

# COURSE GUIDE – short form

Academic year 2018-2019

Course name	<b>PHYSICAL CHEMISTRY (1)</b>					Course code	2IPM02DID		
Course type	DID	Category	DI	Year of study	2	Semester	3	Number of credit points	4

Faculty	Materials Science and Engineering	Number of teaching and learning hours						
Field	Materials Engineering	Total	L	T	LB	P	IS	
Specialization	Engineering of Materials Processing	42	28		14			28

Pre-requisites from the curriculum	Compulsory	
	Recommended	

General objective	Making calculations, demonstrations and applications for solving materials engineering specific tasks based on knowledge in the field of materials science and engineering and other fundamental sciences and related to metal alloys systems properties analysis and explanation/interpretation of some physical phenomena in materials science and engineering field by means of thermodynamic methods.
Specific objectives	Getting information about the equilibrium state and about materials properties under different temperature and pressure conditions. Establishing connections between the microscopic and macroscopic properties of liquid and solid metallic materials. Developing skills for elaborating specific reports and scientific articles.
Course description	Fundamentals of thermodynamics. Thermodynamic potentials method. Thermodynamic functions of monocomponent system. General conditions of thermodynamic equilibrium. Equilibrium in homogeneous thermodynamic systems. Equilibrium in heterogeneous thermodynamic systems. Partial thermodynamic functions. Ideal and real solutions. Quasi-chemical theory of solutions. Thermodynamic functions of binary heterogeneous alloys.

Assessment		Schedule	Percentage in the final grade (minimum grade)
A. Final assessment form:  Exam	Class tests along the semester	%	50% (minimum 5)
	Home works	%	
	Other activities	%	
	Examination procedures and conditions: 1. Category: theoretical; subject with closed questions; conditions: oral; weight in final grade: 20%; 2. Category: theoretical; solving problem; conditions: oral; weight in final grade: 40%. 3. Category: theoretical; solving problem; conditions: oral; weight in final grade: 40%.	100% (minimum 5)	
B. Seminar	Activity during seminar		% (minimum 5)
C. Laboratory	Activity during laboratory		50% (minimum 5)
D. Project	Activity during project		% (minimum 5)

Course organizer	Associate professor PH.D. eng. Ioan RUSU
Teaching assistant	Lecturer PH.D. eng. Monica Nicoleta LOHAN