# MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE NATIONAL AVIATION UNIVERSITY

Faculty of Transport, Management and Logistics Air Transportation Management Department

#### **APPROVED**

Vice- Rector for Academics
A. Gudmanian
2020



# **Quality Management System**

# course training program on «Transport Geography»

Field of Study: 27 «Transport»

Speciality: 275 «Air Transport Technologies» Specialization: 275.04 «Air Transport Technologies»

Educational Professional Program: «Air Transportation Management»

Year of Study -1 Semester -2

Lectures - 38 Graded Test – 2 Semester

Laboratory Classes - 38 Self-Study - 74

Total (hours/ECTS credits) - 150/5,0

Homework (1) - 2 Semester

Index: ECB -7-275/18-2.1.16

**QMS NAU CTP 20.01-01-2020** 



Document Code QMS NAU CTP 20.01 – 01-2020

Page 2 of 14

The Course Training Program on « Transp Professional Program and Bachelor Extended Curr Transport Technologies», Specialization 275.04 Professional Program «Air Transportation Mana Training Program on "Transport Geography", indexector for Academics on2020 and №207/од of 27.04.2018.	«Air Transport Technologies», Educational agement», Ukrainian version of this Course ex PE-7-275/17-2.2.5 approved by the Vice-
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Document Code QMS NAU CTP 20.01 – 01-2020

Page 3 of 14

# CONTENT

	page
Introduction	4
1. Explanatory note	
1.1 Planned Results	4
1.2. Educational Subject Program	4
2. Content of the Subject	
2.1. Structure of the subject	6
2.2. Lectures: themes and hours	7
2.3. Practical classes: themes and hours	7
2.4. Student self-study, its content and hours	8
2.4.1. Homework	
3. Educational and Methodological Materials on Discipline	
3.1. Methods of teaching	9
3.2. Recommended Literature (basic and additional)	9
3.3 Internet Information resources	9
4. Rating system of assessing students' knowledge and skills acquire	ed
4.1. Control methods and points accounting scheme	10



Document Code QMS NAU CTP 20.01 – 01-2020

Page 4 of 14

#### Introduction

Syllabus of the course was developed based on the curriculum of discipline "Transport Geography" and "the guidelines for the development and execution of training programs and work training courses", enacted by decree 13.07.17 №106.

#### 1. Explanatory note

#### 1.1. Planned results.

The **place** of this discipline in the system of professional training.

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 the discipline is to provide a sufficient level of training specialists in areas of transport and transport systems for decision-making areas of transport different modes of transport, the formation of scientific knowledge in the field of transportation systems in the world in the current conditions of the transport system, skills, choice of route traffic corresponding to qualification requirements bachelor characteristics of this area.

#### **The objectives** of the study discipline is:

- students' knowledge of the geographical structure of global transport and distribution features of transport facilities for means of transport;
  - creating a representation of students integrated geographical pattern of the transport system.

As a result of mastering the discipline "transport geography" students should have the following **competencies**:

- ability to analyze and predict the parameters and performance of transport systems and technologies, taking into account the influence of the environment;
- ability to organize the interaction of modes of transport;
- ability to apply basic methods of control, accounting, analysis and assessment of transport activities.

#### **Interdisciplinary connections**

Educational discipline "Transport geography" is based on the knowledge of such discipline as: "History and culture of Ukraine" and is the basis for the study of such disciplines as: "General course of transport", "Fundamentals of the theory of transport processes."

#### 1.2. The program of discipline.

The educational material of the discipline is structured on a modular basis and consists of 2 training modules, namely:

Module 1. "Transport systems of the world".

Topic 1. Place of discipline in the system of training. Transport as a component of the geographical division of labour and a factor of integration

Concept and subject of transport geography. The role of transport in the modern world. Basic definition. The concept of transport system. The main parameters of the world transport system, its structure. Place and role of transport systems in the development of countries and regions. The purpose of the course. Functional significance of transport geography.

Topic 2. Regional transport systems of the world

General information about transport systems of different countries and regions of the world. Criteria for comparison of transport systems of different regions. Characteristics of transport systems in the regions of European, Asian, American, Australian type. Regional differences in transport systems. Cargo and passenger traffic between regional systems.

