



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Transportation management

### Course

Field of study

Logistics - Full-time studies - First-cycle studies

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

1/2

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

### Number of hours

Lecture

14

Laboratory classes

Other (e.g. online)

Tutorials

14

Projects/seminars

### Number of credit points

5

### Lecturers

Responsible for the course/lecturer:

dr inż. Mirosław Kruszyński

email: miroslaw.kruszynski@put.poznan.pl

tel. 48 61 665 ....

Faculty of Engineering Management

Poznan University of Technology,  
2 Jacka Rychlewskiego street, 60-965 Poznan,  
Poland

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### Prerequisites

The student she/he 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 she/he should also be able to obtain information from the sources indicated and be willing to cooperate as part of a team. The student she/he 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 she/he is able to interact and work in a group, assuming different roles in it. She/he can think and act in an entrepreneurial manner.



### Course objective

Identification of basic problems in the transport economy and the ability to evaluate (optimize) selected processes in the field of transport work.

### Course-related learning outcomes

#### Knowledge

1. knows the basic management issues specific to logistics and supply chain management (P6S\_WG\_08)
2. knows the basic relations between the technical and economic sphere characteristic for logistics and supply chain management (P6S\_WK\_01)

#### Skills

1. is able to apply the proper experimental and measurement techniques to solve the problem within the studied subject, including computer simulation within logistics and its detailed issues, and supply chain management (P6S\_UW\_03)
2. is able to assess and make a critical economic analysis of the selected problem, which falls within the framework of logistics and its specific issues and supply chain management (P6S\_UW\_06)
3. is able to choose the right tools and methods to solve the problem within the logistics and supply chain management, and to use them effectively (P6S\_UO\_02)
4. is able to identify changes in requirements, standards, regulations, technical progress and the reality of the labor market, and based on them determine the needs to supplement knowledge (P6S\_UU\_01)

#### Social competences

1. is able to plan and manage in an entrepreneurial manner (P6S\_KO\_01)
2. is aware of initiating activities related to the formulation and transfer of information and cooperation in society in the field of logistics (P6S\_KO\_02)
3. is aware of cooperation and group work on solving problems within logistics and supply chain management (P6S\_KR\_02)

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

-Formative:

Within the scope of the exercises: on the basis of an assessment of the current progress of tasks (self-employment and in groups, expression of opinions and opinions)

Lectures: based on answers to questions about the material discussed in the lectures

- summary:



Within the scope of the exercises: credit on the basis of short test with closed questions multiple choice and solving in writing several tasks with content, credit is possible after obtaining a minimum of 60% points.

Lectures: credit on two tests - answers to open questions and closed questions (multiple choice); credit is possible after obtaining a minimum of 60% of points from each test

### **Programme content**

The course program includes the following issues: 1) The essence of transport and transport economics; place of transport economics in the system of sciences; 2) The role and importance of transport in the national economy; 3) Production factors, 4) Classification and organization of transport; characteristics of the transport branch; 5) Transport infrastructure and suprastructure; 5) Transport needs and services; 6) Management in transport branches; 7) Urban transport; 8) Intermodal transport; Service areas and location of transport centers; 9) The role of transport in the supply chain; 10) transport process and its elements; Analysis and methods of evaluation of transport processes; 11) transport company and its operational characteristics; 12) Prices, tariffs, taxes and charges in transport activities; 13) Costs of transport activities; 13) Technical speed, operational speed, vehicle operation time, driving time of the driver; 14) Load capacity utilization, vehicle duty cycle, mileage utilization, transport performance; 15) Transport resource planning, transport fleet, intermodal transport, driver's working time; 16) Maximum flow / maximum capacity in the transport network, shortest route, optimal allocation; 17) Pallet loading units, pallet load capacity, load stacking on a pallet, load height; 18) SWOT analysis of selected transport branches.

### **Teaching methods**

In the field of lectures:

multimedia presentation illustrated with examples

In the scope of independent work:

work with a book

In the scope of exercises:

1. a multimedia presentation illustrated with examples
2. solving problems, examples on the board
3. performing tasks given by the teacher - practical exercises

### **Bibliography**

Basic

1. Economics of transport, Edward Mendyk, Wyższa Szkoła Logistyki, Poznań, 2009



2. Transport in the economy, Anita Fajczak-Kowalska, Akademicka Oficyna Wydawnicza EXIT, Warsaw, 2018
3. Intermodal transport in supply chains - organizational, technical and economic conditions, Tomasz Rokicki, SGGW Publishing House, Warsaw, 2018
4. Economics of transport for logistics (i). Theory and Practice, Adam Szymonik, Difin, Warsaw, 2013
5. Economic and organizational aspects of transport, Ilona Urbanyi-Popiołek, Piotr Lewandowski, Violetta Jendryczka, Krystian Pietrzak, Oliwia Pietrzak, Dariusz Bernacki, University Publishing House of the University of Economy in Bydgoszcz, Bydgoszcz, 2013
6. Transport and forwarding, Tomasz Wierzejski, Małgorzata Kędzióra-Laskowska, EXPOL, P. Rybiński, J. Dąbek, sp.j., University of Warmia and Mazury in Olsztyn, Olsztyn, 2014

#### Additional

1. Urban transport. Economics and organization, Olgierd Wyszomirski, University of Gdańsk Publishing House, Gdańsk, 2008
2. Determinants of the development of the Polish transport system, Bogusław Liberacki, Leszek Mindura, Publisher of the Institute of Exploitation Technology - National Research Institute, Warsaw - Radom, 2007
3. Multi-criteria decision support in road transport, Jacek Żak, Poznań University of Technology Publishing House, Poznań, 2005
4. Transport, Włodzimierz Rydzkowski, Krystyna Wojewódzka-Król, PWN Scientific Publishing House, Warsaw, 2009
5. Economics of Logistics, Teresa Truś, Wydawnictwo Difin, 2010.

#### Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	64	3,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	61	2,0

<sup>1</sup> delete or add other activities as appropriate