

Study program / course: Mechanical Engineering				
Type and level of study: Master academic studies				
Course: Methods for traffic accident expertise				
Lecturers: Aleksandra S. Jankovic, Ph.D., full prof., Miroslav D. Demic, Ph.D., full prof.				
Status of course: Obligatory for module M₈, II semester				
Number of ECTS: 6				
Precondition: passed Mechanics of the traffic accident exam				
The objective of course				
Obtaining knowledge on analysis and reconstruction of a traffic accident.				
The outcome of course				
Student is able to do the analysis and reconstruction of traffic accident using different methods.				
Syllabus				
Theoretical study				
Systematic approach to accident analysis: identification of data on vehicle damage on the site; secondary data collection on vehicle state; data analysis; creation of a complete report on vehicle state. Kinematical methods of reconstruction, stopping distance in different moving regimes. Modeling of traffic accidents by types – Modeling of vehicle-vehicle collision – Modeling of vehicle-pedestrian collision – Modeling of vehicle-bike collision - Моделирање судара возило-двоточкаш - Modeling of pedestrian-bike collision. Energy methods for reconstruction, vehicle deformation state. Graphic-analytic methods for reconstruction, application of law of motion quantity and law of motion quantity moment.				
Practical study				
Exercises, other forms of study, research studies. Within the framework of study's research activities, the students will be qualified for fundamental research in the area of the course.				
Recommended reading				
1. Janković, A., Simić, D.: “Automobile safety”, Chapters 1, 2, 4,5,6,9 and 10, (in Serbian), “DSP–mekatronik”, Kragujevac, 1996				
2. Šotra, D.: “Manual for traffic accident expertise”, (in Serbian), “ZOIL Dunav”, Belgrade, 2001				
The number of hours of active teaching:				Other classes:
Theory: 2	Practical classes: 1.6	Other forms of teaching: 0.4	Research study: 0	1
Methods of teaching				
A) lectures; B) exercises				
Evaluation of knowledge				
Pre-final exam obligations	points	Final exam	points	
Activities during the classes:	5	written exam	30	
Practical classes:		verbal exam	15	
Colloquiums(s) :	20			
Seminar(s) :	30			