

<b>Study program / course: Mechanical engineering</b>				
<b>Type and level of study: Bachelor academics studies</b>				
<b>Course: Power train and mobile systems</b>				
<b>Lecturers: Radivoje B. Pešić, Jovanka K. Lukić</b>				
<b>Status of course: Obligatory, joint for all modules, IV semester</b>				
<b>Number of ECTS: 4</b>				
<b>Precondition: None</b>				
<b>The objective of course</b> Obtain technical understanding of complex request which should be satisfied by powertrain and mobile systems related to environment, performances end energy efficiency, as well as understanding of working conditions of their components.				
<b>The outcome of course</b> After successfully passing course, students will be able to know: basic classifications and categorizations of traffics means and vehicles, classification and principles of drive and moving, basic systems and assemblies, basic characteristics of mobile systems, principles of energy transformation into work, basic constructive solutions of powertrain and its systems and basics characteristics of powertrain.				
<b>Syllabus</b> <b>Theoretical study</b> Classification of drive and mobile systems, mobile systems conception, mobile systems moving principles, working parts, working principles, power transmission (mechanical, automatic...), assemblies of mobile systems characteristics and working principles, future development directions of mobile systems, Introduction in powertrain, working principles (IC Engines, Gas turbine, Fuel cells, Electro motors, etc.), energy efficiency parameters of powertrains, basic information about characteristics of powertrains (ecological characteristics, characteristics of fuel consumption, characteristics of power and dynamic characteristics), basic information about assemblies of powertrain and future development directions of powertrains –hybrid powertrain etc.				
<b>Practical classes</b> <i>Laboratory exercise</i> Practical getting insight with basic assemblies of powertrains and mobile systems and working conditions				
<b>Recommended reading</b> <ol style="list-style-type: none"> <li>1. D. Simić: Motor vehicles, (in Serbian), Naučna Knjiga, Beograd 1977.</li> <li>2. S. Petrović, M. Tomić: IC Engines, (in Serbian), Mašinski fakultet Beograd. 1994.</li> <li>3. R. Pešić, J. Lukić: Power trains and mobile systems, (in Serbian), Script in preparation 2008.</li> </ol>				
The number of hours of active teaching:				Other classes:
Theory: 2	Practical classes: 1	Other forms of teaching: 1	Research study: 0	1
<b>Methods of teaching</b> Teaching will be conducted through lectures, practical studies, visits to companies and doing two seminar papers.				
<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>	Oral exam (presentation and oral defend of final assignment)	<b>40</b>	
Practical classes:	<b>20</b>			
Colloquiums(s) :				
Seminar(s) :	<b>15+15</b>			