Topic 3. Characteristics of transport systems in regions of the world

General information about the highways of the world. Characteristics of the density of passenger and freight traffic of road transport, rail transport, as well as sea and river routes. The presence of major transport hubs in the world. The role of international and transit transport in the region.

Topic 4. Sectoral structure of the world transport system

Railway transport. Overview of the railway transport network, its structure, regional distribution (statistics). Road transport. Overview of the state of the road transport system by region. Sea and river transport. Structure and sectoral distribution of Maritime transport. Pipeline transport. Pipelines of world importance, their purpose and classification.

Topic 5. Industry structure of the world transport system, air transport



Document Code QMS NAU CTP 20.01 – 01-2020

Page 5 of 14

Air transport. Global structure and distribution of the air transport network, hubs of global importance. The impact of international agreements on the geographical distribution of the system. Promising routes.

Module 2. "The transport geography of IATA".

Topic 1. International transport corridor

The concept of an international transport corridor. Prerequisites for the formation of international transport corridors. European system of international transport corridors. Eurasian railway transport corridors. Transport corridor Europe-Caucasus-Asia. International transport corridors in the CIS and Baltic countries. Formation of the international transport corridor "North-South". Development of transport corridors in the future. Logistics terminals as part of international transport corridors.

Topic 2. The transport system of Ukraine and CIS countries

The current state of the railway and government policy in this area. Ukraine as a transit state, promising areas of development. Available main highways and their condition, road transport units. State policy in the field of road transport. The main ports of Ukraine, their classification and purpose. Reports, brief description of the Ukrainian fleet and its prospects. Ukraine in the international system of river transport and domestic transportation. Navigable rivers and ports, the message "river-sea". State policy in the field of river transport. Ukraine: geopolitical advantages and disadvantages of transit. Main pipelines. International cooperation in the industry. The system of airports in Ukraine and their condition. Main air services and operators. Development trends and public policy in the field of air transport. Ukraine in the system of international transport corridors. Strategy of development of transport and road complex of Ukraine.

Topic 3. Branch structure of the transport system of Ukraine

Overview of the railway transport network, its structure, regional distribution (statistics). Overview of the state of the road transport system by region. Structure and sectoral distribution of Maritime transport. Pipelines of world importance, their purpose and classification. Global structure and distribution of the air transport network, hubs of global importance.

Topic 4. Methodology and methods of research in transport geography. Zone time. International time calculator, give lines. Cartographic method

Zone time. International time calculator, give lines. Cartographic method. Conditional division of the Earth into half-time. Time difference. Greenwich Meridian (GMT)Coordinated universal time (UTC). The system time in 24 hours against the system in 12 hours. International time calculator. Daylight saving period (DST). International date line. Determination of local time. Total transportation time.

Topic 5. IATA transport geography

Zoning IATA. Determination of IATA optimal routes in the world air transport system. Transportation planning with the use of global directions indicators, the algorithm for determining global directions.



