



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Public transportation

		Course
Field of study		Year/Semester
Transport		1/2
Area of study (specialization)		Profile of study
Road Transport		general academic
Level of study		Course offered in
Second-cycle studies		polish
Form of study		Requirements
full-time		elective

			Number of
<b>hours</b>			
Lecture	Laboratory classes		Other (e.g. online)
30	0		0
Tutorials	Projects/seminars		
0	0		
<b>Number of credit points</b>			
2			

		Lecturers
Responsible for the course/lecturer:		Responsible for the course/lecturer:
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### Prerequisites

Knowledge: Student has basic knowledge concerning transportation systems and processes. He/she acquired knowledge about different transportation modes.

Skills: Student can analyze and evaluate transportation systems; understands the phenomena taking place in there systems and can interpret them. Student is able to classify transport.

Social competencies: Student is aware of the role and the Impact of transport on the environment.

### Course objective

Getting student acquainted with the notion of public transportation processes and phenomena



associated with it; presenting rules and standards of public transportation operations in the world; evaluation of public transportation systems.

### Course-related learning outcomes

#### Knowledge

Student knows advanced methods, techniques and tools used in solving complex engineering tasks and conducting research in a selected area of transport

Student has knowledge of development trends and the most important new achievements of means of transport and other selected related scientific disciplines.

Student knows economical, legal aspect etc. activities of public transport companies.

#### Skills

Student is able to acquire information from literature, databases and other sources (in Polish and English), integrate them, make their interpretation and critical evaluation, draw conclusions and formulate and fully justify opinions

Student is able to use information and communication techniques used in the implementation of projects in the field of transport.

#### Social competences

Student understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems.

Student is aware of the need to develop professional achievements and observe the rules of professional ethics.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lectures: assessment of the student activity during lectures and exam in the form of a test of choice (about 10 questions/tasks, min. 50%)

### Programme content

Introduction to public transportation - the historical review, development of local and regional public passenger. The essence and major characteristics of public transportation. The notion and characteristics of public transportation. The review of public transportation systems in the world. The quality of public transport. Evaluation indicators for public transportation (definition and presentations of basic indicators describing and evaluating public transport operations, such as: travel time, comfort of travel, cost of travel, fleet utilization, timeliness/regularity). Construction of the time tables of public transport. Designing communication network diagrams of public transport. Bus rapid transport systems (historical review and development). Non-motorised transport.

### Teaching methods

Lecturer: multimedia presentation, discussion, case study, problem solving



## Bibliography

### Basic

Fierek S.: Integracja transportu miejskiego z wykorzystaniem symulacji ruchu i wielokryterialnego wspomaganie decyzji. Rozprawa doktorska. Politechnika Poznańska 2013.

Kiciński M.: Wielokryterialne harmonogramowanie obsługi i napraw w przedsiębiorstwie publicznego transportu autobusowego. Rozprawa doktorska. Politechnika Poznańska 2012

Madej B., Pruciak K., Madej R.: Publiczny transport miejski – Zasady tworzenia rozkładów jazdy. Akademia Transportu i Przedsiębiorczości, Warszawa 2015.

Starowicz W.: Jakość przewozów w miejskim transporcie zbiorowym: podręcznik dla studentów wyższych szkół technicznych. Politechnika Krakowska im. Tadeusza Kościuszki, Kraków 1990.

Szczerbaciuk Z.: Vademecum: co należy wiedzieć o zmianie systemu funkcjonowania drogowego transportu zbiorowego od dnia 1 stycznia 2017 r. Polska Izba Gospodarcza Transportu Samochodowego i Spedycji, 2015

### Additional

Ceder A.: Public Transit Planning and Operation. Theory, Modeling and Practice. Wydawnictwo Elsevier 2015.

Grava S.: Urban Transportation Systems. Urban Transportation Systems. Choices for Communities. McGraw-Hill 2004

Iles R.: Public Transport in Developing Countries. Wydawnictwo Elsevier 2005.

Molecki B.: Rola samorządu w kształtowaniu transportu regionalnego w Polsce i w Europie. Oficyna Wydawnicza PWR, Wrocław 2010

Rudnicki A.: Jakość komunikacji miejskiej. Wydawnictwo SITK, Kraków 1999.

Schöbel A.: Optimization in Public Transportation. Stop Location, Delay Management and Tariff Zone Design in a Public Transportation Network. Wydawnictwo Springer 2007

## Breakdown of average student's workload

	Hours	ECTS
Total workload	60	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for tests - exam) <sup>1</sup>	30	1,0

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