

COURSE GUIDE – short form

Academic year 2021-2022

Course name	Cristallography and mineralogy					Course code	2.IMAT.03.DD			
Course type	DS	Category	DI	Year of study	2	Semester	3	Number of credit points	4	

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

Pre-requisites from the curriculum	Compulsory	-
	Recommended	

General objective	Familiarizing with crystallographic and mineralogical notions, as well as with the basic methods of identifying and studying crystals / minerals.
Specific objectives	<ul style="list-style-type: none"> • Knowing and recognizing crystalline symmetries • Understanding the elements of symmetry and classification of crystalline species • Getting the graphical representation of crystals • Learning the types of chemical bonds and crystal coordinates • Learning the notion about crystal formation and growth • Learning the methods of studying and determination of the physical properties, especially the optical ones
Course description	Crystallography and its interdependence with other disciplines. Crystallographic notations. Projections and crystallographic calculations. Polyhedra repeatable symmetry. Symmetry repeatable patterns. Crystalline aggregates. The atomic structure of crystals. Imperfections in the atomic structure of crystals. The crystallization and crystal growth. Producing radiation used to analyze crystal structures. Methods for analysis of single crystals. Methods of analysis of polycrystalline aggregates structure

Assessment			Schedule	Percentage in the final grade (minimum grade)
A. Final assessment form:	Class tests along the semester	%	Sesion	70% (minimum 5)
	Home works	%		
	Other activities	%		
	Examination procedures and conditions: 1. Category: theoretical; subject with closed questions; conditions: oral; weight in final grade: 40%; 2. Category: theoretical; solving problem; conditions: oral; weight in final grade: 60%.	100% (minimum 5)		
B. Seminar	Activity during seminar			% (minimum 5)
C. Laboratory	Activity during laboratory			30% (minimum 5)
D. Project	Activity during project			% (minimum 5)

Course organizer	Associate professor PH.D. eng. Ioan RUSU	
Teaching assistant	Associate professor PH.D. eng. Ioan RUSU	