Document Code QMS NAU CTP 20.01 – 01-2020

Page 6 of 14

## 2. SUBJECT CONTENT

# 2.1. Training schedule of the subject

Table 2.1

		1			ble 2.1	
	No Topic		Academic hours			
№			Lecture s	Practi cals	Self- Stud y	
1	2	3	4	5	6	
	2 semester					
<del></del>	Модуль №1 « Transportation system of t	the world	d »			
1.1	Place discipline in training specialist. Transportation as					
	part of the geographical division of labor and a factor of integration.	6	2	2	2	
1.2	Regional transport systems in the world.	8	2	2	4	
1.3	Characteristics of the transport systems of Europe.	6	2	2	2	
1.4	Characteristics of transportation systems in North America.	8	2	2	4	
1.5	Characteristics of the transport systems of Asia.	8	2	2	4	
1.6	Characteristics of transport systems in Latin America, Africa and Australia.	8	2	2	4	
1.7	Characteristics of transport systems in Eastern Europe.	6	2	2	2	
1.8	Industry structure of transportation systems in the world. Rail and road transport.	8	2	2	4	
1.9	Industry structure of transportation systems in the world. Sea and river transport Pipeline	8	2	2	4	
1.10	Industry structure of transportation systems in the world. Air transport	4	2	-	2	
1.11	Module control work №1	4	_	2	2	
	Total module № 1	74	20	20	34	
	Module №2 «Transport geograpl	hy IATA	<b>\</b> >>	l .	I	
2.1	International transport corridors.	6	2	2	2	
2.2	The transport system of Ukraine and CIS countries.	8	2	2	4	
2.3	Industry structure transport system of Ukraine. Rail and road transport.	6	2	2	2	
2.4	Industry structure transport system of Ukraine. Sea and river transport Pipeline	8	2	2	4	
2.5	Industry structure transport system of Ukraine. Air transport	8	2	2	4	
2.6	Ukraine's policy in the field of transport. Development prospects	6	2	2	2	
2.7	Problems of planning international traffic in Ukraine	8	2	2	4	
2.8	Methodology and methods of transport geography research. Standard time. International calculator time date line. Mapping method.	8	2	2	4	
2.9	Transpot geography IATA.	6	2	2	2	
	Planning traffic using indicators of global trends	4	2	-	2	
2.10	Homework	8	_	-	8	
2.10	Homework					
	Module control work №2	4	-	2	2	
2.11		4 76	- 18	2 18	2 <b>40</b>	
2.11	Module control work №2		- 18 38			



Document Code QMS NAU CTP 20.01 – 01-2020

Page 7 of 14

	Tania		Academi	c hours	
№	Topic	All	Lectures	Practical s	Self- Study
1	2	3	4	5	6
	2 semester	1	_		
	Module №1 « Transportation s	ystem of th	e world »		
1.1	Place of discipline in the system of training. Transport as a component of the geographical division of labour and a factor of integration	14	4	4	6
1.2	Regional transport systems of the world	14	4	4	6
1.3	Characteristics of transport systems in regions of the world	14	4	4	6
1.4	Sectoral structure of the world transport system	14	4	4	6
1.5	Industry structure of the world transport system, air transport	11	4	2	5
1.6	Module control work №1	7	-	2	5
	Total module № 1	74	20	20	34
	Module №2 «Transport ge	ography IA	ATA»		
2.1	International transport corridor	13	4	4	5
2.2	The transport system of Ukraine and CIS countries	13	4	4	5
2.3	Branch structure of the transport system of Ukraine	14	4	4	6
2.4	Methodology and methods of research in transport geography. Zone time. International time calculator, give lines. Cartographic method	12	4	2	6
2.5	IATA transport geography	9	2	2	5
2.6	Homework	8	-	-	8
2.7	Module control work №2	7	-	2	5
	Total module № 2	76	18	18	40
	Total for the 2 semester	150	38	38	74
	Total for the subject	150	38	38	74



Document Code QMS NAU CTP 20.01 – 01-2020

Page 8 of 14

2.2. Lectures, their subject and scope

	Tonio	Academic	hours
№	Topic	Lectures	Self- Study
	2 semester		
	Module №1 « Transportation system of the world »		
1.1	Place of discipline in the system of training. Transport as a component of the geographical division of labour and a factor of integration.	2	1
1.2	Regional transport systems of the world.	2	1
1.3	Characteristics of transport systems in European regions.	2	1
1.4	Characteristics of transport systems in North America.	2	1
1.5	Characteristics of transport systems in Asia.	2	1
1.6	Characteristics of transport systems in Latin America, Africa, Australia.	2	1
1.7	Characteristics of transport systems in Eastern Europe.	2	1
1.8	Sectoral structure of the world transport system. Rail and road transport.	2	1
1.9	Sectoral structure of the world transport system. Sea and river transport Pipeline transport	2	2
1.10	Sectoral structure of the world transport system. Air transport	2	1
1.10	Total module № 1	20	11
	Module №2 «Transport geography IATA»	20	
2.1	International transport corridor.	2	1
2.2	The transport system of Ukraine and CIS countries.	2	1
2.3	Sectoral structure of the transport system of Ukraine. Rail and road transport.	2	1
2.4	Sectoral structure of the transport system of Ukraine. Sea and river transport Pipeline transport	2	1
2.5	Sectoral structure of the transport system of Ukraine. Air transport	2	1
2.6	State policy of Ukraine in the field of transport. Prospect of development	2	1
2.7	Problems of international transportation planning in Ukraine	2	2
2.8	Methodology and methods of research in transport geography. Zone time. International time calculator, give lines. Cartographic method.	2	2
2.9	Transport geography of IATA. Transportation planning with the use of indicators of global trends	2	2
	Total module № 2 18 12		
	Total for the subject	38	23



