COURSE DESCRIPTION CARD - SYLLABUS

Course name
Economics and organization of transport [S1Log2>EiOT]

Course

Field of study
Logistics

Year/Semester
2/4

Area of study (specialization)
–

Profile of study
general academic

Level of study
first-cycle

Course offered in
polish

Form of study
full-time

Requirements
compulsory

Number of hours

Lecture
30

Laboratory classes
15

Other (e.g. online)
0

Tutorials
15

Projects/seminars
0

Number of credit points

4,00

Coordinators

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Lecturers

Prerequisites

The student is starting this subject should have basic knowledge in the field of economics and transport as well as the functioning of the economy and its management. The student should also be able to obtain information from the sources indicated and be willing to cooperate as part of a team. The student demonstrates awareness and understands the importance / role of non-technical aspects and effects of engineering activities, including its impact on the environment, and the associated responsibility for the decisions taken. The student is able to interact and work in a group, assuming different roles in it. Can think and act in an entrepreneurial manner.

Course objective

Providing The students with basic knowledge in the field of economics and organization of transportation, indicating the basic problems in the transportation economy and the ability to analize and evaluate (optimize) selected processes in the field of transportation work

Course-related learning outcomes

Knowledge:
1. The student knows the basic laws of economics and issues in the field of transport organization and

management specific to logistics and supply chain management [P6S_WG_08]
2. The student knows the basic relations between the technical sphere and the economics and organization of transport typical of logistics and supply chain management [P6S_WK_01]

Skills:
1. The student is able to use appropriate experimental and measurement techniques to solve a problem within the economics and organization of transport, including computer simulation, which is typical of logistics and its detailed issues and supply chain management [P6S_UW_03]
2. The student is able to assess and critically analyze in terms of the laws of economics and transport organization a selected problem falling within the framework of logistics and its detailed issues and supply chain management [P6S_UW_06]
3. The student is able to select appropriate tools and methods to solve a problem within logistics and supply chain management, taking into account the laws of economics and transport organization, and to use them effectively [P6S_UO_02]
4. The student is able to identify changes in requirements, standards, regulations, technical progress, labor market reality and the latest literature reports in the field of economics and organization of transport, and on their basis determine the need to supplement knowledge [P6S_UU_01]

Social competences:
1. The student is able to plan and manage in an entrepreneurial way, using knowledge of transport economics and organization [P6S_KO_01]
2. The student is aware of initiating activities related to the formulation and transfer of information in the area of economics and organization of transport as well as cooperation in society in the area of logistics [P6S_KO_02]
3. The student is aware of cooperation and team work to solve problems using the laws of economics and transport organization within the framework of logistics and supply chain management [P6S_KR_02]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: the acquired knowledge is verified on the basis of answers to the questions concerning the material discussed in the lectures and credit based on two tests (from 20 to 30 questions each) - answers to closed multiple-choice questions; passing is possible after obtaining a minimum of 60% of points from each test in the first and second attempt.
Classes: on the basis of the assessment of the current progress in the implementation of tasks (work independently and in groups, expressing one's own views and opinions) and passing a short test with a few closed questions, multiple choice and solving several tasks in writing passing is possible after obtaining a minimum of 60% of points in the first and second attempt.
Laboratory: passing a short test with a few closed multiple-choice questions at the beginning of each laboratory exercise and on the basis of exercises / experiments carried out independently (or in groups); credit is possible after obtaining a minimum of 60% of the points.

Programme content

Lecture: The essence of transport and economics of transport; place of transport economics in the system of science. The role and importance of transport in the national economy. Production factors. Classification and organization of transport, characteristics of the modes of transport. Transport infrastructure and superstructure. Transport needs and services. Management in the branches of transport. City transport. Intermodal transport. Service areas and location of shipping centers. The role of transport in the supply chain. The transport process and its elements. Analysis and methods of evaluation of transport processes. Transport enterprise and its operational characteristics. Prices, tariffs, taxes and charges in transport activities. Transport activity costs.
Exercises: Technical speed, operational speed, vehicle working time, driver's driving time. Payload utilization, vehicle fill factor, mileage utilization, transport performance. Planning of transport resources, transport fleet, intermodal transport, driver's working time. Maximum flow / maximum capacity in the transport network, shortest route, optimal allocation. Pallet loading units, pallet load capacity, pallet stacking, load height. SWOT analysis of selected modes of transport.
Laboratory: Scheduling the work of drivers using the allocation issue. Development of a departure order and a road card for the transport issue with the use of IT tools. Optimization / minimization of empty

runs in transport. Assessment of the profitability of investments in a transport company. The choice of ways to transport goods. Development of a pricing strategy in transport. Planning and development of a route for a selected transport issue - a professional tool for route planning, the use of a digital map in the planning processes of cargo transport routes. Analysis of transport processes and analysis of the possibilities of improving the operation of these processes and the analysis of the current state of computerization of transport processes in the enterprise, analysis and evaluation of IT systems in transport.

Teaching methods

Lecture: multimedia presentation illustrated with examples.
Exercises: multimedia presentation illustrated with examples, solving problems / examples on the blackboard, performing tasks given by the teacher - practical exercises.
Laboratory: independent conducting of experiments with the use of appropriate computer applications.
Remote learning methods indicated on the ekursy.put.poznan.pl platform.

Bibliography

Basic:
1. Mendyk E., Ekonomika transportu, Wyższa Szkoła Logistyki, Poznań, 2009.
2. Fajczak-Kowalska A., Transport w gospodarce, Akademicka Oficyna Wydawnicza EXIT, Warszawa, 2018.
3. Rokicki T., Transport intermodalny w łańcuchach dostaw - uwarunkowania organizacyjne, techniczne i ekonomiczne, Wydawnictwo SGGW, Warszawa, 2018.
4. Szymonik A., Ekonomika transportu dla potrzeb logistyka (i). Teoria i praktyka, Difin, Warszawa, 2013.
5. Rydzkowski W., Wojewódzka-Król K., Transport, Wydawnictwo Naukowe PWN, Warszawa, 2009.
6. Urbanyi-Popiołek I., Lewandowski P., Jendryczka V., Pietrzak K., Pietrzak O., Bernacki D., Ekonomiczne i organizacyjne aspekty transportu, Wydawnictwo Uczelniane Wyższej Szkoły Gospodarki w Bydgoszczy, Bydgoszcz, 2013.
7. Wierzejski T., Kędziora-Laskowska M., Rybiński P., Dąbek J. Transport i spedycja, EXPOL sp.j., Uniwersytet Warmińsko-Mazurski w Olsztynie, Olsztyn, 2014.

Additional:
1. Wyszomirski O., Transport miejski. Ekonomika i organizacja, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk, 2008.
2. Liberacki B., Mindura L., Uwarunkowania rozwoju systemu transportowego Polski, Wydawnictwo Instytutu Technologii Eksploatacji - PIB, Warszawa - Radom, 2007.
3. Żal J., Wielokryterialne wspomaganie decyzji w transporcie drogowym, Wydawnictwo Politechniki Poznańskiej, Poznań, 2005.
4. Truś T., Ekonomika Logistyki, Wydawnictwo Difin, Warszawa, 2010.
5. Kruszyński M., Metodyka wielokryterialnego wspomagania decyzji w problematyce zarzadzania transportem miejskim, rozprawa doktorska, Poznań, 2014.

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,00
Classes requiring direct contact with the teacher	62	2,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	38	1,50