



<b>1. Subject name</b>	<b>Mechatronic design of vehicle systems</b>				
<b>2. Subject name in Hungarian</b>	Gépjármű-mechatronikai rendszerek tervezése				
<b>3. Code</b>	<b>BMEKOGGM622</b>	<b>4. Evaluation type</b>	mid-term grade	<b>5. Credits</b>	5
<b>6. Weekly contact hours</b>	2 (10) Lecture	0 (0) Practice	2 (11) Lab		
<b>7. Curriculum</b>	Vehicle Engineering MSc (J)	<b>8. Role</b>	Specialization (sp) at Vehicle Engineering MSc (J)		
<b>9. Working hours for fulfilling the requirements of the subject</b>					<b>150</b>
<b>Contact hours</b>	56	<b>Preparation for seminars</b>	18	<b>Homework</b>	58
<b>Reading written materials</b>	8	<b>Midterm preparation</b>	0	<b>Exam preparation</b>	10
<b>10. Department</b>	<b>Department of Automotive Technologies</b>				
<b>11. Responsible lecturer</b>	Dr. Tihanyi Viktor				
<b>12. Lecturers</b>	Dr. Tihanyi Viktor				
<b>13. Prerequisites</b>					
<b>14. Description of lectures</b>					
Elektromechanics fundamentals Electric machine types Construction of electric machines Losses, temperature rise and cooling of electric machines Modeling of electric machines Power electronics Losses, temperature rise and cooling of power electronics Control of actuators Connectors Automotive requirements of mechatronic systems Complex mechatronic systems					
<b>15. Description of practices</b>					
<b>16. Description of laboratory practices</b>					
Self chosen mechatronic system evaluation					
<b>17. Learning outcomes</b>					
A. Knowledge <ul style="list-style-type: none"><li>• Knowledge of Mechatronics</li></ul> B. Skills <ul style="list-style-type: none"><li>• Ability to develop mechatronic units</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 solving independent task</li></ul>					
<b>18. Requirements, way to determine a grade (obtain a signature)</b>					
An individual task fulfillment is required for the signature. The final mark will be provided taking the exam result and the individual task result into account with weighted average of 60-40%.					
<b>19. Opportunity for repeat/retake and delayed completion</b>					
Individual tasks replacement one					
<b>20. Learning materials</b>					
Slides					

<b>Effective date</b>	10 October 2019	<b>This Subject Datasheet is valid for</b>	Inactive courses
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