



<b>1. Subject name</b>	<b>Security issues of Intelligent transportation systems PhD</b>				
<b>2. Subject name in Hungarian</b>	Intelligens közlekedési rendszerek védelmi kérdései PhD				
<b>3. Code</b>	<b>BMEKOGGD801</b>	<b>4. Evaluation type</b>	<b>exam grade</b>	<b>5. Credits</b>	<b>2</b>
<b>6. Weekly contact hours</b>	<b>2 (0) Lecture</b>	<b>0 (0) Practice</b>	<b>0 (0) Lab</b>		
<b>7. Curriculum</b>	<b>PhD Programme</b>	<b>8. Role</b>	<b>Specific course</b>		
<b>9. Working hours for fulfilling the requirements of the subject</b>					<b>60</b>
<b>Contact hours</b>	28	<b>Preparation for seminars</b>	14	<b>Homework</b>	5
<b>Reading written materials</b>	5	<b>Midterm preparation</b>	8	<b>Exam preparation</b>	0
<b>10. Department</b>	<b>Department of Automotive Technologies</b>				
<b>11. Responsible lecturer</b>	Dr. Török Árpád				
<b>12. Lecturers</b>	Dr. Török Árpád				
<b>13. Prerequisites</b>					
<b>14. Description of lectures</b>					
Critical evaluation of the scientific and professional background of IT systems. Identifying the evolution of communication channels, data formats and processes. Identifying the main developmental relationships of infections and adverse effects and identifying novel patterns of possible prevention strategies. Analysis of threats related to IT systems and implementation of new technological solutions (autonomous transport) in macroscopic traffic model.					
<b>15. Description of practices</b>					
<b>16. Description of laboratory practices</b>					
<b>17. Learning outcomes</b>					
A. Knowledge <ul style="list-style-type: none"> <li>Familiar with security questions of ITS frameworks.</li> </ul> B. Skills <ul style="list-style-type: none"> <li>Ability to research and develop specific processes.</li> </ul> C. Attitudes <ul style="list-style-type: none"> <li>Openness to new opportunities in the field.</li> </ul> D. Autonomy and Responsibility <ul style="list-style-type: none"> <li>Participate in independent research task.</li> </ul>					
<b>18. Requirements, way to determine a grade (obtain a signature)</b>					
The acquisition of the signature of the subject, and, in addition, the condition of taking exam is giving in the complete individual student homework for deadline. The exam is oral.					
<b>19. Opportunity for repeat/retake and delayed completion</b>					
<b>20. Learning materials</b>					
Stübing, H. (2013). Multilayered security and privacy protection in Car-to-X networks: solutions from application down to physical layer. Springer Science & Business Media. Delgrossi, L., & Zhang, T. (2012). Vehicle safety communications: protocols, security, and privacy (Vol. 103).					
<b>Effective date</b>	27 November 2019	<b>This Subject Datasheet is valid for</b>		Inactive courses	