



1. Subject name	Controlled vehicle system dynamics I. PhD				
2. Subject name in Hungarian	Szabályozott járműdinamikai rendszerek I. PhD				
3. Code	BMEKOGJD010	4. Evaluation type	exam grade	5. Credits	3
6. Weekly contact hours	2 (0) Lecture	0 (0) Practice	0 (0) Lab		
7. Curriculum	PhD Programme	8. Role	Specific course		
9. Working hours for fulfilling the requirements of the subject					120
Contact hours	28	Preparation for seminars	14	Homework	22
Reading written materials	26	Midterm preparation	30	Exam preparation	0
10. Department	Department of Automotive Technologies				
11. Responsible lecturer	Dr. Szalay Zsolt				
12. Lecturers	Dr. Tihanyi Viktor				
13. Prerequisites					
14. Description of lectures					
<p>"Regulated Vehicle Dynamics Systems I." students will delve deeper into the areas of development of electronically controlled vehicle dynamics systems used in motor vehicles, as well as the intelligent vehicle systems researched today and their current dynamics and control technology background. The aim is to develop control technology solutions used in modern vehicle technology. Special control technology issues and novel regularities of active and semi-active vehicle suspension systems. Critical evaluation of control strategies for ABS / ASR systems. Development of control theory problems in automotive driver assist systems (active speed control, lane departure detection)</p>					
15. Description of practices					
16. Description of laboratory practices					
17. Learning outcomes					
<p>A. Knowledge</p> <ul style="list-style-type: none"> Familiar with vehicle dynamics fundamentals. <p>B. Skills</p> <ul style="list-style-type: none"> Ability to research and develop specific processes. <p>C. Attitudes</p> <ul style="list-style-type: none"> Openness to new opportunities in the field. <p>D. Autonomy and Responsibility</p> <ul style="list-style-type: none"> Participate in independent research task. 					
18. Requirements, way to determine a grade (obtain a signature)					
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.					
19. Opportunity for repeat/retake and delayed completion					
There is one occasion to retake the exam.					
20. Learning materials					
<p>1. Hans Pacejka: Tire and Vehicle Dynamics, Elsevier B-ELS-049, ISBN of 9780080970172, 2012. 2. Tire and Wheel Technology, 2011, SAE International SP-2296, ISBN of 978-0-7680-4735-6, 2011. 3. Vehicle Dynamics Stability and Control, 2011, SAE International SP-2297, ISBN of 978-0-7680-4736-3, 2011. 4. Rao V. Dukkipati, Jian Pang, Mohamad S. Qatu, Gang Sheng, Zuo Shuguang, Road Vehicle Dynamics, SAE International, R-366, ISBN of 978-0-7680-1643-7, 2008.</p>					
Effective date	27 November 2019	This Subject Datasheet is valid for		Inactive courses	