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]	**Basis of Design and Construction Automotive**					Course code			MCMPA.DI. DS.101
Course type[2]	DS	Category[3]	DI	Year of study	I	Semester	1	Number of credit points	6

Faculty	Mechanical Engineering	Number of teaching and learning hours[4]					
Field	Automotive Engineering	Total	L	T	LB	P	IS
Specialization	**Conception and Project Management in Automotive**	140	28		28	28	84

Pre-requisites from the curriculum[5]		
	Compulsory	Technology of Materials , Strength of Materials , Machine Elements ,
	Recommended	Elements of Technical Drawing, Computer Numerical Methods , Software tools for drawing and finite element analysis.

General objective [6]	Knowledge and understanding of specific methods for assessing the dynamic performance and computing components organologic steering, braking and suspension system. Knowledge of existing constructive solutions and their design possibilities
Specific objectives[7]	Knowledge transmission structure of a road vehicle, calculation methods for each component (clutch, gearbox, main transmission, differential planetary shafts, front axle rigid or articulated elements, steering, braking, suspension.), Constructive solutions, and elements for assessing the dynamic behavior depending on engine and transmission performance (external characteristic speed, tire-rolling track interaction, resistance to progress, reactions of tire-road driving, dynamic performance: Stock traction and power, equation of motion, the dynamic characteristic feature speed, parametric start-up parameters of braking and braking ability, calculation traction and stability a road vehicle, vehicle oscillations and acoustic comfort, fuel consumption).
Course description[8]	Construction and Automotive Design Basics course includes the following important chapters: - General, classifications, calculation schemes. - Transmission structure, specific elements calculation structural solutions. - A bridge in front - Braking System. - Automotive suspension . - General organization. Constructive parameters. - Wheel vehicles. - Propulsion of road vehicles. - Resistances to advance road vehicles - Performance of a road vehicle - Braking and parameters of braking ability. - The stability of a road vehicle. - Maneability a road vehicle. - Oscillations vehicle. - Noise and vibration in operation of road vehicles. - Fuel consumption

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		weeks 1 – 14	25%
	Assignments		weeks 1 – 14	25%
Final assessment	Final assessment form[11]	exam	exam period	50%
	Examination procedures and conditions: 1.Thematic development written test; percent of the f. grade 50% 2. Case study; oral examination percent of the final grade 50%			

Course organizer	Sef lucrari dr. ing. Talif Sorinel Gicu	
Teaching assistants	Sef lucrari dr. ing. Talif Sorinel Gicu	

[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