



COURSE DESCRIPTION CARD - SYLLABUS

Course name

City Logistics [S2Trans1-LogTr>LM]

Course

Field of study

Transport

Year/Semester

1/2

Area of study (specialization)

Logistics of Transport

Profile of study

general academic

Level of study

second-cycle

Course offered in

polish

Form of study

full-time

Requirements

compulsory

Number of hours

Lecture

30

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

15

Number of credit points

3,00

Coordinators

dr inż. Paweł Zmuda-Trzebiatowski

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Lecturers

Prerequisites

Knowledge: The student has a basic knowledge of transport and logistics systems Skills: The student is able to integrate the information obtained, make their interpretation, draw conclusions, formulate justify opinions, has the ability to see, associate and interpret phenomena occurring in logistics Social competencies: The student is aware of the importance and understands the non-technical aspects and effects of transport activities; the student is able to cooperate with the group

Course objective

The aim of the course is to familiarize students with the issues of city logistics and to provide them with the ability to solve problems appearing in this sector

Course-related learning outcomes

Knowledge:

1. has detailed knowledge of selected issues in the field of transport engineering
2. has knowledge about development trends and the most important new achievements of transport means and other, selected, related scientific disciplines
3. knows advanced methods, techniques and tools used to solve complex engineering tasks and conduct

research in a selected area of transport

Skills:

1. can determine the directions of further learning and implement the process of self-education
2. can use information and communication techniques used in the implementation of transport projects
3. can assess the usefulness of methods and tools for solving an engineering task consisting in the construction or evaluation of a transport system or its components, including the limitations of these methods and tools
4. can interact in a team, taking on different roles in it

Social competences:

1. understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems
2. understands the importance of popularizing activities regarding the latest achievements in the field of transport engineering

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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Lecture: Written test summarizing the subject.

Project: Visualization, determination of CO2 emissivity and assessment of the possibilities of improving academic mobility

Programme content

1. Geographic Information Systems in transport and city logistics: definitions, applications
2. The essence of city logistics: basic definitions (urban transport and logistics, physical internet, hyperconnected city logistics); delivery methods, transport organization and supply networks; basic problems in city logistics; tools of impact on urban logistics owned by the city administration
3. Cargo transport in the city - assessment of various modes of transport, including their emissions; supply autonomy
4. Non-motorized transport in the city - basic characteristics; impact of non-motorized transport in relation to other modes of transport; non-motorized transport infrastructure; planning of non-motorized trips; pedestrian traffic and people with disabilities, e-bikes and e-scooters
5. The impact of e-commerce on the development of logistics in cities - CEP sector; eFMCG; eGrocery; eCommerce impact on the emissivity of distribution systems
6. Impact of other policies on the carbon footprint of municipal distribution systems and transport systems, eg Sunday trading ban
7. Distribution networks in city logistics - "last mile" logistics: CEP sector; same day delivery; delivery on demand; out-of-home delivery (sending and receiving points, parcel machines)
8. Appraisal of transport and logistics projects in cities: definitions, stakeholders, impact and fairness of their distribution, risk in transport projects
9. Calculation and visualization of the radius of city logistics services
10. Transport problem with transshipment as an example of the determination of traffic flows for urban logistics centers
11. Real-time decision problems: dynamic resource allocation problem (taxi, city couriers, ...), decision making about snow removal, making decisions about waiting time for delayed means of transport
12. Organization of the waste disposal system from urban areas
13. Problems in managing a transport company and methods of their mitigation

Teaching methods

Lecture: The presenting, problematic and exposing method

Project: Exercise and practical method

Bibliography

Basic

1. Szczepanek R., Zmuda-Trzebiatowski P.: Systemy Informacji Geograficznej z QGIS (materiał dostępny on-line na stronie dts.put.poznan.pl/samouczek-qgis/)

2. Szołtysek J.: Logistyka miasta. Wyd. PWE, Warszawa 2016
 3. Zmuda-Trzebiatowski P.: Partycypacyjna ocena miejskich projektów transportowych. Wyd. PP, Poznań 2016
- Additional
1. Kauf S., Tłuczak A.: Logistyka miasta i regionu. Difin, Warszawa 2014
 2. Kiba-Janiak M., Witkowski J. (red.): Modelowanie logistyki miejskiej. PWE, Warszawa 2014
 3. Szołtysek J.: Podstawy logistyki miejskiej. wyd. AE Katowice, Katowice 2009
 4. Szymczak M.: Logistyka miejska. wyd. AE Poznań, Poznań 2008

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,00
Classes requiring direct contact with the teacher	45	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00