C O U R S E G U I D E – s h o r t f o r m

Academic year 2014-2015

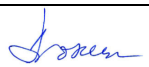
Course name[1]	POWERTRAIN SYSTEMS IN ROAD TRANSPORT					Course code		MSTA 103	
Course type[2]	DS	Category[3]	DI	Year of study	1	Semester	1	Number of credit points	7

Faculty	MECHANICAL	Number of teaching and learning hours[4]					
Field	Automotive Engineering	Total	L	T	LB	P	IS
Specialization	Systemic of Self-Propelled Transportation	56	28		28		

Pre-requisites from the curriculum[5]		
	Compulsory	Automotive Fundamentals: Computation, Design and Construction ; Automotive Electric and Electronic Equipment
	Recommended	Electronic Circuits, Automotive Dynamics, Control Teory

General objective [6]	POWERTRAIN SYSTEMS IN ROAD TRANSPORT course provides all necessary knowledge for master students who wish to specialize in the field of technical and functional concepts regarding the design, operation and control of vehicle propulsion systems. The course provides an initiation into the main types of propulsion torque transmission electronic control systems and their functioning. Here are considered both conventional propulsion chains, and hybrid, pure electric or fuel cell powertrains.
Specific objectives[7]	• Transmission systems used in the propulsion of motor vehicles • Electronic control of conventional powertrain • Hybrid HEV powertrains with examples from Toyota Prius, Honda Civic, Ford Galaxy, and oth. • Fuel cell propulsion • Pure Electric powertrain
Course description[8]	In the course are presented the main components of the powertrain systems electric and hybrid electric and their control, both at the group / module level and from the overall level of the entire vehicle. We aimed to highlight specific operation of internal combustion engines and transmissions used in hybrid vehicle propulsion and also a detailed description of the specific electrical components such as electric vehicles and hybrid electric cars, electric power and electronic components and power sources on board. Control of electric and hybrid vehicles are presented at a level accessible to students who are not trained in electrical / electronic / Automatic fields trying to explain how an electric vehicle and hybrid function optimally

Assessment		Schedule[9]	Percentage of the final grade (minimum grade)[10]
Continuous assessment	Class tests along the semester		%
	Activity during tutorials/laboratory works/projects/practical work		40%
	Assignments		%
Final assessment	Final assessment form[11]		60%
	Examination procedures and conditions: 1. ; tasks ; working conditions ; percent of the final grade % 2. ; tasks ; working conditions ; percent of the final grade % 3.		

Course organizer	Assist. Prof. PhD.Eng. Radu Drosescu	
Teaching assistants	Assist. Prof. PhD.Eng. Radu Drosescu	

[1]Course name from the curriculum
[2] DF – fundamental, DID – in the field, DS – specialty, DC – complementary (from the curriculum)
[3] DI – imposed, DO –optional, DL – facultative (from the curriculum)
[4] Points 3.8, 3.5, 3.6a,b,c, 3.7 from the Course guide – extended form (L-lecture, T-tutorial, LB-laboratory works, P-project, IS-individual study)
[5] According to 4.1 – Pre-requisites - from the Course guide – extended form
[6] According to 7.1 from the Course guide – extended form
[7] According to 7.2 from the Course guide – extended form
[8] Short description of the course, according to point 8 from the Course guide – extended form
[9] For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period
[10] A minimum grade might be imposed for some assessment stages
[11] Exam or colloquium