

Faculty of Transportation Engineering and Vehicle Enginee

1. Subject name	Analytical mechanics				
2. Subject name in Hungarian	Analitikus mechanika				
3. Code	BMEKOJSD001	4. Evaluation type	exam grade	5. Credits	4
6. Weekly contact hours	2 (0) Lecture	re 1 (0) Practice 0 (0) Lab			
7. Curriculum	PhD Programme	8. Role	Basic course		
9. Working hours	for fulfilling the req	uirements of the su	ubject		120
Contact hours	42	Preparation for seminars	14	Homework	28
Reading written materials	12	Midterm preparation	0	Exam preparation	24
10. Department	Department of Railway Vehicles and Vehicle System Analysis				
11. Responsible lecturer	Dr. Béda Péter				
12. Lecturers	Dr. Béda Péter				
13. Prerequisites					
14. Description of	lectures				
Structure and classi equations of motion shafts, giroscopic ef	fication of mechanica . First integrals of mo ffect.	al systems. Constrain tion. Routh-Voss equ	ts. Lagrange equa ations. Cyclic coo	ations of second kind. Ha ordinates, hidden motions	amilton's canonic s. Critical velocity of
15. Description of	practices				
Examples from the t	opics of the lessons.				

16. Description of labortory practices

17. Learning outcomes

A. Knowledge

• Methods of the analytical mechanics.

B. Skills

• Analytical description of a mechanical system, model building.

C. Attitudes

• being open to understand and learn novelties on that given domain.

D. Autonomy and Responsibility

• Evaluation and choice of optimal model elements

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

Semester note upon succesful realisation of the homework and an oral exam.

19. Opportunity for repeat/retake and delayed completion

Essay secondary deadlines precised in the lessons requirements.

20. Learning materials

Effective date 27 November 2021 This Subject Datasheet is valid for Inactive courses