson 7. Organisation of the transport of explosive cargo in the Armed Forces of Ukraine.</b> 1. Specific features of the organisation of the transport of explosive cargo. 2. Transportation of missiles and ammunition. 3. Safety measures when transporting explosive cargo.
28	Group session	2	2		<b>Lesson 8. Organisation of the transport of weapons and military equipment.</b> 1. Procedure for transporting weapons and military equipment. 2. Requirements for the transport of military equipment and weapons. 3. Safety measures for the transport of explosive cargo.
29	Group session	6	2	4	<b>Lesson 9. Organisation of the transport of liquid fuel and lubricants.</b> 1. Procedure for transporting liquid fuels and lubricants. 2. Equipment of a vehicle for transporting liquid fuels and lubricants. 3. Safety measures for the transportation of liquid fuels and lubricants.
30	Group session	2	2		<b>Lesson 10. Organisation of bulk cargo transportation.</b> 1. Features of transporting non-metallic materials.

No	Types of training sessions, control activities	Total hours	Of which		Name of topic and learning questions
			Classroom hours	Independent work	
1	2	3	4	5	6
					2. Features of quarry transportation.
3	Group session	6	2	4	<b>Lesson 11. Features of the organisation of bulk cargo transportation.</b> 1. Containers and requirements for vehicles used to transport bulk cargo. 2. Classification of bulk cargo and characteristics of their transportation conditions.
3	Group session	4	2	2	<b>Lesson 12. Characteristics of the main means of transporting military equipment in the Armed Forces of Ukraine.</b> 1. Classification of main means of transporting military equipment in the Armed Forces of Ukraine. 2. Capabilities of the main means of transporting military equipment in the Armed Forces of Ukraine.
3	Modular control	2	2		<b>Lesson 13. Modular control on topic No. 4.</b> 1. Transportation of dangerous goods. 2. Transportation of rockets and ammunition. 3. Transportation of weapons and military equipment.
<b>Total for the semester</b>		<b>45</b>	<b>3</b>	<b>1</b>	
<b>Semester 8</b>					
<b>Section 3. Organisation of transportation of motor vehicle parts (subunits) by type of transport.</b>					
		<b>18</b>	<b>1</b>	<b>4</b>	<b>Topic 5. Organisation of military transport by rail, sea (river) and air.</b>
34.	Lecture	2	2		<b>Lesson 1. Transportation of military motor vehicle units by water and air transport.</b> 1. Features of transporting military motor units by water transport. 2. Specific features of transporting military motor vehicles by air transport. 3. Safety measures when transporting military motor vehicles by water and air transport
35.	Group session	2	2		<b>Lesson 2. Transportation of military motor vehicles by rail.</b> 1. General provisions for the organisation of transport of motor vehicle units (subunits) by rail. 2. The work of the commander and staff in organising the transport of a motorised military unit by rail. 3. Procedure for determining the required number of wagons (platforms) for the transport of motor vehicle units (subunits) by rail.
36.	Group session	2	2		<b>Lesson 3. Officials of the daily duty roster of a military echelon</b> 1. Military echelon officers and their duties. 2. Composition and duties of the daily duty roster and guard of a military echelon. 3. Actions of military echelon officers during transport.

No	Types of training sessions, control activities	Total hours	Of which		Name of topic and learning questions
			Classroom hours	Independent work	
1	2	3	4	5	6
37.	Group session	2	2		<b>Lesson 4. Combat support of a military echelon.</b> 1. The essence and content of combat support for military echelons. 2. Warning and control signals for military echelons. 3. Camouflaging units in the loading and unloading area. 4. Defence of military echelons.
38.	Group session	6	2	4	<b>Lesson 5. Equipment and sequence of loading a military echelon.</b> 1. Military equipment of wagons and loading and unloading areas. 2. Sequence of loading and methods of securing military equipment and weapons on platforms and in covered wagons. 3. Fastening devices and materials for securing military equipment and property of a military echelon. 4. Safety measures during loading and unloading operations.
39.	Practical session	4	4		<b>Lesson 6. Loading samples of weapons and military equipment onto a military echelon.</b> 1. Calculation of material resources for securing weapons and military equipment in military transport. 2. Loading and securing weapons, military equipment and military-technical property. 3. Technical maintenance of vehicles during transportation.
<b>Section 4. Work of the commander of a motor transport unit on the organisation and implementation of military motor transport operations.</b>					
		<b>24</b>	<b>20</b>	<b>4</b>	<b>Topic 6. Planning and preparation of military motor transport</b>
40.	Lecture	2	2		<b>Lesson 1. Location of motor vehicle units (subunits) at the site.</b> 1. Operational and tactical requirements for the location of motor transport units at the site. 2. Responsibilities of the commander and staff for organising the location on site. 3. Options for combat order schemes when positioning on site.
41.	Group session	2	2		<b>Lesson 2. Security and defence of a motor vehicle unit (subunit) when deployed in position.</b> 1. Duties of the commander in organising security and defence. 2. Calculation of forces and means for security and defence. 3. Organisation of security and defence.
42.	Group session	4	2	2	<b>Lesson 3. Standards and methods of calculation in transport planning.</b> 1. Standards for transport planning. 2. Methods of transport calculations.
43.	Group session	2	2		<b>Lesson 4. Actions of motor transport units (convoys) during transport operations.</b>

