

COURSE GUIDE – short form

Academic year 2024-2025

Course name ¹	PHYSICAL METALLURGY 2					Course code	3.IPM.01.DD			
Course type ²	DID	Category ³	DI	Year of study	3	Semester	5	Number of credit points	4	

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				100	14		28		58

Pre-requisites from the curriculum ⁵	Compulsory	-
	Recommended	-

General objective ⁶	Knowledge of metal diffusion phenomena, physical metallurgy and plastics deformation, solid state transformations and the presentation of simple and complex iron alloys and non-ferrous alloys. Associate the knowledge, principles and methods of physical metallurgy and identify and appropriately use the concepts, theories and methods specific to material engineering based on the knowledge of fundamental sciences.
Specific objectives ⁷	Student understanding of how the internal structure of materials influences their behavior during diffusion, plastic deformation, etc. Differentiating different types of metallic and non-metallic materials according to their metallographic structure.
Course description ⁸	Metals diffusion Physical metallurgy of plastic deformation Transformations in solid state. General Fe-C alloys Alloys Fe-C complex Non-ferrous alloys The influence of processing on structure and properties of metallic materials

Assesment			Schedule ⁹	Percentage in the final grade (minimum grade) ¹⁰
A. Final assessment form ¹¹ :	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% (minimum 5)	Exam period	
C. Laboratory	Acttivity during laboratory			50% (minimum 5)

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

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