

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
NATIONAL AVIATION UNIVERSITY
 Faculty of Transport, Management and Logistics
 Air Transportation Management Department



AGREED

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Management and Logistics

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«28» 09 2021

APPROVED

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«07» 10 2021



Quality Management System
COURSE TRAINING PROGRAM
 On

“Project Management in Transport Industry”

Educational and Professional Programs: «Air Transportation Management»
 «Multimodal Transport and Logistics»

Field of study: 27 «Transport»

Speciality: 275 «Air Transport Technologies»

Specialization: 275.04 «Air Transport Technologies»

Training Form	Semester	Total (hours/credits ECTS)	Lectures	Practicals	Lab. classes	Self-Study	HW/CGP	TP/CP	Semester Grade
Full-time:	1	120/4,	17		17	86	-	TP-1s	examination 1s

Indexes CM-7-275-1/21-2.1.2
 CM-7-275-3/21-2.1.2

QMS NAU CTP 19.01-01-2021



Course Training Program on «Project Management in Transport Industry» is developed on the Educational and Professional Program «Air Transportation Management», Master Curriculum and Extended Curriculum CM-7-275-1/21, ECM-7-275-1/21 for Speciality 275 «Air Transport Technologies», Specialization 275.04 «Air Transport Technologies» and corresponding normative documents.

Developed by:

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Discussed and approved by the Graduate Department for Speciality 275 «Air Transport Technologies», Specialization 275.04 «Air Transport Technologies» and Educational and Professional Program «Air Transportation Management» - Air Transportation Management Department, Minutes № 15 of «31» 08 2021.

Guarantor of Educational and
Professional Program



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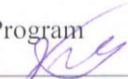
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Discussed and approved by the Graduate Department for Speciality 275 «Air Transport Technologies», Specialization 275.04 «Air Transport Technologies», Educational and Professional Program «Multimodal Transport and Logistics» - Organization of Aviation Works and Services Department, Minutes № 18 of «31» 08 2021.

Guarantor of Educational and Professional Program
«Multimodal Transport and Logistics»



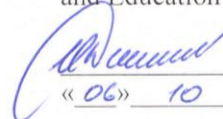
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INTRODUCTION

Course Training Program on «Project Management in Transport Industry» is developed on the basis of the "Methodical guidance for the subject course training program of full-time of education", approved by the order №249/poz dated 29.04.2021 and corresponding normative documents..

1. EXPLANATORY NOTES

1.1. Place, aim, objectives of the subject

This discipline is an integral part of the theoretical basis of knowledge and skills for the study of technological disciplines for the training of specialists in the field of transportation organization and transport management.

The aim of teaching the discipline is to form in students the necessary theoretical knowledge and practical skills for effective project management in various areas, adaptation and implementation of design solutions in the practical activities of transport enterprises.

The objectives of the discipline are:


- obtaining knowledge about modern ones theoretical concepts, categories, systems and project management processes;
- mastering modern methods and approaches to project management;
- mastery ways to organize project management and project content planning;
- mastery practical skills in solving project management tasks and performing relevant functions;
- mastering modern methods calculation of material, financial, personnel, information, intellectual and other resources, sources of their receipt and effective use.

1.2. Results of mastering the training course.

- Make effective decisions in the field of transport systems and technologies, taking into account technical, social, economic and legal aspects, generate and compare alternatives, assess the necessary resources and constraints, analyze risks;
- Develop new and improve existing transport systems and technologies, define development goals, existing constraints, efficiency criteria and scope;
- Analyze and evaluate the efficiency of supply chains and logistics centers, perform calculations of relevant indicators;
- Manage complex technological and production processes of transport systems and technologies, including unpredictable and those that require new strategic approaches;
- Analyze scientific recommendations and justify the feasibility of modern methods of traffic control (vehicles);
- Search for the necessary information in the scientific and technical literature, databases, other sources, analyze and objectively evaluate information in the field of transport systems and technologies and related cross-sectoral issues;
- Freely discuss in state and foreign languages issues of professional activity, projects and research in the field of transport systems and technologies orally and in writing;
- Make effective decisions in the field of transport systems and technologies, taking into account technical, social, economic and legal aspects, generate and compare alternatives, assess the necessary resources and constraints, analyze risks;
- Communicate their knowledge, decisions and the basis for their adoption to specialists and non-specialists in a clear and unambiguous form;
- Organize the work of staff, ensure their professional development and objective evaluation;
- Communicate their knowledge, decisions and the basis for their adoption to specialists and non-specialists in a clear and unambiguous form;
- Ensure the safety of people and the environment during professional activities and projects in the field of transport systems and technologies;
- Develop and argue approaches and methods for conducting commercial, technical, social, environmental, institutional, financial and economic analysis in the development of innovation and investment projects.

