COURSE DESCRIPTION CARD - SYLLABUS

Course name

Mobile transportation systems

Course

Field of study

Engineering Management

Area of study (specialization)

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

3/6

Profile of study

general academic

Course offered in

Polish

Requirements

elective

Number of hours

Lecture

8

Laboratory classes

10

Other (e.g. online)

Tutorials

Projects/seminars

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Faculty of Engineering Management

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Responsible for the course/lecturer:

Prerequisites

The Student she/he starting this subject should / should have basic knowledge in the field of transport

and the functioning and management of the economy, as well as the essence of systems. The student she/he should also be able to obtain information from the sources indicated and be willing to cooperate as part of a team. The student she/he demonstrates awareness and understands the importance / role of non-technical aspects and effects of engineering activities, including its impact on the environment, and the associated responsibility for the decisions taken. The Student she/he is able to interact and work in a group, assuming different roles in it. He / she can think and act in an entrepreneurial manner.

Course objective

Providing students with knowledge about the functioning of mobile transport systems. Students acquire knowledge about the development of these systems and their principles functioning and use in practice. In addition, they learn about traffic control systems, both at the national and local level.

Course-related learning outcomes

Knowledge

1. The student she/he knows the basic methods, techniques and tools used to solve simple engineering tasks in the field of construction and operation (management) of mobile transport systems [P6S_WG_16]

2. The student she/he knows the typical transport technologies and knows in depth the technologies of construction and operation (management) of mobile transport systems [P6S_WG_17]

Skills

1. The student she/he is able to make a critical analysis of transport processes and organization (construction and development) of mobile transport systems [P6S_UW_13]

2. The student she/he is able to identify design tasks and solve simple design tasks in the field of construction and operation of stable transport systems [P6S_UW_14]

3. The student she/he is able to apply typical methods of solving simple problems in the construction and operation of mobile transport systems [P6S_UW_15]

Social competences

1. The student she/he is aware that creating products that meet the needs of users requires a systematic approach taking into account technical, economic, marketing, legal, organizational and financial issues [P6S_KO_02]

2. The student she/he is aware of the importance and understands the non-technical aspects and effects of engineering activities, including its impact on the environment, and the associated responsibility for the decisions taken [P6S_KR_01]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: knowledge acquired in is verified on the basis of answers to questions about the material discussed in the lectures and credit based on the test (50 questions) - answers to closed multiple-choice questions; passing is possible after obtaining a minimum of 60% of points from each test in the first and

second attempt.
Laboratory: the skills acquired during the laboratory classes are verified on the basis of the assessment of the current progress in the implementation of individual classes and on the basis of a final test (test) consisting of 20-30 multiple-choice closed questions; passing is possible after obtaining a minimum of 60% of points in the first and second attempt.

Programme content

1. Introduction to the issues of transport systems - entities and objects of the transport system (external and internal transport); 2. Basic definitions regarding transport and the market of transport services; 3. Demand and supply on the transport services market; 4. Transport functions in the state's economic system; 5. Transport as an object and factor of integration; 7. Transport process and transport process; 8. Selection of transport means for transport tasks; 9. Use of Intelligent Transport Systems; 10. Development prospects and methods of financing the linear infrastructure of the Polish transport system; 11. Introduction to the analysis of transport systems; 12. Coordination of transport with the work of loading points; 13. Transport system and its elements; 14. Measures of production of transport services; 15. Transport needs and sources of their formation; 16. Elements and course of transport process; 17. Assessment and analysis of transport systems

Teaching methods

In terms of lectures: multimedia presentation illustrated with examples.
In the field of independent work: work with a book.
In the scope of the laboratory: a multimedia presentation illustrated with examples, solving optimization tasks on the board and computer, assessment of mobile transport systems (variants of changes carried out in the mobile transport system) - practical exercises

Bibliography

Basic

1. Rydzykowski W., Transportation, PWN Publishing House, Warsaw, 2010.

2. Liberacki B., Mindur L., Determinants of the Polish transportation system, Ed. ITE, Radom, 2007.

3. Jacyna M., Modeling and assessment of transportation systems, Warsaw University of Technology Publishing House, Warsaw, 2009.

Additional

1. Rudnicki A. (ed.), Innovations for sustainable urban transportation, ed. PIT Krakow, Krakow, 2010.

2. Siergiejczyk M. (ed.), Intelligent transportation systems and traffic control in transportation. Publishing House of the Warsaw University of Technology, Warsaw, 2013.

3. Żak J., Multi-criteria decision support in road transportation, Poznan University of Technology, Poznan, 2005.

4. Kruszyński M., Methodology of multi-criteria decision support in the issues of urban transportation

management, doctoral dissertation, Poznan, 2014.

Breakdown of average student's workload

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

[1] delete or add other activities as appropriate