



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Sustainable transport planning [S2TIIZM1E>PZT]

Course

Field of study

Information Technology for Smart and Sustainable Mobility

Year/Semester

2/3

Area of study (specialization)

–

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

45

Other

0

Tutorials

0

Projects/seminars

0

Number of credit points

3,00

Coordinators

dr inż. Paweł Zmuda-Trzebiatowski

pawel.zmuda-trzebiatowski@put.poznan.pl

Lecturers

Prerequisites

Students have elementary knowledge about transport systems, principles of planning, operating and management. Student can solve particular problems occurring in transport systems using optimization and simulation methods. Student can cooperate in a group and define priorities important for solving appointed problems.

Course objective

Providing students with knowledge in the field of planning transport systems with an emphasis on sustainable development, relations between subsystems, connections and interdependencies with spatial development.

Course-related learning outcomes

Knowledge:

The student possesses advanced and in-depth knowledge in the field of transport network planning and spatial and transport policy

The student has knowledge of development trends and the most significant recent achievements in the

field of sustainable transport systems

The student demonstrates knowledge of advanced methods, techniques, and tools used in the planning of transport networks and systems, as well as in conducting research in this area

Skills:

The student is able to plan sustainable transport systems, interpret the obtained results, draw conclusions, as well as formulate and verify hypotheses related to complex engineering problems and basic research problems

The student is able to assess the applicability of methods and tools used for transport planning and traffic forecasting, including recognizing the limitations of these methods and tools.

Social competences:

The student is prepared to critically assess their knowledge and understands that in transport engineering, knowledge and skills quickly become outdated

The student understands the importance of dissemination activities related to the latest achievements in sustainable transport systems and is prepared to initiate actions in support of the community and the public interest.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Written test

Assessment of assignments

Programme content

1. The essence of the problems of planning transport networks and road traffic forecasting. Basic concepts. Basic planning documents.
2. Land-use and transport planning
3. Spatial and transport policy at various spatial scales
4. Planning of the urban road network - functional, structural, ecological and economic-implementation principles
5. Planning transport services in city centers and restricted areas.
6. Mass transit services in the city
7. Planning parking systems.

Course topics

- 1) Introduction
- 2) Land-use and transport planning
- 3) Planning of the urban road network
- 4) Planning transport services in city centers and restricted areas.
- 5) Planning parking systems
- 6) Planning transport services in residential areas
- 7) Network and accessibility analyses for various means of transport

Teaching methods

Classes are held in person. The course may be also conducted remotely (online) in a synchronous format - especially lectures

Interactive lectures with multimedia presentations

Case studies and practical examples. Individual work and group work.

Bibliography

Basic:

1. Button, K.J. and Hensher, D.A.: Handbook of Transport Systems and Traffic Control (, Vol. 3), Emerald Group Publishing Limited, 2001.
2. O'flaherty C.A.: Transport Planning and Traffic Engineering. CRC Press LLC, 2018

Additional:

1. Richardson, Anthony J, Elizabeth S. Ampt, and Arnim H. Meyburg. Survey Methods for Transport Planning. Melbourne, Vic., Australia: Eucalyptus Press, 1995.

Breakdown of average student's workload

	Hours	ECTS
Total workload	90	3,00
Classes requiring direct contact with the teacher	60	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	30	1,00