Faculty of Mechanical Engineering / ROAD TRAFFIC / TRAFFIC SIMULATIONS

Course:	TRAFFIC SIMULATIONS			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
12270	Mandatory	3	5	2+2+0
Programs	ROAD TRAFFIC			
Prerequisites	None			
Aims	The aim of studying the course is to acquire the knowledge necessary for the independent use of software for the analysis of traffic accidents, kinematics and dynamics of vehicle movement			
Learning outcomes	After passing the exam, the student will be able to use modern computer tools for analysing vehicle kinematics and dynamics, as well as computer tools for analysing traffic accidents; the student will be trained to process the available data that will be used in the analysis			
Lecturer / Teaching assistant	Ph.D Sreten Simović			
Methodology	Lectures and auditory exercises; consultation through a combined/digital approach to learning based on the synergy between educational technology and real/virtual environment (video case studies, critical analysis of presented material, audio-visual support, etc), individual projects, individual and team presentations, consultations			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction to the subject and method of teaching; Computer simulation of traffic accidents (introduction)			
I week exercises	Introduction to the subject and method of teaching; Computer simulation of traffic accidents (introduction)			
II week lectures	Traffic accident simulation (available documentation)			
II week exercises	Traffic accident simulation (available documentation)			
III week lectures	Traffic accident simulation (data collection and processing)			
III week exercises	Traffic accident simulation (data collection and processing)			
IV week lectures	Traffic accident simulation (output data and analysis results)			
IV week exercises	Traffic accident simulation (output data and analysis results)			
V week lectures	Simulation of a traffic accident with one vehicle			
V week exercises	Simulation of a traffic accident with one vehicle			
VI week lectures	Simulation of a traffic accident with two vehicles			
VI week exercises	Simulation of a traffic accident with two vehicles			
VII week lectures	Simulation of a traffic accident with two vehicles			
VII week exercises	Simulation of a traffic accident with two vehicles			
VIII week lectures	Colloquium I			
VIII week exercises	Colloquium I			
IX week lectures	Simulation of a traffic accident with three or more vehicles			
IX week exercises	Simulation of a traffic accident with three or more vehicles			
X week lectures	Simulation of a traffic accident with three or more vehicles			
X week exercises	Simulation of a traffic accident with three or more vehicles			
XI week lectures	Vehicle and bicycle/motorcycle traffic accident simulation			
XI week exercises	Vehicle and bicycle/motorcycle traffic accident simulation			
XII week lectures	Vehicle and bicycle/motorcycle traffic accident simulation			
XII week exercises	Vehicle and bicycle/motorcycle traffic accident simulation			
XIII week lectures	Vehicle and pedestrian traffic accident simulation			
XIII week exercises	Vehicle and pedestrian traffic accident simulation			

XIV week lectures	Vehicle and pedestrian traffic accident simulation
XIV week exercises	Vehicle and pedestrian traffic accident simulation
XV week lectures	Colloquium II
XV week exercises	Colloquium II
Student workload	

Per week	**Per semester**
5 credits x 40/30=6 hours and 40 minuts 2 sat(a) theoretical classes 0 sat(a) practical classes 2 excercises **2 hour(s) i 40 minuts** of independent work, including consultations	Classes and final exam: **6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts** Total workload for the subject: **5 x 30=150 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **30 hour(s) i 0 minuts** Workload structure: **106 hour(s) i 40 minuts (cources), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)**
Student obligations	Attendance of lectures and exercises (live or online)
Consultations	Consultations in the office and online (every working day)
Literature	PC-Crash: A simulation program for vehicle accidents, Operating and technical manual, Version 12.1, Dr. Steffan Datentechnik, 11. 10.2019. Kostić S., Saobraćajna tehnika I: Tehnika bezbednosti i kontrole saobraćaja, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Novi Sad, 1998. Kostić S., Tehnike bezbednosti i kontrole saobraćaja, University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Novi Sad, 2009. Lipovac K., Uviđaj saobraćajnih nezgoda: Elementi saobraćajne trasologije, Criminal Police University, Belgrade, 1995. Vujanić M. and others: Priručnik za saobraćajno-tehničko vještačenje I procjene šteta na vozilima, Banjaluka, 2000. Vujanić M. and others: Priručnik za saobraćajno-tehničko veštačenje, Belgrade, 2009. Rulebook on detailed requirements that must be met by vehicles in traffic on roads, 2015.
Examination methods	Class attendance: 5 points; I colloquium: 30 points; II colloquium: 30 points; Final test: 35 points; A passing grade is obtained if at least 51 points are accumulated cumulatively
Special remarks	
Comment	

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points