Vehicle system dynamics PhD

1. Subject name	Vehicle system dynamics PhD				
2. Subject name in Hungarian	Gépjárműrendszerek dinamikája PhD				
3. Code	BMEKOGJD004	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. Szalay Zsolt				
13. Prerequisites					

14. Description of lectures

The subject discusses in detail driving dynamics, stability and vibrations of road vehicles using toolkits of linear and nonlinear dynamics.
Architectures of systems acting the dynamics of the vehicle independent of the driver.

15. Description of practices

16. Description of labortory practices

17. Learning outcomes

A. Knowledge
- Familiar with vehicle dynamics fundamentals.

B. Skills
- Ability to research and develop specific processes.

C. Attitudes
- Openness to new opportunities in the field.

D. Autonomy and Responsibility
- 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

.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.

Effective date	27 November 2019	This Subject Datasheet is valid for	Inactive courses