

Study program / course: <b>Mechanical Engineering</b>			
Type and level of study: <b>Bachelor academic studies</b>			
Course: <b>Testing of motor vehicles and engines</b>			
Lecturers: <b>Rajko R. Radonjic, Ph.D., full professor</b>			
Status of course: <b>Elective for module M<sub>3</sub> and module M<sub>8</sub>, VI semester</b>			
Number of ECTS: <b>6</b>			
Precondition: <b>none</b>			
<b>The objective of course</b>			
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.			
<b>The outcome of course</b>			
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.			
<b>Syllabus</b>			
<b>Theoretical study</b>			
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.			
<b>Practical classes</b>			
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.			
<b>Recommended reading</b>			
<b>Obligatory</b>			
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			
<b>Additional</b>			
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: <b>2</b>	Practical classes: <b>1.6</b>	Other forms of teaching: <b>0.4</b>	Research study: <b>0</b>
Other classes: <b>1</b>			
<b>Methods of teaching</b>			
Lectures, exercises			
<b>Evaluation of knowledge</b>			
<b>Pre-final exam obligations</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Activities during the classes:	<b>10</b>	verbal exam	<b>30</b>
Practical classes:	<b>20</b>		
Colloquiums(s) :	<b>40</b>		
Seminar(s) :	<b>/</b>		