No	Types of training sessions, control activities	Total hours	Of which		Name of topic and learning questions
			Classroom hours	Independent work	
1	2	3	4	5	6
					1. Motor convoys, their composition, formation and structure. 2. Preparation for transport operations. 3. Options for convoy formation schemes.
44.	Practical session	2	2		<b>Lesson 5. Calculation of transportation</b> 1. Calculation of transportation by a separate motor transport unit. 2. Development of schemes for the formation of motor vehicle convoys (columns).
45.	Group session	2	2		<b>Lesson 6. Decision of the commander of a military motor transport unit (separate motor transport unit) to carry out a march (convoy) under its own power</b> 1. Procedure for making a decision to carry out a march (column) under own power. 2. Commander's map for conducting a march (column) under its own power. 3. Setting the task of conducting a march (column) under own power.
46.	Group session	4	2	2	<b>Lesson 7. Marching order of a motorised military unit on the march.</b> 1. Forming the marching order of a motor vehicle unit for a march. 2. March of a motorised military unit (column) under its own power. 3. Movement of motorised military units under their own power.
47.	Group session	2	2		<b>Lesson 8. Duties of personnel on the march.</b> 1. Duties of the column commander. 2. Duties of personnel in a column (columns). 3. Duties of the senior driver.
48.	Group session	2	2		<b>Lesson 9. Loading and unloading motor convoys.</b> 1. Duties of the commander and personnel during loading (unloading) of motor vehicle convoys. 2. Duties of the commander upon arrival of the convoy in the area. 3. Equipment of the waiting area and loading (unloading) area and points
49.	Group session	2	2		<b>Lesson 10. Measures for cargo control and safety.</b> 1. Accompanying document for cargo. 2. Driver and receiver responsibilities for cargo control and safety. 3. Requirements for cargo stowage.
		<b>1</b>	<b>14</b>	<b>4</b>	<b>Topic 7. Management of military motor transport</b>
50.	Lecture	2	2		<b>Lesson 1. Management of a motor transport unit (separate motor transport unit).</b> 1. The essence and content of management.

No	Types of training sessions, control activities	Total hours	Of which		Name of topic and learning questions
			Classroom hours	Independent work	
1	2	3	4	5	6
					2. Organisation of the dispatch service in a motor vehicle military unit.
51.	Group session	2	2		<b>Lesson 2. The work of the commander and staff of a motor vehicle military unit (separate motor vehicle unit).</b> 1. Source documents for planning motor transport operations. 2. Sequence and content of the commander's work. 3. Sequence and content of the work of the chief of staff.
52.	Group session	2	2		<b>Lesson 3. Provision of military motor transport.</b> 1. Logistical support. 2. Medical support.
53.	Practical session	2	2		<b>Lesson 4 Work card of the commander of a military motor transport unit (separate motor transport unit).</b> 1. General situation and partial situation. 2. Decisions of the commander and chief of staff.
54.	Practical session	4	2	2	<b>Lesson 5. Work of the heads of services of a motorised military unit (separate motorised unit).</b> 1. Sequence and content of the work of the head of logistics of a motor vehicle military unit. 2. Calculations and proposals of service chiefs for the commander's decision.
55.	Practical session	2	2		<b>Lesson 6. Formalised documents of convoys and dispatch services.</b> 1. Reports. 2. Dispatch service documentation. 3. Documentation of the convoy commander. 4. Procedure for documenting cargo.
56.	Practical session	6	2	4	<b>Lesson 7. Methods of organising and conducting classes on military motor transport.</b> 1. Procedure for preparing for classes. 2. Methods of conducting group and practical classes.
<b>Total for the semester</b>		<b>6</b>	<b>48</b>	<b>14</b>	
		4	4		<b>Exam (during exam session)</b>
<b>Total for the discipline</b>		<b>1</b>	<b>1</b>	<b>5</b>	