1. Subject name	**Modern control theory II.**				
2. Subject name in Hungarian	Modern irányitáselmélet II				
3. Code	**BMEKOKAD002**	**4. Evaluation type**	**exam grade**	**5. Credits**	**5**
6. Weekly contact hours	**4 () Lecture**	**0 () Practice**		**0 () Lab**	
7. Curriculum	**PhD Programme**	**8. Role**	**Basic course**		

9. Working hours for fulfilling the requirements of the subject					**56**
Contact hours	56	**Preparation for seminars**	0	**Homework**	0
Reading written materials	0	**Midterm preparation**	0	**Exam preparation**	0

10. Department	**Department of Control for Transportation and Vehicle Systems**
11. Responsible lecturer	Dr. Bokor József
12. Lecturers	Dr. Bokor József, Dr. Szabó Zoltán
13. Prerequisites	

14. Description of lectures

This course provides an introduction to robust control theory. Starting from basics, i.e., signal and system norms, stability, stabilizability and performance measures we develop first the classical LQ theory, followed by the H2 design. We emphasise the role of the small gain approach in the robust analysis and synthesis. The main part of the course is dedicated to the Hinfinity design, both the two Riccati and the LMI approach. Finally the structured singular value with mu analysis and synthesis is presented.

15. Description of practices

16. Description of labortory practices

17. Learning outcomes

A. Knowledge B. Skills C. Attitudes D. Autonomy and Responsibility

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

The credits are obtained by completing the design task and by passing the oral exam. Prior to be accepted for the exam, students should fulfil the design task and should summarize their results in a report.

19. Opportunity for repeat/retake and delayed completion

20. Learning materials

Effective date	3 February 2020	This Subject Datasheet is valid for	Inactive courses