



1. Subject name	Accident analysis II., simulation methods				
2. Subject name in Hungarian	Balesetelemzés II, szimulációs módszerek				
3. Code	BMEKOGGM655	4. Evaluation type	mid-term grade	5. Credits	5
6. Weekly contact hours	2 (10) Lecture	0 (0) Practice	2 (11) 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					150
Contact hours	56	Preparation for seminars	18	Homework	24
Reading written materials	42	Midterm preparation	10	Exam preparation	0
10. Department	Department of Automotive Technologies				
11. Responsible lecturer	Dr. Török Árpád				
12. Lecturers	Dr. Melegh Gábor, Dr. Török Árpád, Vida Gábor				
13. Prerequisites	strong: KOGGM654 - Accident analysis I., forensic processes				
14. Description of lectures					
Description of Collision Models Used in Vehicle Dynamic Simulation Software Suitable for Accident Reconstruction. Examination and analysis of complete, regular and irregular vehicle motion processes by simulation methods: determination of the range of required input parameters, delimitation of the questions to be answered based on the available parameters, interpretation of probability statements. Parameter sensitivity analysis of simulation results. Evaluation, analysis, interpretation, and plausibility of the results provided by simulation software.					
15. Description of practices					
16. Description of laboratory practices					
To deepen the knowledge acquired during the lectures by solving real tasks with simulation software.					
17. Learning outcomes					

A. Knowledge

- The student is familiar with the legal framework needed to understand the legal environment of road safety;
- The student has to know the basic components of the process of legislation and law enforcement;
- The student has to know the basic purpose and means of transport law;
- The student has to know the online and printed aids and applications needed to apply traffic law.

B. Skills

- The student is able to interpret the related legislation;
- The student is able to apply and use relevant traffic laws;
- The student is able to support the planning and research and development processes.

C. Attitudes

- The student aims to maximize their abilities by making their studies at the highest possible level, proficient and independent;
- The student aims to cooperate with the instructor and the other students to improve knowledge;
- The student aims to continue to improve the knowledge of the material parts of the lessons through continuous independent learning;
- The student aims to use the information technology and computing tools (word processing computer software, mathematical software, image editing software, etc.), but also seeks to use classical devices (paper, ruler, pencil, hand-held calculator, editing, etc.);
- The student aims to get to know and routinely use the tools needed to solve the tasks;
- The student aims to provide accurate, error-free and precise work.

D. Autonomy and Responsibility

- The student is responsible for setting an example for the other students regarding the quality of its work and ethical

standards;

- The student applies the knowledge acquired during the course in a responsible manner with regard to their validity limits;
- The student accepts openly the grounded critical remarks;
- The student accepts the framework for cooperation, can do its job independently or as part of a team, depending on the situation.

18. Requirements, way to determine a grade (obtain a signature)

During the semester 1 midterm test has to be completed with more the 50% of the maximal points.

The conditions for obtaining the midterm grade are the completing the midterm test, attending all labs and submitting the homework on accepted level.

Final outcome of the subject is defined by the result of the mid-term exam in 60% proportion, and the homework in 40% proportion. All requirements have to be fulfilled to successfully finish the subject.

19. Opportunity for repeat/retake and delayed completion

The midterm test can be retaken once. The homework can be delivered once additionally. One lab can be done once additionally.

20. Learning materials

Slides and presentation notes

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