Elective Component (EC) Syllabus
Information Technology in Management of Transport

Discipline	**Information Technology in Management of Transport**
Higher Education Level	**The second one (Master degree)**
Moodle course page	**https://dl2022.khadi.kharkov.ua/course/view.php?id=333**
Educational Component Volume	**4 credits (120 hours)**
Final Control	**Test**
Consultations	**According to the schedule**
Department	**Transport Systems & Logistics dpt**
Language of teaching	**English**
Course Leader (Manager)	**Kalinichenko Oleksandr, PhD, Associate Professor**
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Educational Component Summary:

The purpose is to prepare future masters in the field of transportation organization and transport management, to study theoretical, practical and methodological provisions for independent solution of problems of using information technologies in road transport management.

The subject of the study is a pedagogically adapted system of concepts about the principles and methods of information technology with their application in the field of transport technology.

The main tasks of the academic discipline is to form in students a set of knowledge, skills and ideas on the basics of information technology in transport management at a level that ensures practical and scientific activities in the specialty.

Prerequisites for studying the educational component: Intelligent control systems in road transport, Freight transportation, Passenger transportation, Student research work, Road transportation management.

Competencies acquired by the applicants:

General competencies:

Ability to work in an international context;
Ability to search, process and analyze information from different sources.
Ability to develop and manage projects;
Ability to evaluate and ensure the quality of work performed;
Ability to conduct research at the appropriate level.

Special (professional) competencies:

Ability to research and manage the operation of transport systems and technologies.
Ability to use specialized software to solve complex problems in the field of transport systems and technologies.

Training results according to the educational program are to**:**

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 required resources and constraints, and analyze risks.
Develop new and improve existing transport systems and technologies, determine development goals, existing limitations, performance criteria and areas of use.
Develop and analyze graphical, mathematical and computer models of transport systems and technologies.
Use specialized software for the analysis, development and improvement of transport systems and technologies.

Thematic plan

Theme, №	Theme (L, LW, PW, SEW)	Hours	
		full-time training	part-time training
1	L - Information technologies	6	2
	R (LW, SEW) - Forming a database using database management systems	4	2
	SEW - Database management systems	8	14
2	L - Information systems	6	2
	PR (LW, SEW) -	0	0
	SEW - Information systems classification	8	12
3	L - Automated information technologies (AIT) for the management of a road transport enterprise	6	2
	ETC (LW, SEW) – Assessment of the quality of management information systems at the enterprise	4	2
	SEW - Quality of information system	8	12
4	L - Automation of solving problems of optimal loading of warehouses and vehicles	6	2
	R (LW, SEW) - The use of automated information technology (AIT) for the management of a motor transport enterprise	2	2
	SEW- Automated information technology	6	12
5	L - Information technology in international transportation	4	1
	R (LW, SEW) - Study of the possibility of using an automated office at a transport company	4	
	SEW- Determination of the main parameters of automation of operational management for servicing orders	6	12
6	L - Organization of TIR transportation	4	1
	R (LW, SEW) - Determining the optimal vehicle load with the help of modern software	2	
	SEW- Calculation of the scheme of optimal stacking of boxes in vehicles	6	12
In total	L	32	10
	R (LW, SEW)	16	6
	SEW	42	74

Teaching methods:
1) verbal: 1.1 traditional: lectures, explanations, stories, etc.;
2) visual: illustration method, demonstration method
3) practical: 3.1 traditional: practical classes, seminars;
Evaluation system and requirements:
The final evaluation of the discipline is determined by adding the total sum of points on practical and theoretical preparation.

Ongoing achievement

- survey (0-20 points);
- level of knowledge on defending practical (laboratory) works (0-20 points);
- timely execution and defending practical (laboratory) works (0-10 points);
- attendance (0-10 points).

Table 1 – Assessment of the level of practical training

Component of the final evaluation	Points			
	16-20	11-15	6-10	0-5
Survey	The answer to the question is complete, concrete, contains definitions of terms, classification	The answer contains not a complete definition of terms, classification	The answer contains the definition of the basic terms with the help of the teacher	The wrong answer is given, the undiscovered essence of the question
Level of knowledge on defending practical (laboratory) works	The student gives the answer to the method of decision, correctly presented calculations and complete conclusions	The student gives the answer to the method of decision, in calculations there are minor errors or inaccuracies, conclusions are not presented completely	The student passes the general sense on the method of decision, in calculations there are significant errors or inaccuracies, conclusions are not presented completely	The student cannot convey the general sense of work, in calculations there are significant errors or inaccuracies, no conclusions are given
Component of the final evaluation	Points			
	9-10	6-8	2-5	0-1
Timeliness of execution and defending practical (laboratory) works	The student defends the work the same week, when it began	The student defends the work during the next week, after its beginning	The student defends the work during the month when it started	The student defends the work before the final control
Attendence	The student attended more than 90% of the classes	The student attended from 75% to 90% of the classes	The student attended from 50% to 75% of the classes	The student attended less than 50% of the classes

Assessment of theoretical training level (0-40 points):
- polling or conducting of the current control in the form of the test or control tasks (0-30 points);
- attendance (0-10 points).