1.3. Competencies of mastering the training course.

- Ability to search, process and analyze information from various sources;

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- Ability to develop and manage projects;
- Ability to conduct research at the appropriate level;
- Ability to conduct research within a narrow specialization, identify problems, set goals and solve them using appropriate research methods;
- Ability to identify and apply promising areas of modeling of transport processes;
- Ability to manage traffic flows;
- Ability to use specialized software to solve complex problems in the field of transport systems and technologies;
- Ability to formulate, analyze technological, technical, economic and financial problems in air transport, which may be related to both commercial practice and transport operations;
- Ability to apply modeling and optimization methods to study and improve the efficiency of air transport systems and their management processes;
- Ability to generate new ideas (creativity);
- Ability to manage the reliability and efficiency of transport systems and technologies;
- Ability to take into account the impact of customs procedures in the formation of transport technologies;
- Ability to motivate people and move towards a common goal;
- Ability to evaluate and ensure the quality of work performed;
- Ability to use knowledge of the regulatory framework that provides the organization and technology of multimodal transportation, laws and principles of operation of complex systems in combination with the necessary mathematical tools to describe the parameters of transport and logistics systems;
- Ability to apply modern methods of risk assessment and management of multimodal transportation.

1.4. Interdisciplinary connections.

This training course is based on knowledge of such subjects as "Methodology of Applied Research in Field of Transport Technologies (by modes)", "Professional English" and is the basis to study such subjects as: "Mathematical Methods of Modelling and Optimization of System and Processes", "Scientific and Research Training in Field of Air Transportation Management".

2. ACADEMIC CURRICULUM OF THE SUBJECT

2.1. Content of the subject

The educational material of the discipline is structured on a modular principle and consists of one educational module, namely:

- training module № 1 «**Project management in the transport industry**», which is a logical complete, relatively independent, integral part of the discipline, the mastering of which involves a modular test and analysis of the results of its implementation. A separate second module (educational component) is a course project (CP), which is performed in the first semester.

CP is an important component of consolidation and deepening of theoretical and practical knowledge and skills acquired by the student in the process of mastering the educational material of the discipline.

2.2. Modular structuring and integrated requirements for each module.

Module № 1 «Project management in the transport industry»

Integrated requirements of module №1:

Know modern theoretical concepts, categories, systems and project management processes; modern methods and approaches to project management; ways to organize project management and project content planning;

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Be able to solve problems of project management and performance of relevant functions; apply methods calculation of material, financial, personnel, information, intellectual and other resources, sources of their receipt and effective use.

Topic 1. Introduction. Fundamentals of project management.

The concept of "project", "project management". History of project management intelligence. Stages of development of project management methods. Prerequisites and prospects for the development of project management methods. Classification of projects. Project management in modern conditions. Classification of projects. Project participants.

Topic 2. Project management system.

General sequence of development of organizational structure for project implementation. Project Management Office (PMO). Making optimal decisions on the choice of organizational structure for project implementation in conditions of uncertainty of the source information. Feasibility study of the project. Basic forms of project procedures. Business plan. Project planning as a component of project management.

Topic 3. The main forms of organizational structure of the project.

Project concept development. Organization of the project management system. Project management structures. Choice of organizational structure of project management. Evaluation of project effectiveness. Directions of project structuring. The essence and functions of project structuring. Project management plan template.

Topic 4. Planning the timing and timing of projects.

Principles of project time management. Organizational and technological models of project planning. Network planning of projects. Features of grid planning in conditions of uncertainty. Graphical evaluation and program review method (GERT method). Calendar planning.

Topic 5. Resource management of projects.

