



SYLLABUS OF THE SUBJECT «CARGO SCIENCE»

Educational Professional Programs: «Air Transportation Management»

«Aerial Works and Services Management»

«Multimodal Transport and Logistics»

«Onboard Support of Air Passenger Transportation»

Field of study: 27 «Transport»

Speciality: 275 «Air Transport Technologies»

Specialization: 275.04 «Air Transport Technologies»

Higher Education Degree	First (Bachelor)
Subject status	Academic subject of mandatory component
Course of study	3
Semester	5
Subject volume, ECTS credits / total amount of hours	3,5/105
Language	Ukrainian, English
To be studied (study subject)	Classification of goods, properties of goods; Storage conditions and integrity of cargo; Requirements for packaging and packing of goods; Marking of cargoes; Principles of cargo compatibility;
Why is it interesting and must be learned? (purpose)	Ensuring that the specialist makes decisions in the practice of freight transportation to determine the conditions of cargo transportation, preparation of cargo for transportation, the use of carrying capacity of vehicles.
What is studied? (learning results)	<ul style="list-style-type: none"> - Take responsibility, show public awareness, social activity and participation in the life of civil society, think analytically, critically understand the world; - Organize and manage the transportation of goods in different connections. Choose the type, brand, type of vehicles (vessels) and routes. Monitor the progress of transportation; - Evaluate the parameters of traffic flows. Design schemes and networks of transport systems. Develop technologies for operational management of traffic flows; - Introduce methods of organizing safe transport activities; - Choose information systems for the organization of transportation. Operate automated control systems and navigation systems in the transportation process. Use electronic cards; - Critically evaluate the scientific values and achievements of society in the development of transport technologies; - Recognize the qualitative and quantitative indicators of operation of vehicles (vessels). Evaluate the design elements of vehicles (vessels). Establish a connection between the structural elements of vehicles (ships)
How is it possible to use the gained knowledge and skills? (competencies)	<ul style="list-style-type: none"> - Ability to exercise their rights and responsibilities as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine; - Skills for safe activities; - Ability to organize and manage loading and unloading operations and warehousing operations on transport; - Ability to organize and manage the transportation of goods (by mode of transport). Ability to apply modeling and optimization methods for effective

	<p>management of complex technological and organizational and technical transport complexes;</p> <ul style="list-style-type: none"> - Ability to quickly manage the flow of traffic; - Ability to organize the interaction of modes of transport; - Ability to organize international transportation; - Ability to use modern information technologies, automated control systems and geographic information systems in the organization of the transportation process; - Ability to take into account the human factor in transport technologies; - Ability to solve complex specialized problems and solve practical problems in the field of transport using theories and methods of modern transport science based on a systems approach and taking into account the complexity and uncertainty of the conditions of transport systems; - Ability to generate new ideas (creativity); - Ability to work independently and in a team; - Knowledge and understanding of the subject area and understanding of professional activity; - Ability to abstract thinking, analysis, synthesis; - Ability to organize and manage the transportation of goods by different modes of transport; - Ability to assess operational, technical and economic, technological, legal, social, and environmental components of the organization of transportation; - Ability to evaluate plans and proposals for the organization and technology of transportation, drawn up by other entities, and make the necessary changes based on technical and operational parameters and principles of operation of facilities and devices of transport infrastructure, vehicles (vessels)
Academic logistics	<p>Course content: Module № 1 "Transport characteristics of goods"</p> <p>Topic 1. Classification of goods. Properties of goods</p> <p>Topic 2. Volumetric characteristics of cargo</p> <p>Topic 3. Containers and packaging of goods</p> <p>Topic 4. Means of packaging goods</p> <p>Topic 5. Formation of cargo units</p> <p>Topic 6. The use of vehicle capacity</p> <p>Topic 7. Marking of goods</p> <p>Topic 8. Measures to increase the level of storage of goods. Compatibility of goods during storage and transportation</p> <p>Types of classes: lectures, laboratory classes</p> <p>Teaching methods: explanatory-illustrative method; method of problem statement; reproductive method; research method</p> <p>Forms of study: full-time, part-time</p>
Prerequisites	<p>The discipline is based on knowledge of such disciplines as: "Operation of vehicles", "Logistics operations in transport", "Research of operations in transport"</p>
Post-requisites	<p>The discipline is the basis for the study of such disciplines as: "Organization and technology of loading and unloading", "Air freight", "Course project Statistical analysis of transport systems and processes", "Technical and economic studies of transport development", "International transport" ", "Ergonomic support of transport processes ".</p>
Information support from the fund and repository of NAU library	<ol style="list-style-type: none"> 1. Gabrielova T., Lytvynenko S., Ivannikova V., Lytvynenko L., Borets I. Cargo Science and Logistics: Textbook. – K.: Publishing House “Condor”, 2020. – 268 p. 2. Gabrielova T.Yu., Gyrych V.Yu. Cargo Science: lectures course. – Kiev: NAU, 2012. – 96p. 3. Онокало В. Г. Вантажознавство: навч. посіб. для студ. Напрямку підготов. 6.070101 «Транспортні технології» / В. Г. Онокало ; Нац. унт вод. госп-ва та природокористування. - Рівне : НУВГП, 2014. - 92 с. 4. ПРАВИЛА повітряних перевезень вантажів. - Наказ міністерства

	<p>транспорту України №793 від 14.10.2003. із змінами, внесеними згідно з Наказом Міністерства інфраструктури № 728 від 30.11.2012</p> <p>5.Інструкції з організації перевезень вантажів повітряним транспортом – Наказ міністерства транспорту України №822 від 02.11.2005.</p> <p>6.Авіаційні правила України «Порядок та умови повітряних перевезень небезпечних вантажів». – Наказ Державної авіаційної служби України №1802 від 12.11.2020.</p> <p>7.Dangerous Goods Regulations, поточне видання.</p> <p>8.Live Animals Regulations, поточне видання.</p> <p>9.Perishable Cargo Handling Manual, поточне видання</p> <p>10. The Air Cargo Tariff , поточне видання</p> <p>11. Airport Handling Manual, поточне видання</p> <p>12. Principles of Cargo Handling, поточне видання</p>
Location and logistics	Classroom of theoretical training, laptop, mobile device (phone, tablet) with Internet connection for: communication and surveys; homework; performing tasks of independent work; passing the test (current, boundary, final control)
Semester control, examination techniques	Examination, Course Project, Testing
Department	Air Transportation Management Department
Faculty	Faculty of Transport, Management and Logistics
Lecturer(s)	<p>IVANNIKOVA VICTORIA YURIEVNA Position: Associate Professor Scientific Degree: PhD in Engineering Academic Status: Associate Professor Teacher profile: https://scholar.google.com.ua/citations?hl=ru&user=LYCBBIgAAAAJ Тел.: 044 406-70-94 E-mail: viktiriia.ivannikova@npp.nau.edu.ua Location: 2.102b</p>
Originality of the subject	Author's course, teaching in English
Link to the subject	https://er.nau.edu.ua/handle/NAU/34200