



<b>1. Subject name</b>	<b>Construction of vehicle manufacturing systems I.</b>				
<b>2. Subject name in Hungarian</b>	Járműgyártás és gyártórendszer tervezés I.				
<b>3. Code</b>	<b>BMEKOGGM649</b>	<b>4. Evaluation type</b>	<b>exam grade</b>	<b>5. Credits</b>	<b>4</b>
<b>6. Weekly contact hours</b>	<b>2 (10) Lecture</b>	<b>0 (0) Practice</b>	<b>2 (11) Lab</b>		
<b>7. Curriculum</b>	<b>Vehicle Engineering MSc (J)</b>	<b>8. Role</b>	<b>Specialization (sp) at Vehicle Engineering MSc (J)</b>		
<b>9. Working hours for fulfilling the requirements of the subject</b>					<b>120</b>
<b>Contact hours</b>	56	<b>Preparation for seminars</b>	18	<b>Homework</b>	16
<b>Reading written materials</b>	16	<b>Midterm preparation</b>	4	<b>Exam preparation</b>	10
<b>10. Department</b>	<b>Department of Automotive Technologies</b>				
<b>11. Responsible lecturer</b>	Dr. Markovits Tamás				
<b>12. Lecturers</b>	Dr. Markovits Tamás, Dr. Dömötör Ferenc				
<b>13. Prerequisites</b>					
<b>14. Description of lectures</b>					
<p>Design procedure of typical manufacturing process parameters, based on plastic deformation of structural materials. Design of machine elements (preliminary products, fitting allowance of technology). Sequence of technological process, selection of machines, selection of individual operations, concentration of operations, cost analysis of the procedure. Structure of manufacturing tools, used in automotive industry. Harmony of the requirements (size, dimensions of the tools). Spring type reaction of the structural material, use of deep drawing method in the automotive industry, special features of deep drawing technology.</p> <p>Planning processes and system elements for thermal or beam joining (point, arc, laser welding, soldering) technologies for body, vehicle chassis and vehicle elements.</p> <p>Design steps for system components and processes in welding technology. Introducing internal connections (materials, devices, tools, equipment).</p>					
<b>15. Description of practices</b>					
<b>16. Description of laboratory practices</b>					
Independent design of system, system components and processes in case of plating forming and joining processes.					
<b>17. Learning outcomes</b>					
A. Knowledge <ul style="list-style-type: none"><li>• Knows the relations in case of forming and welding processes.</li></ul>					
B. Skills <ul style="list-style-type: none"><li>• Ability to develop the processes.</li></ul>					
C. Attitudes <ul style="list-style-type: none"><li>• Openness to the new possibilities of the field.</li></ul>					
D. Autonomy and Responsibility <ul style="list-style-type: none"><li>• Participate in individual problem solving.</li></ul>					
<b>18. Requirements, way to determine a grade (obtain a signature)</b>					
<p>During the semester 1 midterm test has to be completed with more the 50 % of the maximal points.</p> <p>The requirements for obtaining the signature are the taking part on labs, submit the independent task in satisfactory level, completing the midterm test.</p> <p>The grade can be obtained from the written exam.</p>					
<b>19. Opportunity for repeat/retake and delayed completion</b>					
Midterm exam can be substitute once, the supplementation of the labs and planing tasks is possible once during the					

supplementation week.

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## 20. Learning materials

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Presentation notes.

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