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

Academic year 2021-2022

Course name[1]	**PHYSICAL CHEMISTRY (1)**					Course code		2 IMAT 02	
Course type[2]	DD	Category[3]	DI	Year of study	2	Semester	3	Number of credit points	4

Faculty	Faculty of Materials Science and Engineering	Number of teaching and learning hours[4]					
Field	Materials Engineering	Total	L	T	LB	P	IS
Specialization	Materials Processing Engineering	100	28		14-	-	58-

Pre-requisites from the curriculum[5]	Compulsory	
	Recommended	

General objective [6]	• Performing calculations, demonstrations and applications to solve tasks specific to materials engineering based on knowledge in the field and other fundamental sciences, related to the analysis of the properties of metal alloy systems and the explanation / interpretation of physical phenomena in the field by thermodynamic methods
Specific objectives[7]	• Obtaining information about the state of equilibrium and the properties of materials in different conditions of temperature and pressure. Establishing connections between the macroscopic and microscopic properties of liquid or solid metallic materials. Development of skills for the elaboration of reports and scientific articles specific to the field.
Course description[8]	I. Fundamental notions of thermodynamics. Ii. Thermodynamic potentials method Iii. Thermodynamic functions of one - component systems. Iv. General conditions for thermodynamic equilibrium. V. Thermodynamic equilibrium in homogeneous systems. Vi. Thermodynamic equilibrium in heterogeneous systems. Partial thermodynamic functions. Viii. Ideal and real solutions. Ix. The quasi-chemical theory of solutions. X. Thermodynamic functions of heterogeneous binary alloys.

Assesment				Sche-dule[9]	Percentage in the final grade (minimum grade)[10]
A. Final assessment form [11]: Colloquium	Class tests along the semester	%			60% (minimum 5)
	Home works	%			
	Other activities	%			
	Examination procedures and conditions: One subject in the course topics; oral presentation and answers to course specialty questions.	100% (mini-mum 5)			
B. Seminar	Activity during seminar				% (minimum 5)
C. Laboratory	Activity during laboratory				40 % (minimum 5)
D. Project	Activity during project				% (minimum 5)

Course organizer	Lecturer Dr.Eng. Ramona Cimpoeșu	
Teaching assistants	Lecturer Dr.Eng. Ramona Cimpoeșu	

[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