



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Public transport [S2Trans1E-TrZ>TP]

Course

Field of study

Transport

Year/Semester

2/3

Area of study (specialization)

Sustainable Transport

Profile of study

general academic

Level of study

second-cycle

Course offered in

english

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

15

Projects/seminars

0

Number of credit points

2,00

Coordinators

dr inż. Marcin Kiciński

marcin.kicinski@put.poznan.pl

Lecturers

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.

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 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 - when formulating and solving engineering tasks - to integrate knowledge from various areas of transport (and, if necessary, also knowledge from other scientific disciplines) and apply a system approach, also taking into account non-technical aspects.

Social competences:

Student understands that in the field of transport engineering, knowledge and skills quickly become obsolete.

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

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Lectures and tutorials: final tests (questions/tasks, min. 50%), and assessment of the student activity during lectures/tutorials.

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 public transportation.

Teaching methods

Lecturer: multimedia presentation and discussion.

Tutorials: cases study, problem solving and discussion.

Bibliography

Basic

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

2. Daganzo C.F., Ouyang Y.: Public Transportation Systems. Principles of System Design, Operations Planning and Real-Time Control. World Scientific, 2019

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

Additional

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

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

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	30	1,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	20	0,50