

Study program: Road Traffic Engineering			
Course title: Mechanics 2			
Professor/assistant: Đukić V. Rade			
Type of course: Compulsory			
ECTS credits: 6			
Prerequisites: none			
Aims of the course: Acquiring knowledge about the laws of motion of material bodies and interactions between them, determining the motion and characteristics of the motion of mechanical objects, and determining the reasons that cause the motion. Students gain knowledge necessary for solving various technical tasks.			
Learning outcomes: The student solves practical problems regarding various types of motion of the body, and consequences of mutual interactions caused by forced motion.			
Syllabus: <i>Theoretical part:</i> <ol style="list-style-type: none"> 1. Position of the moving point in space 2. Translatory motion of a rigid body 3. Rotational motion of a rigid body around the fixed axis 4. Planar motion of a rigid body, laws of motion, speed and acceleration of the body's points 5. Complex motion of the point, speed and acceleration of the point during complex motion 6. Point dynamics, differential equations of the motion of the material point 7. Linear and curvilinear motion of the material point, general laws 8. Dynamics of the material system and the rigid body 9. Vehicle crash mechanics, laws of mechanics applied in the mechanics of accident <i>Practical part:</i> Auditory and computer exercises.			
Literature: <ol style="list-style-type: none"> 1. Kojić, M. Dinamika, Naučna knjiga, Beograd, 1985. 2. Rusov. L., Mehanika-Dinamika, Naučna knjiga, Beograd, 1990. 3. Meščerski, I.V., Zbirka zadataka iz teorijske mehanike, Građevinska knjiga, Beograd, 1971. 4. Milosavljević D., Kinematika, Kragujevac, 1995. 5. Janković A., Dinamika automobila, Kragujevac 2008. 			
Total number of active classes: 60		Lectures: 30	Practical classes: 30
Teaching methods: Lectures, practical exercises and computer exercises.			
Grading system (maximum 100 points) grading scale from 5 to 10: below 51 points – student fails the exam, grade 6 from 51- 60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91- 100 points.			
Pre-exam obligations:	Points:	Final exam:	Points:
Activity during theoretical lectures	max 5	Written exam	50
Practical training	max 5		
Written test(s)	max 20		
Term papers	max 20		
Minimum requirement for the final exam	30		