Document Code QMS NAU CTP 20.01 – 01-2020

Page 9 of 14

2.3. Practicals, their subject matter and volume

4.5.	1 facticals, their subject matter and volume		
Ma	No Topic		hours
ΊΝο			Self- Stud
			у
	2 semester		
	Module №1 « Transportation system of the world »		
1.1	Place of discipline in the system of training. Transport as a component of the	2	2
	geographical division of labour and a factor of integration.		
1.2	Regional transport systems of the world.	2	2
1.3	Characteristics of transport systems in European regions.	2	2
1.4	Characteristics of transport systems in North America.	2	2
1.5	Characteristics of transport systems in Asia.	2	2
1.6	Characteristics of transport systems in Latin America, Africa, Australia.	2	2
1.7	Sectoral structure of the world transport system. Rail and road transport.	2	2
1.8	Sectoral structure of the world transport system. Sea and river transport Pipeline transport	2	2
1.9	Sectoral structure of the world transport system. Air transport	2	2
1.10	Module control work №1	2	5
	Total module № 1	20	23
	Module №2 «Transport geography IATA»		
2.1	International transport corridor.	2	1
2.2	The transport system of Ukraine and CIS countries.	2	2
2.3	Sectoral structure of the transport system of Ukraine. Rail and road transport.	2	2
2.4	Sectoral structure of the transport system of Ukraine. Sea and river transport Pipeline transport	2	1
2.5	Sectoral structure of the transport system of Ukraine. Air transport	2	2
2.6	Methodology and methods of research in transport geography. Zone time. International time calculator, give lines. Cartographic method.	2	2
2.7	Transport geography of IATA.	2	2
2.8	Transportation planning with the use of indicators of global trends	2	3
2.9	Module control work №2	2	5
	Total module № 2	18	20
	Total for the subject	38	43

2.4. Self-Study of the student, its content and volume

No	Self-Study Work	Self- Study
	2 Semester	
1.	Study of lecture material	23
2. Preparation for practical training		33
3. Preparing for a modular test №1, №2		10
4. Homework 8		8
	Total for the subject 74	

#### 2.4.1 Homework

In the second semester, students complete homework (DMZ), the approved in the established procedure guidelines, in order to consolidate and deepen the theoretical and practical knowledge and skills acquired in the process of learning disciplines in the field of transport technologies, which are used later in the study many of these subjects professional training in basic and higher education

Homework Performance is an important step in preparing for participation in student conferences, performance thesis future specialist in the field of transport.



Document Code QMS NAU CTP 20.01 – 01-2020

Page 10 of 14

Homework specific objective is to explore and deepen and consolidate knowledge in the field of transport geography and transport systems in the world, getting practical skills handling numbers, the ability to develop the best transportation route, make calculations of time in different parts of the world, and the ability to determine the change of date.

For successful implementation of the Homework student must **know** a brief description of the route of travel, destination of international lap time and the international date line; the calculation time for transportation, **to be able to** determine the sequence of visits to places along the route, independently fill sake, to determine the distance of traffic and speed of movement along the transportation route, to determine the date, local time for departure / arrival and transportation time on each section of the route.

Execution, execution and protection Homework made student individually according to the guidelines.

The time required to perform HW - up to 8 hours of independent work.

#### 3. Educational materials on discipline

#### 3.1. Educational method

When teaching the discipline "Transport geography" provides for the use of such forms and methods of training as a lecture-visualization, elements of problem lectures, elements of dialogue with the audience (lectures - talks), elements of "brainstorming", seminars, discussions in the framework of practical classes, business games, presentations.