Table 2 – Assessment of the level of theoretical training

Component of the final evaluation	Points			
	24-30	16-23	8-15	0-7
Survey	The answer to the question is complete, concrete, contains definitions of terms, classification	The answer contains definitions of terms, classification	The answer includes the definition of the basic terms	The given answers are incorrect , the question essence is undiscovered
Component of the final evaluation	Points			
	9-10	6-8	2-5	0-1

Attendance	The student attended more than 90% of the classes	The student attended from 75% to 90% of the classes	The student attended from 50% to 75% of the classes	The student attended less than 50% of the classes

The result of the study is estimated (choose required):
– on a double scale (passed/failed) according to table 2;
– on a 100-point scale (for differentiated test) according to table 3.

Table 3 – Conversion of the score into the national evaluation system

According to 100- point scale	**According to the national scale**
between 60 scores and 100 scores	Passed
Less than 60 scores	Failed

Table 4 – Applicants' evaluation score scale according to the final control of the academic discipline.

Evaluation score in points	Evaluation score according to national scale		ECTS grades	
	exam	test	Grade	Criteria
90-100	**Excellent**	**passed**	**A**	The theoretical content of the course is mastered completely, without gaps, the necessary practical skills to work over the mastered material are developed, all the training tasks provided by the program are accomplished, the quality of their performance is estimated by the number of points close to the maximum
80–89	**Very good**	**passed**	**B**	The theoretical content of the course is mastered completely, without gaps, the necessary practical skills to work over the mastered material are basically developed, all the training tasks provided by the program are accomplished, the quality of performance of most of them is estimated by the number of points close to the maximum.
75-79	**Good**		**C**	The theoretical content of the course is mastered completely, without gaps, some practical skills to work with the mastered material are not developed sufficiently, all the training tasks provided by the program are accomplished, the quality of performance of none of them is estimated by the minimum number of points, some tasks can have mistakes
67-74	**Satisfactory**		**D**	The theoretical content of the course is partially mastered, but the gaps are not significant, the necessary practical skills to work over the mastered material are basically developed, most of the training tasks provided by the program are accomplished, some of the completed tasks may contain mistakes

Evaluation score in points	Evaluation score according to national scale		ECTS grades	
	exam	test	Grade	Criteria
60–66			**E**	The theoretical content of the course is partially mastered, some practical skills to work over the mastered material are not developed, many training tasks according to the program are not completed, or the quality of performance of some of them is estimated by the number of points close to the minimum.
35–59	**Unsatisfactory**	**Failed**	**FX**	The theoretical content of the course is partially mastered, practical skills to work over the mastered material are not developed, most of the tasks provided by the programs are not completed, or the quality of their performance is estimated by the number of points close to the minimum; additional self-education work according to the course can improve the quality of the performance of educational tasks (in case of the second study)
0–34	**Failed**		**F**	The theoretical content of the course is not mastered, the necessary practical skills to work over the mastered material are not developed, all the completed educational tasks contain serious errors, additional self-education work according to the course doesn't have any significant quality improvement in educational tasks performance (due to mandatory second study)

Course policy:

– the course involves working in the team where the environment is friendly, creative, open to constructive criticism;

–the discipline requires mandatory attendance of lectures and practical classes, as well as self-education work;

– self-education work involves studying certain discipline themes, which are submitted in accordance with the program for self-education work, or have been considered briefly;

– all the tasks provided by the program must be completed within the prescribed time-frame;

– if the higher education applicant is absent for valid reasons, he/she passes the completed tasks during the self-education work and consultations provided by the teacher;

– while studying the course, higher education applicants should follow the rules of academic integrity set out in such documents: «Rules of academic integrity of participants of the KhNAHU Education process» (https://www.khadi.kharkov.ua/fileadmin/P_Standart/pologeniya/stvnz_67_01_dobroch_1.pdf), «Academic integrity. The text check of academic, scientific and qualification works for the plagiarism» (https://www.khadi.kharkov.ua/fileadmin/P_Standart/pologeniya/stvnz_85_1_01.pdf), «Moral and ethical code of participants of the KhNAHU educational process» (https://www.khadi.kharkov.ua/fileadmin/P_Standart/pologeniya/stvnz_67_01_MEK_1.pdf).

– in case of detecting the plagiarism, the applicant receives 0 points for the task and must retake the tasks provided in the syllabus;

– cheating during control works and examinations is prohibited (including mobile devices). Mobile devices are only allowed to be used during online testing.

Reference

1. Фабричев В. А. Інформаційні системи і технології підприємства : навч. посіб. / В. А. Фабричев, В. М. Боровик. — К. : НАУ, 2008. — 100 с.
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Extra-reference

1. Інформаційне суспільство в Україні: глобальні виклики та національні можливості: аналіт. доп. / Д. В. Дубов, О. А. Ожеван, С. Л. Гнатюк. – К. : НІСД. – 2010. – 64 с.
2. Советов Б.Я. Информационные технологии. Учебник. / Б.Я. Советов, В.В. Цехановский.М.: Юрайт. 2015. 262 с.
3. Аналіз застосування цифрових технологій на автомобільному транспорті при оперативному плануванні перевезень вантажів. Калініченко О.П., Севідова В.В. Матеріали всеукраїнської науково-методичної internet-конференції «Інформаційні технології в освітньому процесі ЗВО» Харків. 2020. С.7-11.
4. Застосування інформаційної системи для підвищення якості доставки дрібних партій вантажу. Севідова В.В., Калініченко О.П. Збірник наукових праць за матеріалами 2 міжнародної науково-практичної конференції «Комп'ютерні технології і мехатроніка». Харків. ХНАДУ. 2020. С.138-141.
5. http://aitsoft.ru
6. http://avtoplan.ru/soft.html
7. http://www.packer3d.ru/
8. http://trans-sys.com/
9. http://www.antor.ru/

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