

Study program / course: Mechanical engineering			
Type and level of study: Master academics studies			
Course: Fuel and lubricants of Motor vehicles and Engines			
Lecturers: Radivoje B. Pešić, Dragoljub R. Radonjić			
Status of course: Obligatory for module M₃, II semester			
Number of ECTS: 6			
Precondition: None			
The objective of course Obtain basic understanding of production, and physical-chemical characteristics, characteristics in engines, characteristics in vehicles and standards and recommendation for use fuels and lubricants in motor vehicles and engines.			
The outcome of course After successfully passing course students will be able to know: basic of production, and physical-chemical characteristics, characteristics in engines, characteristics in vehicles and standards and recommendation for use of fuels and lubricants in motor vehicles. Based on that they will be able to do correct selection of fuels and lubricants for the motor vehicles and engines.			
Syllabus			
Theoretical study Basis of combustion in IC engines. Fuels origin from oil: production of fuels in modern Refinery, gasoline, diesel fuel, LPG. Standards and recommendations for use the fuels. Testing the fuels. Developing of fuels. Tribological characteristics of vehicles and engines. Engine oils and additives. Power train oils and additives. Ecological characteristics of oils. Special fluids for engine cooling systems and brakes etc.			
Practical classes <i>Laboratory exercise</i> Measure of heat value of: solid, liquid and gas fuels. Measure of viscosity, flash point, etc. for classical and alternative fuels.			
Recommended reading S. Veinović, R. Pešić: "Fuels and lubricants for motor vehicles", (in Serbian), Banja Luka, Kragujevac, 2000 Lj. Kuzmanović: Pogonski materijali – laboratorijski priručnik, MF Kragujevac, 1980.			
The number of hours of active teaching:			Other classes:
Theory: 2	Practical classes: 1.6	Other forms of teaching: 0.4	Research study: 0
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Methods of teaching Teaching will be conducted through lectures, practical studies, visits to companies and doing two seminar papers.			
Evaluation of knowledge			
Pre-final exam obligations	points	Final exam	points
Activities during the classes:	10	Oral exam (presentation and oral defend of final assignment)	40
Practical classes:	20		
Colloquiums(s) :			
Seminar(s) :	15+15		