## COURSE DESCRIPTION

1. **Course title:** MODELLING OF TRANSPORT PROCESSES  
2. **Course code:** MK2_7

3. **Validity of course description:** 2015/2016

4. **Level of studies:** BA, BSc programme / MA, MSc programme / 1st cycle / 2nd cycle of higher education

5. **Mode of studies:** intramural studies / extramural studies

6. **Field of study:** Transport (RT)  
   (FACULTY SYMBOL)

7. **Profile of studies:** general academic

8. **Programme:**

9. **Semester:** 1

10. **Faculty teaching the course:** Faculty of Transport / Department of Traffic Engineering

11. **Course instructor:** Grzegorz Sierpiński, PhD Eng

12. **Course classification:** common courses

13. **Course status:** compulsory / elective

14. **Language of instruction:** English

15. **Pre-requisite qualifications:** transportation infrastructure, transportation systems and processes, basis of traffic engineering, optimization of transportation network, knowledge of a general of computer applications.


17. **Description of learning outcomes:**

<table>
<thead>
<tr>
<th>Nr</th>
<th>Learning outcomes description</th>
<th>Method of assessment</th>
<th>Teaching methods</th>
<th>Learning outcomes reference code</th>
</tr>
</thead>
</table>
| 1  | The student knows the importance of traffic models when considering future modernization of transportation systems and processes of managing traffic flows. He also have knowledge about the description of transport processes. | exam (oral report) | lecture (cases and discuss) | K_W07(++)  
   K_W12(++)  
   K_W14(+)  
   K_W21(++)  
   K_U04(+)  
   K_U05(+)  
   K_U06(+)  
   K_U07(+)  
   K_U14(++)  
   K_U15(++++)  
   K_U19(++)  
   K_K02(++++) |
| 2  | The student identifies the relationship between transportation systems and the environment and knows the trends and development of transportation systems (including alternative transportation). | exam (oral report) | lecture (case studies) | K_W12(++)  
   K_W13(+++)  
   K_W17(++++)  
   K_U20(++)  
   K_K02(++++) |
| 3  | The student is able to estimate the traffic volume according to the GDDKiA guidelines for planning and design purposes. | exam (oral report) | lecture (case studies) | K_U03(++)  
   K_U12(+) |
| 4  | The student is able to identify queuing systems according to the Kendall classification and evaluate their effectiveness. | exam (oral report) | lecture (cases and discuss) | K_W07(++)  
   K_W21(++)  
   K_U03(++)  
   K_U14(++)  
   K_U15(++++) |
18. Teaching modes and hours

Lecture / BA / MA Seminar / Class / Project / Laboratory

Lecture - 30 h

19. Syllabus description:


20. Examination: yes

21. Primary sources:

8. Zasady prognozowania ruchu drogowego, GDDKiA Warszawa. (z uwzględnieniem zmian wprowadzonych 15.03.2007r.) (metodologia aktualnie zalecana do stosowania w Polsce)

22. Secondary sources:


23. Total workload required to achieve learning outcomes

<table>
<thead>
<tr>
<th>Lp.</th>
<th>Teaching mode</th>
<th>Contact hours / Student workload hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lecture</td>
<td>30/15</td>
</tr>
<tr>
<td>2</td>
<td>Classes</td>
<td>/</td>
</tr>
<tr>
<td>3</td>
<td>Laboratory</td>
<td>/</td>
</tr>
<tr>
<td>4</td>
<td>Project</td>
<td>/</td>
</tr>
<tr>
<td>5</td>
<td>BA / MA Seminar</td>
<td>/</td>
</tr>
<tr>
<td>6</td>
<td>Other</td>
<td>/</td>
</tr>
<tr>
<td></td>
<td>Total number of hours</td>
<td>30/15</td>
</tr>
</tbody>
</table>

24. Total hours: 45

25. Number of ECTS credits: 2

26. Number of ECTS credits allocated for contact hours: 1

27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 0

26. Comments: