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

Academic year 2024-2025

Course name[1]	**PHYSICAL METALLURGY 1**					Course code		2.IMAT.11.DD	
Course type[2]	DD	Category[3]	DI	Year of study	2	Semester	4	Number of credit points	6

Faculty	Materials Science and Engineering	Number of teaching and learning hours[4]					
Field	Materials engineering	Total	L	T	LB	P	IS
Specialization	Engineering of Materials Processing	150	42		42		66

Pre-requisites from the curriculum[5]		
	Compulsory	-
	Recommended	-

General objective [6]	Knowledge of the crystal structure of metals, methods of research of physical metallurgy, phases and constituents, equilibrium diagrams and solidification of metal alloys. Combining the knowledge, principles and methods of physical metallurgy and The identification and proper use of concepts, theories and methods specific to material engineering based on the knowledge of fundamental sciences.
Specific objectives[7]	Knowledge of methods of macroscopic and microscopic analysis, differentiation of different types of metallic and nonmetallic materials according to their metallographic structure.
Course description[8]	Specific methods of physical metallurgy research Atomic crystal structure of metallic materials Metals solidification Phases and constituent in metal alloys Metal alloys in equilibrium systems Equilibrium diagrams Solidification of metal alloys

Assesment			Sche-dule[9]	Percentage in the final grade (minimum grade)[10]
A. Final assessment form [11]: Exam	Class tests along the semester	%		50% (minimum 5)
	Home works	%		
	Other activities	%		
	Examination procedures and conditions: Oral exam Subject 1: open theoretical thematic development subject; 50% of the exam grade subject 2: open theoretical thematic development subject; 50% of the exam grade	100% (mini-mum 5)	Exam period	
C. Laboratory	Acttvity during laboratory			50% (minimum 5)

Course organizer	Assoc. Prof. PhD. Eng. Adrian ALEXANDRU	
Teaching assistants	Assoc. Prof. PhD. Eng. Adrian ALEXANDRU	

[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