Project cost management processes. Project resource planning. Process resource allocation. Smoothing of resource histograms. Project cost planning. Cost planning. Methods of calculating the cost of the project. Types of project cost estimates. Determining the project budget. Estimation of duration of works.

Topic 6. Formation and development of the project team.

Forming a project team. Project team management processes. Conflict management in projects. Project team development. Organizational culture of the project. Leadership and motivation in the team. Project human resource management processes. Methods of staff training in projects.

Topic 7. Project communications and information management.

Communication management as a process of "managing the expectations of project stakeholders". Tools and methods of dissemination of information during the project. Project management information system. Technologies of group communication in the decision-making system. Communication management processes during project implementation. Communications management planning. Software and hardware tools for project management. Project management automation.


Topic 8. Project quality management. Risk management in projects.

The general concept of quality management. Quality planning. Quality assurance. The essence of the project quality control process. Project quality monitoring. Measuring the progress of the project. Risk probability distributions. Risk identification. Monitoring the progress of the project in terms of time and cost.

The concept of risk and uncertainty. Classification of project risks. Risk management planning. Risk monitoring and control. Project risk analysis. Construction of probability and influence matrices. Qualitative and quantitative analysis of project risks. Risk response planning.

Module №2 (educational component) "Course project"

The course project (CP) is implemented in the first semester, in accordance with the approved guidelines.

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The specific purpose of the CP is to study and master the material, the main provisions of the business plan of the investment project of a particular airline.


To successfully complete the CP, the student must **know**: main criteria and factors that are taken into account at different stages of the project life cycle; project analysis methodology; basics of business planning of an investment project; be able to: independently conduct technical and financial and economic analysis of the investment project of the air transport enterprise; independently develop a business plan of the investment project of the air transport enterprise; independently decide on the effectiveness of the investment project of the air transport company.

Execution, registration and protection of CP is carried out by the student individually according to methodical recommendations.

The time required to perform the manual is 45 hours of independent work.

2.3. Structure of the subject.

№	Theme	Total, hours			
		Total	Lectures	Labs	Self-study
1	2	3	4	5	6
Module № 1 «Project management in transport industry»					
1.1	Introduction. Fundamentals of project management.	1 semester			
		9	2	2	5
1.2	Project management system.	8	2	2	4
1.3	The main forms of organizational structure of the project.	9	2	2	5
1.4	Planning the timing and timing of projects.	8	2	2	4
1.5	Resource management of projects.	9	2	2	5
1.6	Formation and development of the project team.	8	2	2	4
1.7	Project communications and information management.	9	2	2	5
1.8	Project quality management. Risk management in projects.	10	2 1	2	5
1.9	Module test №1	5	-	1	4
Total for the module test №1		75	17	17	41
Module №2 «Course project»					
2.1	Project management in the transport industry	45	-	-	45

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Total for the module test №2		45	-	-	45
Total for the discipline		120	17	17	86

2.6. List of questions to prepare for examination

List issues and the content of tasks to prepare for exam, are developed by the leading teacher of the department in accordance with the work program, approved at the meeting of the department and communicated to students.

3.1. TEACHING METHODS

The following teaching methods in subject guidance are:

- explanatory and illustrative method;
- method of problem presentation;
- reproductive method;
- research method.

The implementation of these methods are carried out during lectures, demonstrations, self-study, work with the educational material, analysis and solving problems in assessing information technologies on transport.

3.2. List of references (basic and additional)

Basic literature

3.2.1. Evolving Toolbox for Complex Project Management/ Alex Gorod, Leonie Hallo, Vernon Ireland, Indra Gunawan// CRC Press. -2020.- 568p.

3.2.2. Deep Data Analytics for New Product Development/ Walter R. Paczkowski// Routledge.-2020.-450p.

3.2.3. Routledge Handbook of Integrated Project Delivery/ Derek H. T. Walker, Steve M. Rowlinson // Routledge.-2019.-756 p.

3.2.4. Прийняття проектних рішень: Навчальний посібник / Фещур Р. В., Кічор В. П., Якимів А. І., Тимчишин І. Є., Янішевський В. С., Лебідь Т. В., Самуляк В. Ю., Когут І. В., Шишковський С. В. – Львів: Видавництво Львівської політехніки, 2018. – 220 с.

