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

Academic year 2017 - 2018

Course name[1]	**NON-CONVENTIONAL THERMAL TREATMENT**					Codul disciplinei		**4 IPM 12**	
Course type[2]	**DS**	Category[3]	**DO**	Year of study	4	Semester	**8**	Number of credit points	**6**

Faculty	Material Science and Engineering	Number of teaching and learning hours[4]					
Field	Materials Engineering	Total	L	T	LB	P	IS
Specialization	IPM	**56**	**28**	**-**	**-**	**28**	

Pre-requisites from the curriculum[5]	Compulsory	
	Recommended	

General objective [6]	Thermal treatments using laser, plasma, electron beam or other unconventional methods used to process materials.
Specific objectives[7]	Knowledge, analysis, design and efficient and appropriate use of unconventional heat treatment technologies in the automotive industry.
Course description[8]	The opportunity of special methods of unconventional thermal treatments in machine building; Thermal treatments in the ultrasonic field; Thermal magnetic field treatments; Heat treatments with plasma heating; Influence of heating speed on structural transformations upon heating of metallic solids; Surface heating with concentrated external energy sources: laser heating; electron beam heating; Electrolyte heating.

Assessment			Schedule[9]	Percentage of the final grade (minimum grade)[10]
Continuous assessment	Class tests along the semester 1		week 8	10 %
	Activity during tutorials/laboratory works/projects/practical work			40 %
	Assignments -		week	%
Final assessment	Final assessment form[11]	-	-	50 % (minimum 5)
	Examination procedures and conditions: 1. Subject with open questions ; tasks answer to open questions ; working conditions oral; percent 100 %; 2. - ; tasks - ; working conditions -; percent %; 3. - ; tasks - ; working conditions -; percent %;			

Course organizer	**Lecturer Ph.D. Eng. Manuela-Cristina PERJU**	
Teaching assistants	**As.Ph.D. Stud. Eng. Madalina Simona BALTATU**	

[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