SYLLABUS of academic subject «Stochastic Processes in Transport Systems»



Educational and Professional Programs: «Air Transportation Management» Field of Study: 27 «Transport» Speciality:

Specialization:

275 «Air Transport Technologies» 275.04 «Air Transport Technologies»

Higher Education	First (Bachelor)
Subject status	Academic subject of professionally-oriented subjects cycle
Course of study	2
Semester	3
Subject volume ECTS	4 0/120
credits / total amount	
of hours	
	Ukrainian, English
To be studied (study	Oueuing systems and the use of Markov processes to analyze the
subject)	functioning of transport systems.
Why is it interesting	Provide a sufficient level of competence of specialists in scientific
and must be learned?	substantiation and making optimal management decisions on the
(purpose)	organization of transportation and transport management using
(P P)	mathematical models and modern computers.
What is studied?	- Be able to apply modern computer-integrated technologies and have the
(learning results)	skills to develop algorithms and programs using high-level languages;
	- Investigate the types and types of transport systems. Find solutions for
	optimizing the parameters of transport systems. Evaluate the efficiency of
	infrastructure and technology of transport systems.
How is it possible to	- Ability to develop and use mathematical and computer models of
use the gained	transport systems and processes for scientific and practical research;
knowledge and skills?	- Ability to use professional knowledge and practical skills of technology,
(competencies)	organization and management of air passenger transport to solve
	engineering problems in production;
	- Ability to critically analyze and solve practical problems in the field of
	air transport and related industries to ensure timely decisions, taking into
	account technical, regulatory, commercial, political, social and
	environmental constraints.
Academic logistics	Subject program: Module № 1 «Markov processes in applied problems
	of transport management»:
	Topic 1. Random variables and random processes
	Topic 3. Discrete Markov process with continuous time
	Topic 4. Poisson's stationary (simplest) flow of events.
	Topic 5. The process of death and reproduction.
	Topic 6. Elements of queuing theory.
	Topic 7. Markovsky SMO. Random processes in applied problems of transport
	management.
	Topic 8 The concept of the method of statistical modeling of QMS.
	Kinds of sessions: lectures, laboratory classes

	Teaching methods: explanatory illustrative method: problem statement
	method: reproductive method: research method
	Modes of study full time
D : :/	The line Hills of the line Hills
Prerequisites	This subject is the basis for studying such subjects, as «Higher
	Mathematics», «Computer Engineering».
Post-requisites	This subject is the is base for studying following subjects, as: «Operations
	research on transport».
Information support	Basic concept of guidance:
from the fund and	1. Козаченко Д.М., Вернигора Р. В., Малашкін В. В Основи дослідження
repository of NAU	операцій у транспортних системах: приклади та задачі. – Дніпропетр. нац
library	ун-т залізн. трансп. ім. акад. В. Лазаряна – Дніпропетровськ, 2015. – 280 с.
-	2. Крюков М.М., Кравець Т.В., Крижановська Т.В., Коновалюк В.С.
	Семененко Т.М. Дослідження операцій у транспортних системах у
	прикладах і задачах. Навч. посіб.для студ. вищ. навч.закл. – К.: ДЕТУТ
	2014 199 c.
	3.nttp://e-books.ksavm.senet.ru/Books/physics/akulicn-1.mmatematicneskoe-
	A https://tying files wordpross com/2012/01/d182d0h0d185d0h0 d185 d0h0
	4.https://tvinis.ines.worupress.com/2012/01/0182000001830000-0183-0000-
	40b2400240034004400340044003400034003-40b2-
	5. http://eadnurt.diit.edu.ua/bitstream/123456/89/896//1/
	Kozacnenko_textbook.pdi
	o.nups://www.scribd.com/doc/510080595/Operations-Research-Hamdy-1ana-
Logation and logistics	Classes of theoretical training lanton mobile device (phone tablet) with
Location and logistics	Internet connection for communication and surveyer homowork:
	internet connection for. communication and surveys, nonework,
	performing tasks of independent work; testing (current, boundary, final
	L CODITOLI
Semester control,	Graded Test, tastings
Semester control, examination	Graded Test, tastings
Semester control, examination techniques	Graded Test, tastings
Semester control, examination techniques Department	Graded Test, tastings Air Transportation Management Department
Semester control, examination techniques Department Faculty	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree:
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile:
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations?
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations? view_op=list_works&hl=uk&user=bsGosKIAAAA
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations? view_op=list_works&hl=uk&user=bsGosKIAAAAJ Tel: 044 406-70-94
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations? view_op=list_works&hl=uk&user=bsGosKIAAAAJ Tel.: 044 406-70-94 E-mail: valentinakonovaliuk@gmail.com
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations? view_op=list_works&hl=uk&user=bsGosKIAAAAJ Tel.: 044 406-70-94 E-mail: valentinakonovaliuk@gmail.com
Semester control, examination techniques Department Faculty Lecturer(s)	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations? view op=list works&hl=uk&user=bsGosKIAAAAJ Tel.: 044 406-70-94 E-mail: valentinakonovaliuk@gmail.com Location: 2.101
Semester control, examination techniques Department Faculty Lecturer(s) Originality of the subject	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations? view op=list_works&hl=uk&user=bsGosKIAAAAJ Tel.: 044 406-70-94 E-mail: valentinakonovaliuk@gmail.com Location: 2.101
Semester control, examination techniques Department Faculty Lecturer(s) Originality of the subject	Graded Test, tastings Air Transportation Management Department Faculty of Transport, Management and Logistics Valentyna KONOVALIUK Position: Associate Professor of the Air Transportation Management Department Scientific Degree: Candidate of Physical and Mathematical Sciences Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations? view_op=list_works&hl=uk&user=bsGosKIAAAAJ Tel.: 044 406-70-94 E-mail: valentinakonovaliuk@gmail.com Location: 2.101