



1. Subject name	Engineering of transport automation systems				
2. Subject name in Hungarian	Közlekedésautomatikai rendszerek tervezése				
3. Code	BMEKOKAM234	4. Evaluation type	exam grade	5. Credits	6
6. Weekly contact hours	2 (11) Lecture	0 (0) Practice	3 (17) Lab		
7. Curriculum	Transportation Engineering MSc (K)	8. Role	Specialization (sp) at Transportation Engineering MSc (K)		
9. Working hours for fulfilling the requirements of the subject					180
Contact hours	70	Preparation for seminars	25	Homework	34
Reading written materials	41	Midterm preparation	0	Exam preparation	10
10. Department	Department of Control for Transportation and Vehicle Systems				
11. Responsible lecturer	Dr. Sághi Balázs				
12. Lecturers	Dr. Sághi Balázs, Dr. Bede Zsuzsa, Dr. Tettamanti Tamás, Lövétei István, Dr. Varga István				
13. Prerequisites					
14. Description of lectures					
<p>Air transport:</p> <p>Airline side operation of civil air traffic management, softwares, practice. Daily maintenance and operation theory of civil aircrafts. Complex process design knowledge in civil aviation control. Softwares of the air traffic control, its input and output data, HMI. Automation systems at the airport. The ground handling processes. Planning of the airside operation.</p> <p>Road transport:</p> <p>Modelling and controlling the road traffic by MATLAB-SIMULINK. Microscopic modelling of the road traffic by VISSIM simulator, realization of high level modelling techniques by programming VISSIM-COM-MATLAB. Application of the QGIS software to perform basic geoinformatics tasks. Macroscopic modelling of the road traffic by VISUM simulator.</p> <p>Rail transport:</p> <p>Design steps in the field of interlocking and connected systems. Levels, structures, forms and notation of plans (Tender Plan, Authorization Plan, Preliminary Plan, Construction Plan, Documents for the Operators, User Guides). Safety processes and approval procedures during the development and the implementation of interlocking and train controlling systems.</p>					
15. Description of practices					
16. Description of laboratory practices					
Individual design plan.					
17. Learning outcomes					
A. Knowledge					
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B. Skills					
<ul style="list-style-type: none"> capable of breaking down a project task into elements based on specification is able to design a development process 					

- is able to track and document a development process

C. Attitudes

- is open to independently carry out development tasks

D. Autonomy and Responsibility

- is able to make responsible decisions in a development project

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

For signature: submission of the completed and documented work. During the verbal exam the work will be presented by the student. The presentation determines the final grade.

19. Opportunity for repeat/retake and delayed completion

The individual task cannot be delayed completed.

20. Learning materials

Slides

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