#### 3.2. Recommended reading

#### 3.1. Basic literature

- 3.1.1 Безуглий В.В., Козинець С.В. Регіональна економічна та соціальна географія світу. Навч. посіб. 2-ге вид., стер. К.:Т-во "Знання", КОО, 2001. 378 с.
- 3.1.2 В.М. Юрківський Регіональна економічна і соціальна географія зарубіжні країни. Підручник Київ « Либідь», 2000, 416 стор.
- 3.1.3 Щелкунов В.І., Григор'єв Г.С. Транспортна інфраструктура регіонів України: проблеми територіально економічного реформування. К.: Наук. думка, 2006. 220 с.
- 3.1.4 І.М. Дудник Транспортна географія. Підручник. К.: Видавництво Національного авіаційного університету «НАУ- друк», 2010.- 316 с.

#### 3.2. Additional literature

- 3.1.5 Транспортна географія: Конспект лекцій/ М.Ю.Григорак, О.М.Гармаш, О.К.Катерна. К.: Автограф, 2007. 196 с
- 3.1.6 Єдина транспортна система: Навчальний посібник /Ю.В.Соболєв, В.Л.Дикань, О.Г.Дейнека, І.М.Писаревський, Л.О.Поздянкова. X.: ООО "Олант", 2002. 288с.
- 3.1.7 Закорецький В.А., Федорченко В.В. Г 35 Транспортна географія України (для студентів, які навчаються за напрямком "Транспортні технології" спеціальності "Організація перевезень і управління на транспорті" та "Транспортні системи") /Навч. пос. Луганськ: Вид-во СНУ ім. В. Даля, 2006. 120 с.
- 3.1.8 НОВІКОВА А.М. Україна в системі міжнародних транспортних коридорів. К.:НІПМБ,2003 – 494 с.
- 3.1.9 СМИРНОВ І.Г. Логістика: просторово-територіальний вимір. К.:ВГЛ Обрії, 2004. -335 с.
- 3.1.10 В.Я.Савенко, В.А.Гайдукевич Транспорт і шляхи сполучення. Підручник, К., «Арістей», 2005, 285с.
- 3.1.11 М.Ф. Дмитріченко, І.І.Кельман, Є.К. Вільковський, З.І. Пеклич, О.І.Мельниченко Загальний курс транспорту. Підручник. Львів, 2011, «Апріорі» 524 с.
- 3.1.12 Міжнародні організації, конвенції та багатосторонні угоди в галузі транспорту навч. посібник для студ. вищих навч. закл. зі спец. "Організація перевезень та управління на транспорті", "Транспортне право" / ред. А. М. Редзюк ; Державне підприємство "Державний автотранспортний науково-дослідний і проектний ін-т. К. : ДП "ДержавтотрансНДІпроект", 2009 .- 200 с
  - 3.1.13 Airline passenger tariff / rules, поточне видання.



Document Code QMS NAU CTP 20.01 – 01-2020

Page 11 of 14

- 3.1.14 Довідники ABC, OAG, поточне видання.
- 3.3. Resources on the Internet
- 3.3.1. http://www.lib.nau.edu.ua/viewer/Viewer.aspx?doc\_id=368118
- 3.3.2. http://uchebana5.ru/cont/2859609.html
- 3.3.3. http://er.nau.edu.ua/handle/NAU/34992/.

# 4. THE RATING SYSTEM OF EVALUATION OF ACQUIRED KNOWLEDGE AND SKILLS A STUDENT

4.1. Evaluation of certain types of work done by students of the points made in accordance with Table.4.1.

Table 4.1

2 semester				
Module №1		Module№2	2	Max number of points
Kind of	Max	Kind of	Max	
educational work	number of points	educational work	number of points	
The tasks during	27	The tasks during practical	24	
practical classes 1.1-1.9	(the total)	classes №2.1-2.8	(the total)	
Completing quests for	7	Homework	10	
knowledge of theoretical	(the total)		(the total)	
material				
For admission to the perfo	rmance of the	For admission to the perfo	rmance of the	
control module №1 stude	nt must score	control module №2 student	must score <b>at</b>	
at least 21 poin	its	least 21 points	S	
Completing of module	10	Completing of module	10	
work №1		work №2		
Total in module №1	44	Total in module №2	44	
Semester exam			12	
Total in 2 semester			100	

- 4.2. Completed types of training are credited to the student if he got for them a positive rating assessment (Table 4.2).
- 4.3. The amount of ratings obtained for certain types of student educational work done is the current Module Grade, which is stored in the data control module.

