



1. Subject name	Drive techniques PhD				
2. Subject name in Hungarian	Hajtástechnika PhD				
3. Code	BMEKOGED006	4. Evaluation type	exam grade	5. Credits	3
6. Weekly contact hours	3 (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					90
Contact hours	42	Preparation for seminars	7	Homework	20
Reading written materials	7	Midterm preparation	0	Exam preparation	14
10. Department	Department of Railway Vehicles and Vehicle System Analysis				
11. Responsible lecturer	Dr. Lovas László				
12. Lecturers	Dr. Lovas László				
13. Prerequisites					
14. Description of lectures					
Basics of drive technics. Driving and driven torque curves. Drives with internal combustion engines. Type and task of clutches. Structure of mechanical gearboxes. Driving and driven inertias. Shifting mechanism. Process of gear changing. Types and shiftability of synchronizers. Shiftability of spline clutches. Gearbox design regarding manufacturing and shiftability. Bearings and lubrication in gearboxes. Robotized and double clutch gearboxes, design and problems. Hybrid vehicle layouts.					
15. Description of practices					
16. Description of laboratory practices					
17. Learning outcomes					
A. Knowledge <ul style="list-style-type: none"> • Problems and solutions in driveline technics. B. Skills <ul style="list-style-type: none"> • Design of a driveline with internal combustion engine. C. Attitudes <ul style="list-style-type: none"> • Being open to understand and learn novelties on that given domain. D. Autonomy and Responsibility <ul style="list-style-type: none"> • Evaluation and choice of elements for an optimal solution. 					
18. Requirements, way to determine a grade (obtain a signature)					
Semester note upon succesful realisation of the homework and an oral exam.					
19. Opportunity for repeat/retake and delayed completion					
Secondary deadline for the homework precised in the lessons requirements.					
20. Learning materials					
Effective date	27 November 2019	This Subject Datasheet is valid for		Inactive courses	