

COURSE GUIDE – short form

Academic year 2018-2019

Course name	Cristallography and mineralogy					Course code	2IPM03DID		
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	50% (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			50% (minimum 5)
D. Project	Activity during project			% (minimum 5)

Course organizer	Lecturer PH.D. eng. Ioan-Gabriel SANDU
Teaching assistant	Lecturer PH.D. eng. Ioan-Gabriel SANDU