Country	Institution	Course	ECTS
BULGARIA	Vasil Levski National Military University	**Logistics**	**3.0**

Service

All

Languages

English, Bulgarian

Minimum Qualification for Lecturers

- English: Common European Framework of Reference for Languages (CEFR) Level B2 or NATO STANAG 6001 Level 2.
- Adequate physical training and medical condition.
- Adequate pedagogical and psychological competences.
- Thorough knowledge of the topic taught.

Prerequisites for international participants:

- English: Common European Framework of Reference for Languages (CEFR) Level B1 or NATO STANAG Level 2.
- The end of the 1st year of national (military) higher education.
- Adequate physical and psychological preparation and good medical condition.

Goal of the Course:

The word "logistics" has long been used in everyday language. To the concept, however, is given a different meaning and content. The Byzantine Emperor Leo VI (886-911) has used the concept of logistics for the first time in the military field, by stating that the tasks of logistics include: " ... to calculate the space and time to properly assess the impact of the place on both the movement our troops and on the strength of the opponent. In accordance with their influence the movement and location of own troops shall be controlled". During the 1690-1700 years, the German philosopher and mathematician G. Leibniz introduced the term "mathematical logic". This term is associated with practical arithmetic with numbers as opposed to arithmetic, which is perceived as theory. In the days of Carl von Clausewitz (1780-1831) logistics is implemented in the field of military rear sector, when the supply processes of the troops during campaign were accompanied by the functioning of the supply officers, and later the technical services and transportation of people and materials. In 1837 the Swiss General A. Jomini who served in the French and Russian armies, issued in Paris his book "The Art of War" designed to solve military problems. In it "logistics" is understood as "officers who determine lodgings and camps of troops, who indicate the direction of movement of military columns and identify sites for the deployment of troops. It takes very precise calculations to properly give orders when and how troop columns shall go and move from various points in order to concentrate on the crucial area of the operational zone, and thus to ensure the success of the military company." In 1850 in St. Petersburg was issued the "Military encyclopedic lexicon", which presented the following definition: "Logistics is the art of managing the troops both when they were close and when they are away from the enemy by performing various activities for their rear supply." In the period 1940-1950 in the complex of activities inherent to logistics are included: rear and supply; logistics, organization and implementation of rear work. After

World War II, the developed so far for military use mathematical methods for planning (transport task, linear programming, dynamic programming, and queuing theory) are transferred and adapted to the management of business processes. These "Operations Research" are widely used in logistics in determining the need for warehouses and their location, the magnitude of stocks batch size, consistency of supply and others. In 1960 is introduced the concept of "material flow technique." This technique is aimed at solving the problems of integration of transport operations in the entire reproduction process through technical tying the various stages. In the past 20 years developed economies "open" logistics and begin to show an active interest in it. Senior managers realize the need to create the necessary conditions in business organizations for increasing the speed with which to respond to market signals received. In this context, the main task of logistics is perceived to develop projects for physical distribution of material resources to help improve efficiency of the organization by optimizing costs and improving the quality of service that will increase its competitiveness. In recent years, the evolution of the logistics is associated with the use of modern communication technologies. Computer systems apply not only to optimize individual operations, but also for comprehensive coordination of individual activities.

Practical orientation of the current curriculum

In its development logistics goes through the following stages:

- Pre-logistics period (up to 50s of the 20th century). During this period, transport and logistics supply are treated as two activities unrelated to each other.
- Classic Logistics (60's of the 20th century). During this stage an integration of logistics activities is required, but in the field of supply and distribution. Production activity is beyond the scope of logistics. Gradually it becomes necessary for transport and warehouse operations to pursue the general economic performance, and to work on a consistent schedule and technologies.
- New Logistics (early 80s of the 20th century). During this stage logistics is oriented to covering production activity. Interactions between warehouse operations and transportation allow for efficient production planning and inventory management.
- Modern Logistics (logistics of the 21st century). Typical of logistics is linking logistics activities with information flows.

	We can summarize that the new logistics approach requires full coordination and optimization of logistics activities and their integration with information flows using appropriate software.

Learning outcomes	Know-ledge	As a result of the training under this program, learners should acquire new knowledge about: 2.2.1. The essence and key features of key concepts in Logistics 2.2.2. The history of Logistics 2.2.3. Methods of logistics strategic analysis and diagnostics of the internal and external environment of the organization 2.2.4. Logistics system 2.2.5. Logistics policies
	Skills	As a result of the exercises foreseen in the program, learners should build new skills: 2.3.1. To perform logistics strategic analysis and diagnostics of the organization's internal and external environment 2.3.2. To perform Methods of logistics planning 2.3.3. To mate logistics projects 2.3.4. To mate the logistics policies 2.3.5. To mate the logistics services
	Competences	In response to the need of managerial knowledge, skills and competences, the logistics examines the prerequisites for the logistics concepts, logistics policies and logistics analysis.

