



1. Subject name	Design methods of drive systems				
2. Subject name in Hungarian	Hajtórendszerek méretezése				
3. Code	BMEKOALM646	4. Evaluation type	exam grade	5. Credits	3
6. Weekly contact hours	2 (9) Lecture	1 (0) Practice	0 (5) Lab		
7. Curriculum	Vehicle Engineering MSc (J)	8. Role	Specialization (sp) at Vehicle Engineering MSc (J)		
9. Working hours for fulfilling the requirements of the subject					90
Contact hours	42	Preparation for seminars	11	Homework	20
Reading written materials	3	Midterm preparation	4	Exam preparation	10
10. Department	Department of Material Handling and Logistics Systems				
11. Responsible lecturer	Dr. Bohács Gábor				
12. Lecturers	Dr. Bohács Gábor, Dr. Gyimesi András, Gáspár Dániel				
13. Prerequisites					
14. Description of lectures					
Design and selection of conventional electric drives. DC drives and components implementing them. Application in construction and material handling machines. AC drives: Frequency converter, and servo drives. Setting options for frequency inverters. Hydraulic and hydrostatic propulsion systems. Traction and lifting drives. Elements of a special drive chain for construction and handling equipment, specifically illustrated examples. Design dimensions and design characteristics of the learnt drives.					
15. Description of practices					
Presentation of working practices of industrial partners during plant visits. Parameter testing of electro-hydraulic system components. Testing of a regulated electric drive system.					
16. Description of laboratory practices					
17. Learning outcomes					
A. Knowledge <ul style="list-style-type: none"><li>• Knowing typical drive systems in constructional and materials handling machines.</li><li>• Having comprehensive knowledge about the dimensioning and application of the drive systems.</li></ul> B. Skills <ul style="list-style-type: none"><li>• Being able to select the most appropriate drive solution.</li><li>• Being able dimension appropriately the drives.</li></ul> C. Attitudes <ul style="list-style-type: none"><li>• Working efficiently alone as a qualified responsible engineer.</li><li>• Seeking for relations to other subjects.</li><li>• Being open to use mathematical and informatic tools.</li><li>• Seeking to know and learn the necessary tools.</li></ul> D. Autonomy and Responsibility <ul style="list-style-type: none"><li>• Finding solutions alone.</li><li>• Taking into considerations the effects of the decisions.</li><li>• Applying systematic approach.</li></ul>					
18. Requirements, way to determine a grade (obtain a signature)					
During the semester, a midterm test is taken. The end of semester signing is a minimum to provide a sufficient level of two semi-annual planning tasks and at least a satisfactory outcome of the midterm test. The exam pass is 20% a at home, 30% for homework and 50% for written examination, which students can, if necessary orally.					
19. Opportunity for repeat/retake and delayed completion					
The homeworks' submission and the midterm test can both be resubmitted once.					

## 20. Learning materials

Students can download the subject notes in pdf format via Moodle.

Effective date	10 October 2019	This Subject Datasheet is valid for	Inactive courses
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