(Ф 03.02 – 91)

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
National Aviation University
Faculty of Transport Technologies
Air Transportation Management Department

APPROVED
Acting Rector
_____
«___»_____2017

Quality Management System

SYLLABUS
on
"SUPPLY CHAIN MANAGEMENT"

Field of study: 27 «Transport»
Speciality: 275 «Air Transport Technologies»
Specialization: «Air Transportation Management»

Semester – 2 th

Classroom Sessions – 51
Self-study – 54
Total (hours/ECTS credits – 105/3,5

Graded Test – 2 th semester

Index CM-6-275/16-3.16

QMS NAU S 11.02.02-01-2017

The Syllabus on "Supple Chain Management" is based on the educational and professional program and Master Curriculum № CM-6-275/16 for Speciality 275 «Air Transportation Technology», Specialization «Air Transportation Management» and correspondent normative documents.

Developed by:

Associate Professor of the Air Transportation Management Department _____O. Sokolova

Associate Professor of the Air Transportation Management Department _____ Y.Shevchenko

Discussed and approved by the Graduate Department for Speciality 275 «Air Transportation Technology», Specialization «Air Transportation Management» – Air Transportation Management Department, Minutes № 11 of 20.03.2017.

Acting Head of the Department _____ K.Marintseva

Discussed and approved by the Scientific-Methodological-Editorial Board of the Faculty of Transport Technologies, Minutes №1 of "03" April 2017.

Head of the SMEB _____ Y.Shevchenko

“Agreed”

Acting Dean of the Faculty of Transport Technologies	Director of the Center of Advanced Technologies
_____ G. Yun	_____ V. Kazak
"_____"_____2017.	"_____"_____2017.

Level of document – 3b
Planned term between revisions – 1 year
Master copy

1. EXPLANATORY NOTE

The curriculum of discipline "Supple Chain management" developed on the basis of the guidelines for the development and execution of training programs and work training courses", enacted by decree 16.06.2015r. №37.

This discipline is part of the theoretical basis of knowledge and skills to study technical courses of training in the field of traffic and transportation systems.

The purpose of presenting discipline is the study of the nature and content supply chain management as a science, as well as the range of applications of the concept in practice specialists in transport technologies in the aviation industry.

The objectives of the study discipline are:

definition of "logistics" and "supply chain management";

- introduction with the concept, content, history of science, its objectives and the classification of supply chain;
- review basis for planning and design of logistics systems and supply chain;
- review of supply chain network structure and features of its configuration;
- review the concepts of integrated interaction between counterparties in supply chains;
- study of models and supply chain optimization features installing supply chain management concepts based on business process reengineering, research and use of best practices;
- evaluation of the effectiveness of the logistics and supply chain system based on the balanced scorecard.

In a result of studying of this discipline a student must:

Know:

- the main stages of evolution of the concept of supply chain management;
- classification of the supply chain;
- business processes in supply chains given the logistics system;
- object and process stages of decomposition supply chain (logistics system);
- optimization problems in supply chains;
- methods of design, modeling and experimental calculations for solving supply chain management

Be able to:

- using information on the object using methods of marketing analysis and analysis of organizational structure to determine the purpose of designing logistic systems and supply chain;
- based on a systematic approach, the principles of total costs-wide optimization, simulation, sustainability, adaptability, total quality management, establish a system of criteria and constraints and options within the supply chain logistics system;
- using mathematical (simulations), expert methods or statistical data to perform evaluation of selected options and choose the best option given the logistics supply chain system;
- using the principle of a common information space (a single database unity classifiers distributed network), the requirements for information subsystem (functional completeness, data security, flexibility in adjustment, open for development) and the criteria for assessment of select subsystem promoted supply chain given the logistics system.

Handout course is structured in a modular manner and consists of two training modules, namely:

- training module №1 «Fundamentals of planning and designing supply chain";

– training module №2 «Optimizing supply chain", each of which is logically complete, relatively independent, integral part of the discipline, learning which provides for modular test and analyze the results of its implementation.

Academic discipline "Supple Chain Management" knowledge-based disciplines such as :, "Technology airlift", "Information Technologies in Transport" and is the basis for the study of such subjects as: "Aviation and Tourism Management" and others.

2. CONTENTS OF THESE COURSES

Module №1 «Fundamentals of planning and design supply chain."

2.1. Module №1 «Fundamentals of planning and design supply chain."

Determination of the logistics system. Classification of logistics systems. Scheme Micrologistics system. The definition of "supply chain management". The evolution of the concept of supply chain management. The development of the concept of supply chain management in Ukraine. Classification supply chain. Aims and objectives of supply chain planning. The logic of strategic planning and designing supply chain. Design decisions about choosing a logistics provider. The choice of mode of transport in the supply chain enterprise.

Topic 2.1.2. The integration of business processes supply chain, object and process approach to supply chain management.

Principles of the logistics system: coherence; integrated focus on efficiency; functional interaction; achieving of sinergical effect. The aspects that must be considered when designing supply chains, consumer behavior, the types of distribution, product characteristics. Distribution channels of distribution (marketing scope), physical distribution (logistics scope). Sourcing distribution. The structure of distribution channels. Review supply chain management as the integration of eight key business processes. Definition of "bottleneck" Distribution Systems business.

