



1. Subject name	Simulation of technical systems				
2. Subject name in Hungarian	Műszaki rendszerek szimulációja				
3. Code	BMEKOALM645	4. Evaluation type	exam grade	5. Credits	4
6. Weekly contact hours	2 (11) Lecture	1 (5) Practice	1 (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					120
Contact hours	56	Preparation for seminars	15	Homework	25
Reading written materials	3	Midterm preparation	6	Exam preparation	15
10. Department	Department of Material Handling and Logistics Systems				
11. Responsible lecturer	Dr. Bohács Gábor				
12. Lecturers	Gáspár Dániel, Szabó Péter, Dr. Rinkács Angéla				
13. Prerequisites					
14. Description of lectures					
The basics of process modeling and simulation. Get to know the software background in the following areas: test material flow of production processes, bottlenecks in production lines; designing better factories with production element templates, avoiding installation problems with better visualization; supporting lean endeavors, local and global optimization of manufacturing and logistics processes; analyzing value flows for processes, production, logistics and suppliers; robotization design, minimizing downtime with off-line programming; designing safe and productive jobs from an ergonomic point of view.					
15. Description of practices					
During the exercises, the students practice each function through software.					
16. Description of laboratory practices					
During lab work, students perform tasks in a software environment.					
17. Learning outcomes					
A. Knowledge <ul style="list-style-type: none"><li>• Knows the problem areas of technical simulations.</li><li>• Knows the specific technical software solutions.</li></ul> B. Skills <ul style="list-style-type: none"><li>• Being able to work with the software.</li></ul> C. Attitudes <ul style="list-style-type: none"><li>• Working efficiently alone and in group.</li><li>• Seeking for relations to other subjects.</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)					
The end semester signature depends on the submission of the satisfactory home assignments, satisfactory midterm test and the acceptance of the lab records. The final grade is calculated as: 20% - midterm test, 15-15% of the homeworks and 50% of the written exam, which can be corrected orally by the students if necessary.					
19. Opportunity for repeat/retake and delayed completion					
The homeworks' final submission and the midterm test both can 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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