Table 4.2

# Compliance of ratings for certain types of training estimated in scores on a national scale

The tasks during practical classes	Completing quests for knowledge of theoretical material	Completing of Homework	Completing of module control work	Rating in a national scale
25-27	7	7	9-10	Excellent
20-24	6	6	8	Good
16-19	4-5	4-5	6-7	Satisfactory
Less than 16	Less than 4	Less than 4	Less than 6	Bad



Document Code QMS NAU CTP 20.01 – 01-2020

Page 12 of 14

4.4. Total current and control module of ratings summary of Module Grade (tabl.4.3) that in points and national scale information is stored in the control module.

Compliance final module of ratings estimated in scores on a national scale

Table 4.3

Module №1	Module №2	Rating in a national scale
40-44	40-44	Excellent
33-39	33-39	Good
27-32	27-32	Satisfactory
Less than 27	Less than 27	Bad

4.5. Total final module of ratings in points of final semester Module Grade, which is converted to an assessment on a national scale (Table. 4.4).

Table 4.4

Table 4.5

Compliance final semester module Grade estimates on a national scale

Compliance Examination Grade evaluation a national scale

Evaluation in points	Evaluation of national scale
79-88	Excellent
66-78	Good
53-65	Satisfactory
Less than 53	Bad

Evaluation in points	Evaluation of national scale	
12	Excellent	
10	Good	
8	Satisfactory	
_	-	

4.6. Total final semester module and exam scores in rating assessments of Total Semester Grade, which is converted to assess the national scale and scale ECTS (Table. 4.6).

Table 4.6

Correspondence of Total Semester Grades to the National Scale and the ECTS Scale

Correspondence of Total Semester Grades to the National Scale and the EC13 Scale							
Total Semester		ECTS Scale					
Grade Values	National Scale	Grade	Explanation				
90-100	Excellent	A	Excellent (excellent performance with insignificant shortcomings)				
82 – 89		В	Very Good (performance above the average standard with a few mistakes)				
75 – 81	Good	C	Good (good performance altogether with a certain number of significant mistakes)				
67 – 74	Satisfactory	D	Satisfactory (performance meets the average standards)				
60 – 66	Satisfactory	E	Sufficient (performance meets the minimal criteria)				
35 – 59	Dod	FX	<b>Bad</b> (bad performance; a second testing is required)				
1 – 34	Bad	F	Bad (very bad performance; a student shall retake the course)				

4.7. The Total Semester Grade is entered into the Examination Register and into a



Document Code QMS NAU CTP 20.01 – 01-2020

Page 13 of 14

student's record book in values, National Scale grades, and ECTS Scale grades.

- 4.8. 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.
- 4.9. The final grade is the discipline that is taught for one semester is the final semester rating evaluation.

The above final grade of discipline is made to the Diploma Supplement.



Document Code QMS NAU CTP 20.01 – 01-2020

Page 14 of 14

 $(\Phi 03.02 - 01)$ 

# АРКУШ ПОШИРЕННЯ ДОКУМЕНТА

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

 $(\Phi \ 03.02 - 02)$ 

# АРКУШ ОЗНАЙОМЛЕННЯ З ДОКУМЕНТОМ

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

 $(\Phi 03.02 - 04)$ 

## АРКУШ РЕЄСТРАЦІЇ РЕВІЗІЇ

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

 $(\Phi 03.02 - 03)$ 

#### АРКУШ ОБЛІКУ ЗМІН

<b>№</b> зміни		№ листа (	(сторінки)	Підпис особи,	Підпис особи, Дата	Дата	
	Зміненого	Заміненого	Нового	Анульо- ваного	яка внесла	внесення зміни	введення зміни

 $(\Phi 03.02 - 32)$ 

## УЗГОДЖЕННЯ ЗМІН

	Підпис	Ініціали, прізвище	Посада	Дата
Розробник				
Узгоджено				
Узгоджено				
Узгоджено				