

Study program / course: Mechanical Engineering			
Type and level of study: Bachelor academic studies			
Course: Traffic safety			
Lecturers: Aleksandra Jankovic, Ph.D., full professor			
Status of course: Obligatory course for module M8, V semester			
Number of ECTS: 6			
Precondition: none			
The objective of course			
Getting the insight on complexity and multidisciplinary nature of a problem of traffic safety. Getting the insight on traffic safety through integral system of education, technical sciences (engineering, civil construction), fundamental disciplines (mathematical methods of modeling and mathematical statistics), medicine (biomechanics) and social sciences (law, economic analyses).			
The outcome of course			
Student obtains basic knowledge regarding the subdivision of traffic safety in the broadest sense, from the aspect of vehicle-driver-environment system. Special attention will be given to the subject of vehicle safety from different aspects (inner and outer safety; active, passive and conditional safety). Additionally, student obtains knowledge on standards and other technical documents that provide greater vehicle safety and ensure lower limit of safety, on biomechanical research basics for passenger protection, on functioning of passive safety devices (safety belts, air cushions) and, specially on the newest active safety devices in function of stability, enabling traction and brake, active drive, etc.			
Syllabus			
Theoretical study			
Subject of the traffic safety. Subdivision of the traffic safety. Subject of different divisions of the traffic safety. Statistical methods and the subject of statistical monitoring of accident occurrence in time, events by types of accidents, separate accident type frequency and its reflection on passive safety measures, frequency of technical malfunction, frequency of human factor in occurrence of an accident. Human factor and theories of risk of traffic accident causes. Standards (international, national) with the subject of car body safety, passenger space safety, passenger protection systems, outdoor safety, etc. general principles of functioning of some passive safety devices. General principles of functioning of active safety devices. Communication devices.			
Practical classes			
Students have verbal exercises, during which they are introduced to: 1) elements of mathematical statistics that will be used in doing seminary papers, 2) solutions for active safety systems on some vehicles, 3) searching the relevant web sites.			
Recommended reading			
1. Janković, A., Simić, D.: "Automobile safety", (in Serbian), Chapters 1, 2, 4,5,6,9 and 10, "DSP–mekatronik", Kragujevac, 1996			
2. Janković, A., Aleksandrović, B.: "Vehicle active safety systems", (script in Serbian), FME Kragujevac, 2008			
The number of hours of active teaching:			Other classes:
Theory: 3	Practical classes: 1.6	Other forms of teaching: 0.4	Research study: 0
			1
Methods of teaching			
A) lectures B) verbal exercises, instructions for doing the individual seminary papers; C) exercises in Internet room, searching the relevant web sites			
Evaluation of knowledge			
Pre-final exam obligations	points	Final exam	points
Activities during the classes:	5	verbal exam	30
Project:	25		
Colloquiums(s) :	20		
Seminar(s) :	20		