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]	**Strength of Materials 1**					Course code		MTC.202.DI.DID	
Course type[2]	DID	Category[3]	DI	Year of study	II	Semester	1	Number of credit points	8

Faculty	of Mechanical Engineering	Number of teaching and learning hours[4]					
Field	Automotive Engineering	Total	L	T	LB	P	IS
Specialization	Automotive Vehicles	210	56	42	14	-	98

Pre-requisites from the curriculum[5]		
	Compulsory	
	Recommended	

General objective [6]	Define the basic concept, theories and methods from the fundamental area of engineering science; give them an adequate utilization in professional communication, transmit the knowledge concerning the general principles of stress calculation for the main types of parts and structures specific to automotive engineering domain.
Specific objectives[7]	● Course: Discipline „Strength of Materials”-1 proposes to create at students aptitudes to evaluate mechanical stresses, loading and suspension modes, adoption of safety coefficients and, generally, of approaching various aspects of dimensioning and checking calculus. The target is to acquire the basic concepts concerning the strength calculus (for simple static stresses: axial stress, shearing, torsion, bending), rigidity and elastic stability, as well as those specific to variable stresses. The acquired knowledge are used at the discipline „Strength of Materials”- 2 from the next semester, as well as at all the other disciplines dealing with problems related to machine parts dimensioning and checking problems within the applications or projects. ● Applications: Practically solving some dimensioning or checking problems using various calculation procedures. Laboratory experimental determination of materials mechanical characteristics at simple stresses, as well as of hardness characteristics.
Course description[8]	Basic hypotheses, loads, stresses, strains, displacements, characteristic curve, Poisson ratio, admissible strengths, safety coefficients, axial stress, shearing, bending, elastic stability, braced girders, variable stresses.

Assessment			Schedule[9]	Percentage of the final grade (minimum grade)[10]
Continuous assessment	Class tests along the semester– two tests (T1,T2)		T1 - week 5 T2 - week10	20 %
	Activity during tutorials/laboratory works/projects/practical work		Weeks 1- 14	20 %
	Assignments		Week 14	10 %
Final assessment	Final assessment form[11]	Exam	Exam period	50 %
	Examination procedures and conditions: Test paper- 3 hours 1. Theoretical subject- demonstration of a formula or its explanation – 25% 2. Solving a problem of axial stress or shearing – 25% 3. Solving a problem of torsion / buckling / geometrical characteristics of the sections / braced girders – 25% 4. Solving a problem of bending: plott the stress-strain diagrams, sizing, displacements calculation girders – 25%			

Course organizer	Prof. dr. eng. AMARIEI Nicuşor	
Teaching assistants	Prof.dr.ing. AMARIEI Nicuşor Şef lucrări dr.ing. LEIŢOIU Bogdan	

[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