

COURSE GUIDE – short form

Academic year 2017-2018

Course name ¹	OBTAINING NEW MATERIALS BY PHASE TRANSITIONS					Course code		6MATAE DO 16	
Course type ²	DID	Category ³	DO	Year of study	6	Semester	1	No of credit points	6

Faculty	Materials Science and Engineering	Number of teaching and learning hours ⁴					
Field	Materials Engineering	Total	C	S	L	P	SI
Specialization	MATAE	126	28	-	28	-	70

Pre-requisites from the curriculum	Mandatory	-
	Recommended	-

Course objective ⁵	The artificial creation of a thermodynamic phase within a metallic matrix, in gaseous, liquid and solid states, which triggers thermodynamic balancing of chemical element potentials, both in the matrix and newly created phase, lead to the occurrence of a new material.
Specific objectives ⁶	Basic notion is thermodynamic activity which is particularized in the case of a pure technical metallic matrix.
Course description ⁷	Transformation of a solid thermodynamic phase into graphite. Obtaining compact graphite in a pure ferrous matrix (Fe-C, Fe-C-Si and Fe-C-Si-Al systems). Interface phenomena General characterization of superalloys, superalloys microstructure and properties, metallic matrix – thermodynamic phase.

Assessment system		Schedule ⁸	Percentage of the final grade (minimum grade) ⁹
Continuous assessment	Class tests during the semester	Week 1, 8	
	Activity during tutorials/laboratory works/projects/practical work	Week.1-14	20 %
	Specialty home works	Week. 14	20 %
Final assessment	Final assessment form ¹⁰	Exam	60 %
	Tasks and their development conditions: Written exam under the form of grid test with 40 questions, each one with 4 variants among which one correct		

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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

⁵ According to 7.1 from the Course guide – extended form

⁶ According to 7.2 from the Course guide – extended form

⁷ Short description of the course, according to point 8 from the Course guide – extended form

⁸ For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period

⁹ A minimum grade might be imposed for some assessment stages

¹⁰ Exam or colloquium