COURSE DESCRIPTION CARD - SYLLABUS

Course name
Public transport

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 studies

Course offered in
English

Form of study
full-time

Requirements
elective

Number of hours

Lecture
15

Laboratory classes
0

Other (e.g. online)
0

Tutorials
15

Projects/seminars
0

Number of credit points

2

Lecturers

Responsible for the course/lecturer:
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Responsible for the course/lecturer:

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 acquinted 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:

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 systemsin 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 discusion.

Bibliography

Basic

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

2.. Daganzo C.F., Ouyang Y.: Public Transportation Systems. Pronciples of System Design, Oprations 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 TransportationSystems. 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	2,0
Classes requiring direct contact with the teacher	30	1,5
Student's own work (literature studies, preparation for tests) [1]	20	0,5

[1] delete or add other activities as appropriate