

Study program / course: Mechanical Engineering				
Type and level of study: Bachelor academic studies				
Course: Testing of motor vehicles and engines				
Lecturers: Rajko R. Radonjic, Ph.D., full professor				
Status of course: Elective for module M₃ and module M₈, VI semester				
Number of ECTS: 6				
Precondition: none				
The objective of course				
The basic objective is the education of students in the area of recognizing of measuring techniques, selection of vehicle testing methods, conducting the experiments, presenting and making use of test results.				
The outcome of course				
Based on acquired knowledge, students should know to select adequate measuring equipment for concrete testing task, to form a measuring chain, to conduct the measurements, to record the measuring signals for further analyses and use.				
Syllabus				
Theoretical study				
Measuring principles, characteristics of measuring components fro vehicle testing, structures of experimental systems, methods, experimental installations and types of testing of vehicles aggregates and systems, testing of functional characteristics of engine, testing of main clutches and gearboxes, testing of articulated couplings and power trains, testing of suspension systems and carrying structures; testing of complete vehicle, identification of the parameters influencing the vehicle performance, testing of vehicle performances, testing of vehicle drivability, testing of vehicle vibration processes, measurement of vehicle noise levels.				
Practical classes				
Laboratory exercises: Practical work with measuring equipment, gauging, calibration, practical application of strain gauges and other sensors of measuring quantities related to the vehicle testing, recording of parameters of drive unit's operating regimes, concrete testing of vehicle aggregates and a vehicle as a whole, , parameters influencing the performance, traction-speed and brake indices, maneuverability, stability, vibration, noise.				
Recommended reading				
Obligatory				
1. Todorovic, J.: "Testing of motor vehicles", (in Serbian), FME Belgrade, 1995				
2. Zivkovic, M., Trifunovic, R.: "Testing of IC engine", (in Serbian), FME Belgrade, 1987				
3. Radonjic, R.: "Testing of motor vehicles and engines 1", script (in preparation, in Serbian), FME Kragujevac, 2008				
Additional				
1. Radonjic, R.: "Identification of motor vehicle's dynamic characteristics", (in Serbian), FME Kragujevac, 1995				
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				
Lectures, exercises				
Evaluation of knowledge				
Pre-final exam obligations	points	Final exam	points	
Activities during the classes:	10	verbal exam	30	
Practical classes:	20			
Colloquiums(s) :	40			
Seminar(s) :	/			