

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Public Transportation</b>		Code <b>1010615211010612257</b>
Field of study <b>Transport</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>1 / 1</b>
Elective path/specialty <b>Road Transport</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>Second-cycle studies</b>	Form of study (full-time, part-time) <b>part-time</b>	
No. of hours Lecture: <b>16</b> Classes: <b>-</b> Laboratory: <b>-</b> Project/seminars: <b>-</b>		No. of credits <b>2</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>2 100%</b> <b>2 100%</b>
<b>Responsible for subject / lecturer:</b>  dr hab. inż. Jacek Żak, prof. PP email: jacek.zak@put.poznan.pl tel. 61 665 22 30 Maszyn Roboczych i Transportu ul. Piotrowo 3, 60-965 Poznań		
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	Student has basic knowledge concerning transportation systems and processes. He/she acquired knowledge about different transportation modes.
2	<b>Skills</b>	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.
3	<b>Social competencies</b>	Student is aware of the role and importance of public transportation.
<b>Assumptions and objectives of the course:</b> getting student acquainted with the notion of public transportation ? processes and phenomena associated with it; presenting rules and standards of public transportation operations in the world; evaluation of public transportation systems.		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. Student knows the notion/definition, scope and operational rules of public transportation. - [K2A_W12, K2A_W22]		
2. Knows the history and evolution of technical and organizational solutions applied in public transportation around the world. - [K2A_W12, K2A_W22]		
3. Knows and understands phenomena associated in public passengers transportation - [K2A_W12, K2A_W22]		
4. Knows components of a public transportation system: transportation infrastructure, transportation means, human resources, organizational rules, processes. - [K2A_W12, K2A_W22]		
5. Knows the standards of public transportation, operations and indicators of its efficiency. - [K2A_W12, K2A_W22]		
6. Knows the sub-system of road(bus) transportation. - [K2A_W12, K2A_W22]		
7. Knows the sub-system of rail road transportation (light rail, tram, subway-metro). - [K2A_W12, K2A_W22]		
<b>Skills:</b>		

<ol style="list-style-type: none"> <li>1. Can define and characterize public transportation - [K2A_U16]</li> <li>2. Can identify phenomena and processes associated with public transportation - [K2A_U16]</li> <li>3. Is able to evaluate the modernity of solutions applied in public transportation. - [K2A_U16]</li> <li>4. Can design the public transportation system to carry out the passengers? travels (including: transport infrastructure, transportation means, human resources, organizational rules, processes.) - [K2A_U16]</li> <li>5. Can evaluate the system of public transportation. - [K2A_U16]</li> <li>6. Is able to characterize, evaluate and select transportation means (road and rail) for public transportation system. - [K2A_U16]</li> <li>7. Can diagnose and redesign sub-systems of road and rail public transportation. - [K2A_U16]</li> </ol>
<p><b>Social competencies:</b></p> <ol style="list-style-type: none"> <li>1. The student is aware of the role of public transportation for the society/community. Can define its role and defend its position in the society/community - [K2A_K02]</li> <li>2. Understands the essence of public passengers? transportation and its interactions with freight and private transportation - [K2A_K02]</li> <li>3. Can analyze the effects of good and bad operations of public transportation. - [K2A_K02]</li> </ol>

<b>Assessment methods of study outcomes</b>
<p>Students? presentations ? development of selected public transportation solutions. Students projects.          Final test/exam. Comprehensive review of students? knowledge. Examination test ? quantitative/computational and qualitative/descriptive tasks.</p>

<b>Course description</b>
<p>The notion and characteristics of public transportation. Introduction to public transportation. The essence and major characteristics of public transportation. Basics definitions concerning public transportation. The review of public transportation systems in the world.</p> <p>Operational rules for public transportation. Mass character of transport. Organizational forms and classification of public transportation system design. Major stakeholders in public transportation.</p> <p>The history of public transportation in the world. Description of major phases of public transportation development in various countries. Characteristics of public transportations solutions in different time periods.</p> <p>The phenomena associated with public transportation. Characteristic of principal phenomena associated with public transportation such as: seasonal character of transport, traffic congestions, demand variability, transport reliability (regularity), etc.</p> <p>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.</p> <p>Subsystem of road (bus) transportation. Characteristic of road (bus) sub-system transport. Analysis of transportation infrastructure and transportation means.</p> <p>Subsystem of rail road (light rail, tram, subway-metro) transportation. Characteristic of railroad transportation. Analysis of transportation infrastructure and transportation means.</p>

<p><b>Basic bibliography:</b></p> <ol style="list-style-type: none"> <li>1. Rudnicki A., Starowicz W.: Transport miejski. W.: Liberadzki B., Mindur L. (red.): Uwarunkowania rozwoju systemu transportowego Polski. Wyd. ITE, Warszawa ? Radom.</li> <li>2. Ceder A.: Public Transit Planning and Operation: Theory, Modeling and Practice. Elsevier, Butterworths ? Heinemann, Oxford, 2007.</li> </ol>
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<p><b>Additional bibliography:</b></p> <ol style="list-style-type: none"> <li>1. Szołtysek J.: Podstawy logistyki miejskiej. Wyd. Akademii Ekonomicznej, Katowice, 2009.</li> <li>2. Vuchic V.: Urban Transit Systems and Technology. John Wiley and Sons, Hoboken, 2007.</li> </ol>
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<b>Result of average student's workload</b>		
<b>Activity</b>	<b>Time (working hours)</b>	
1. Lectures	16	
2. Individual consultations	2	
3. Preparing for exam	16	
<b>Student's workload</b>		
<b>Source of workload</b>	<b>hours</b>	<b>ECTS</b>
Total workload	34	2

Contact hours	18	1
Practical activities	0	0