



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Sustainable mobility [S2Trans1E>ZM]

### 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

30

Laboratory classes

0

Other (e.g. online)

0

Tutorials

15

Projects/seminars

0

### 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 sustainable mobility and to provide them with the skills of planning sustainable mobility systems at the level of enterprise or government.

### 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

## 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

## 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.

Tutorials: Measurement and visualization of mobility, determination of its emissivity and assessment of the possibility of its improvement on the example of academic mobility

## Programme content

The subject addresses sustainable mobility from the perspective of different modes of transport, as well as the different stages of mobility planning and implementation. The content is relevant from the perspective of sustainable mobility managers.

## Course topics

1. Sustainable mobility and its planning - introduction.
  2. Stakeholders in sustainable mobility planning.
  3. Mobility data collection and analysis.
  4. Planning the implementation of the mobility plan for traffic generator or administrative region
  5. Sustainable mobility in various modes of transport: car, public transport, bicycle, pedestrian, multimodal mobility.
  6. Best practices in mobility.
  7. Shaping the community awareness (awareness campaigns).
  8. Networking for sustainability.
  9. Green procurement in transport.
- Tutorials: classes on the methods of measurement and visualization of mobility, assessment of the emissivity of various modes of transport and tools for reducing this emissivity on the example of commuting to universities.

## Teaching methods

Lecturing, demonstrating, collaborating, tutorials

## Bibliography

### Basic

1. Zmuda-Trzebiatowski P.: Partycypacyjna ocena miejskich projektów transportowych. Wyd. PP, Poznań 2016
2. Banister D. et al.: European transport policy and sustainable mobility, Spon Press, 2000
3. Książkiewicz D., Rolbiecki R.: Transport development and performance in relation to the idea of sustainable development. Gdansk University Press, 2017

### Additional

1. Training materials from U-MOB's course on Sustainable Mobility Management at Universities
2. QGIS training material ( <https://www.qgis.org/en/site/forusers/trainingmaterial/index.html> )
3. Gonzalez-Feliu J., Semet F., Routhier J. (eds.): Sustainable urban logistics: concepts, methods and information systems. Springer Science+Business Media. Springer-Verlag, 2014
4. Zrównoważone zakupy - Wytyczne PN-ISO 20400, PKN, 2018
5. Belvedere V., Grando A.: Sustainable operations and supply chain management, Wiley, 2017
6. Rolbiecki R. [et al.]: Współczesna polityka transportowa, PWE, 2017
7. Wojewódzka-Król K., Rydzkowski W.: Transport. PWN, 2017

8. Kłos-Adamkiewicz Z., Załoga E.: Miejski transport zbiorowy. Kształtowanie wartości usług dla pasażera w świetle wyzwań nowej kultury mobilności. Bel Studio, 2017

#### 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 |