Topic 2.1.3. Configuration logistics supply chain network.

Supply chain network structure. Borders and structural dimension network. Three structural dimension of the network: the focal position of the company in relation to the borders of the network structure, horizontal and vertical networks. Supply chain participants. Types of links between supply chain participants, managed communications; untethered communications; ties tracked; relationships with objects outside the supply chain. Analysis of the logistics system of the company. Alternative distribution strategy.

Topic 2.1.4. Economic efficiency of supply chain management.

The concept of "Balanced Scorecard". Stages determine Balanced Scorecard: development mission and strategic vision; a corporate strategy map; Clearing a corporate card; representation matrix (table) initiatives; drafting strategic budgets; development card counting unit; Development of individual counting cards. Performance efficiency of the supply chain: the basic requirements and classification.

2.2. The module №2 "Optimization of the supply chain."

Topic 2.2.1. Supply chain optimization problem.

Overview of methods for solving logistical problems, system analysis, theory of operations research methods; cybernetic approach; prognosis. Simulation of logistics systems. Determination of optimality criteria. Definition of limitations logistics system: target (social, economic, environmental), resources, external, scientific and technical. Building supply chain with the choice of criteria and restrictions.

Topic 2.2.2. Key elements of the supply chain optimization.

Outsourcing and procurement strategy and distribution. Analysis routes. Analysis stocks. Analysis of the profitability of the market segment. Placing logistics facilities, analytical methods, linear programming, simulation. Initial data for analysis placement logistics facilities. Logistics transportation. Major decisions transport logistics. The choice of form of transporting goods. The choice of carrier transport tariffs. Methods for routing traffic.

Topic 2.2.3. Modeling supply chain optimization.

Modeling in logistics. Mathematical modeling. Multicriteria problem. Simulation. Expert systems in logistics.

Topic 2.2.4. IT decision-support logistics solutions.

IT decision support. Information and Control Systems. The structure of the intellectual support of decision making.

Topic 2.2.5. Decision Support Systems. Basic concepts and general principles of creation.

Decision Support Systems. Basic concepts and general principles of creation. Computer decision support systems. The use of decision support systems in supply chain management.

3. LIST OF THE RECOMMENDED SOURCES

3.1. The main sources are recommended

3.1.1. Лайсонс К. Управление закупочной деятельностью и цепью поставок: пер. с англ./ Кеннет Лайсонс, Майкл Джиллингем. – М. : Инфра-М, 2005 (ГУП ИПК Ульян. дом печати) – 798 с.

3.1.2. Смирнова Е.А. Управление цепями поставок: Учебное пособие. – СПб.: Изд-во СПбГУЭФ, 2009.– 120 с.

3.1.3. Кристофер М. Логистика и управление цепочками поставок: Пер. с англ. – СПб.: Питер, 2004. – 316 с.

3.1.4. Бауэрсокс Доналд Дж. Логистика: интегрированная цепь поставок. – М.: Олимп-бизнес. 2010. – 640 с.

3.2. Other recommended sources

3.2.1.Никифоров В. Логистика. Транспорт и склад в цепи поставок. – М.:ГроссМедиа Ферлаг. 2008 г. – 192 с.

3.2.2. Сток Дж.Р., Ламберт Д.М. Стратегическое управление логистикой. Пер. с 4-го англ.изд. – М.: ИНФРА-М, 2005.XXXI – 797 с.

Кирюков С.И., Кротов К.В. Развитие концепции управления цепями поставок: маркетинговый подход // Вестник СПбГУ. – 2007. – № 4. – С. 97-111.

3.2.3. Корпоративная логистика. 300 ответов на вопросы профессионалов / Под общей и научной редакцией профессора В.И. Сергеева. – М.: ИНФРА-М, 2004. – 976 с.

3.2.4. Некрасов А. Цепи поставок: общие требования и термины// Логистика. – 2005. – № 4. – С. 15-18.

3.2.5. Управление цепями поставок: Справочник издательства Gower / Под ред. Дж. Гаторны. – М.: ИНФРА-М, 2008. – XXXIV. – 670 с.

(Ф 03.02 – 01)

АРКУШ ПОШИРЕННЯ ДОКУМЕНТА

№ прим.	Куди передано (підрозділ)	Дата видачі	П.І.Б. отримувача	Підпис отримувача	Примітки

(Ф 03.02 – 02)

АРКУШ ОЗНАЙОМЛЕННЯ З ДОКУМЕНТОМ

№ пор.	Прізвище ім'я по-батькові	Підпис ознайомленої особи	Дата ознайом-лення	Примітки

(Ф 03.02 – 04)

АРКУШ РЕЄСТРАЦІЇ РЕВІЗІЇ

№ пор.	Прізвище ім'я по-батькові	Дата ревізії	Підпис	Висновок щодо адекватності

(Ф 03.02 – 03)

АРКУШ ОБЛІКУ ЗМІН

№ змі-ни	№ листа (сторінки)				Підпис особи, яка внесла	Дата внесен-ня зміни	Дата введен-ня зміни
	Зміненого	Заміненого	Нового	Анульо-ваного			

(Ф 03.02 – 32)

УЗГОДЖЕННЯ ЗМІН

	Підпис	Ініціали, прізвище	Посада	Дата
Розробник				
Узгоджено				
Узгоджено				
Узгоджено				