

COURSE GUIDE – short form

Academic year 2017 - 2018

Course name ¹	THEORETICAL BASES OF THERMAL TREATMENTS				Codul disciplinei		4 SM 03		
Course type ²	DS	Category ³	DI	Year of study	4	Semester	7	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	SM				84	42	-	28	14	

Pre-requisites from the curriculum ⁵	Compulsory	
	Recommended	Chemistry, Physics, Study materials

General objective ⁶	Study of technologies used to heat treatments and thermochemical as a final operation in the material properties required for exploitation
Specific objectives ⁷	Knowledge, analysis, design and efficient used and effective and appropriate use of heat treatments and thermochemical technologies used in machinery industry.
Course description ⁸	<p>I. Introduction. The purpose of heat treatments.</p> <p>II. The link between equilibrium diagrams and thermal treatments applied.</p> <p>III. Thermal parameters and specific temporal for heat treatments and thermochemical technologies.</p> <p>IV. Primary thermal treatment technology.</p> <p>V. Steels quenching technology; Quench implementing technology solution; Martensitic hardening technology; Shallow hardening.</p> <p>VI. Annealing technology.</p> <p>VII. Thermochemical treatments</p>

Assessment		Schedule ⁹	Percentage of the final grade (minimum grade) ¹⁰	
Continuous assessment	Class tests along the semester -		week	%
	Activity during tutorials/laboratory works/projects/practical work			25 %
	Assignments 1		week 14	25 %
Final assessment	Final assessment form ¹¹	exam	exam period	50 % (minimum 5)
	Examination procedures and conditions: 1. - ; tasks answer to closed questions ; working conditions oral; percent 50 %; 2. - ; tasks answer to closed questions ; working conditions oral; percent 50 %; 3. - ; tasks - ; working conditions - ; percent %;			

Course organizer	Lecturer Ph.D. Eng. Carmen NEJNERU	
Teaching assistants	Lecturer Ph.D. Eng. Carmen NEJNERU	

¹Course 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