3.2.5. Бабаєв В.М. Управління проектами: Навчальний посібник для студентів спеціальності «Управління проектами» / Бабаєв В.М. – Харків: ХНАМГ, 2015. – 244 с.

3.2.6. «Управління проектами»: навчальний посібник / Уклад.: Л.Є. Довгань, Г.А. Мохонько, І.П. Малик. – К.: КПІ ім. Ігоря Сікорського, 2017. – 420 с.

3.2.7. Микитюк П. П. Управління проектами: Навч. пос. [для студ. вищ. навч. закл.] / П. П. Микитюк – Тернопіль, 2019. – 270 с.

3.2.8. A Guide to the Project Management Body of Knowledge (PMBOKGuide). Sixth Edition. Project Management Institute, 2017. – 800 p.

Additional Literature


3.2.9. Воркут Т.А.. Проектний аналіз. Навчальний посібник – Київ : Укр. центр духовної культури, 2000.-440с.

3.2.10. Батенко Л.П. Управління проектами: Навч. Посібник / Л.П Батенко., О.А. Загородніх, В.В. Ліщинська. - К. : КНЕУ, 2005. — 231 с

3.2.11. Gurjar N. A Forward Looking Approach to Project Management. Tools, Trends, and the Impact of Disruptive Technologies. Springer Singapore, 2017. 414 p.

3.2.12. Lehmann Oliver F. Situational Project Management. The Dynamics of Success and Failure. Templates. Auerbach Publications, 2016. 298 p

3.3 Internet resources

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3.3.1 Сайт розробника microsoft-project / [Електронний ресурс]. - Режим доступу: <https://www.scoro.com/microsoft-project-alternative/>

3.3.2 Авторські керівництва та довідкові матеріали по роботі з продуктами microsoft-project [Електронний ресурс]. - Режим доступу: <https://www.microsoft.com/uk-ua/microsoft-365/project/project-management-software>

3.3.3. Сторінка сайту МФТІ, присвячена математичному моделюванню транспортних потоків / [Електронний ресурс]. - Режим доступу:

https://mipt.ru/education/chair/computational_mathematics/upload/22b/Book-arpglktefbb.pdf

3.3.5. Сайт присвячений програмному забезпеченню для реалізації проєктів/ [Електронний ресурс]. - Режим доступу: <https://www.easypoint.com/easy-project-management-software/>

3.3.6. Сайт та бібліотека, присвячені проблемам логістики / [Електронний ресурс]. - Режим доступу: <https://logists.by/>

4. RATING SYSTEM OF KNOWLEDGE AND SKILLS ASSESSMENT

4.1. Assessment of certain kinds of student academic work is carried out in accordance with table 4.1.

Table 4.1

Kind of Academic Work	Maximum Grade Values
Module №1	
1 semester	
Carrying out labs.	56 (total)
For admission to complete module test №1, a student must receive not less than	34 points
Module test №1	24
Total for the Module №1	80
Semester Examination	20
Total for the subject	100
Module №2	
Kind of Academic Work	Maximum Grade Values
Completion of the Course Project	60
Defense of the Course Project	40
Completion and defense of the Course Project	100

4.8. The Total Semester Grade is entered into the Examination Register and into a student's record book in grades, National Scale grades, and ECTS Scale grades.

4.9. The Total Semester Grade is entered into a student's record book, for example: **92/Ex/A**, **87/Good/B**, **79/Good/C**, **68/Sat/D**, **65/Sat/E**, etc.

4.10. The Total Grade for completing and defending of the Term Paper is entered into a student's record book, for example: **92/Ex/A**, **87/Good/B**, **79/Good/C**, **68/Sat/D**, **65/Sat/E**, etc.

4.11. The Total Grade for the subject is equal to the average grade from Total Semester Grades with its further transformation into national scale and ECTS system.

The Total Grade is recorded to the Diploma Appendix.

(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 ознайомлення	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

№ зміни	№ листа (сторінки)				Підпис особи, яка внесла зміну	Дата внесення зміни	Дата введення зміни
	Зміненого	Заміненого	Нового	Анульованого			

(Ф 03.02 – 32)

УЗГОДЖЕННЯ ЗМІН

	Підпис	Ініціали, прізвище	Посада	Дата
Розробник				
Узгоджено				
Узгоджено				

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Узгоджено				