Verification of learning outcomes

The main academic methods of giving knowledge are lectures and seminar sessions, which are held in mix training courses of both students and cadets.

Evaluation on results of the course is built on the current curriculum. For this purpose, it is provided a semester examination as a preparation course project on a topic of curriculum.

Module Details		
Main Topics	**Recommended WH**	**Details**
Topic One: Essence of Logistics	2	The main task of logistics is considered the development of projects for physical distribution of material resources, which should help for the improvement of the efficiency of the organization by optimizing the cost and quality of service, which will increase its competitiveness. In recent years, the evolution of the logistics is associated with the use of modern communication technologies. Computer systems are used not only to

		optimize individual operations, but also for comprehensive coordination of individual activities. DISCUSSION AND WORK TASKS
Topic Two: Logistics System. Logistics Principles. Place of Logistics in The Economic Environment.	6	The aim of companies to reduce the time and money related to the movement of the processes in the logistics system determines the development of logistics. We can outline two major factors that impose the increasing role of logistics: the complexity of the system of market relations and the enhancement of the requirements for quality attributes of the distribution process, creation of flexible manufacturing systems that appropriately respond to customer requirements. The design and organization of the logistics system is required as a result of the above. Logistics operates in a particular environment, which can be distinguished as macro and micro organizational environment. The macro environment explores the opportunities for contribution of logistics to the economy and the value it adds to the overall economic development. Microenvironment determines the logistics links with other functional areas such as marketing, production and finance and studies the prospects on how logistics can contribute to increasing the competitiveness of the organization. DISCUSSION AND WORK TASKS
Topic Three: Logistics of Supply	4	A major component of any logistic system in the organization is the supply, which is a business oriented towards establishing contacts with suppliers, clarification of technical and economic issues related to supplies, and also the organization of the company's material economy. DISCUSSION AND WORK TASKS
Topic Four: Market Logistics	2	The market logistics covers the physical distribution of products from producers to end users, mainly related to the management of orders, processing of products, warehousing, stocks management and transportation. DISCUSSION AND WORK TASKS
Topic Five: Transport Logistics Warehouse Logistics	8	Transport logistics is a part of the physical movement of goods by road from the producer to the consumer after the formation of logistics channels of distribution. The choice of transport requires an analysis of the technical and economic characteristics of individual types of transport, focusing on the following characteristics: vehicles, specifics of operation, cost efficiency, and more. Storage is conscious and purposeful activity of keeping material stocks, ensuring the normal course of business processes and consumption. It

		aims to preserve the quality of materials and goods as much as possible, according to the technical requirements, standards, and more. Each organization should store its finished goods to their sale. Storage is a required function, cause production and consumer cycles rarely match. Many rural economic goods such are produced seasonally, while demand is constant. Storage overcomes the gaps between desired quantities and time. DISCUSSION AND WORK TASKS
Topic Six: Inventory Management Information Logistics	8	The purpose of inventory management is to create and maintain optimal amounts of goods to meet the needs of the buyers adequately. The functional area of logistics that deals with the study of information flows and their use of logistics management is called information logistics. DISCUSSION AND WORK TASKS
A variety of existing theoretical knowledge and practical experience was examined and were initiated contacts with the world's leading authors in the field of Logistics during the preparing the curriculum and lectures.		
Academic hours	30	
Additional hours to increase the learning outcomes		
Self-Study	10	• Enhancing knowledge as a self-preparation on a particular subject for the final exam. • Reflection of the topics issued.
Total	40	

Main available resources:
/in English/

1. Banabakova, V. Logistics, Plovdiv, 2013
2. Banabakova, V. and At. Panev. Characteristics of business information systems and their importance for the improvement of logistical service. Review, № 4, Land Forces Academy, Sibiu, Romania, 2011.
3. Bernard J., La Londe and Paul H. Zinszer.Customer Service: Meaning and Measurement (Chicago: National Council of Physical Distribution Management, 1976.
4. Bolten, E.F. Managing Time and Space in the Modern Warehouse. New York, NY: American Management Association, 1997.
5. Chistopher, M. Logistics and Supply Chain Management. Financial times. Pitman Publishing, London, 1998.
6. Lambert D., J. Stock and L. Ellram. Fundamentals of Logistics Management. Irwin McGaw-Hill, USA, 1998.
7. La Londe, Bernard, Cooper, Martha C., Noordewier, Thomas G. Customer Service: A Management Perspective. Chicago: Council of Logistics Management, 1988.
8. Frazelle, E., World-Class Warehousing and Material Handling, McGraw-Hill, New York, 2001.