

COURSE GUIDE – short form

Academic year 2017-2018

Course name ¹	Vacuum deposition techniques I					Course code	5MATAE DI04			
Course type ²	DS	Category ³	DI	Year of study	5	Semester	1	Number of credit points	6	

Faculty	Materials Science and Engineering	Number of teaching and learning hours ⁴					
Field	Materials Engineering	Total	L	T	LB	P	IS
Specialization	Advanced materials and experimental analysis techniques	70	28		14		28

Pre-requisites from the curriculum ⁵	Compulsory	-
	Recommended	-

General objective ⁶	Initiating students into knowledge processes in vacuum deposition of thin films. It will deepen the knowledge of the state of vacuum, means for obtaining vacuum, phase transformations, means of obtaining vacuum.
Specific objectives ⁷	<ul style="list-style-type: none"> • Identifying the role of vacuum deposition techniques in the field of Materials Engineering. • learning and appropriate use of concepts vacuum deposition techniques; • Learning theoretical methods, procedures and devices usual deposition of thin films; • Learning theoretical methods and means of characterization of thin films deposited in vacuum.
Course description ⁸	Introduction Status vacuum Means of obtaining vacuum Elements of kinetic theory of gases Vacuum thermal evaporation. Ionization of gases and vapors. Physical Basis of magnetron cathode spraying Structure, composition, porosity and adhesion layer deposited by thermal evaporation Spraying. Physical Fundamentals of vacuum thermal evaporation

Assessment		Schedule ⁹	Percentage of the final grade (minimum grade) ¹⁰
Continuous assessment	Class tests along the semester	week 7	20%
	Activity during tutorials/laboratory works/projects/practical work	Week1-14	30%
	Assignments		
Final assessment	Final assessment form ¹¹	C	50%
	Examination procedures and conditions: 1. theoretical question; open questions of course, working conditions: oral; percent of the final grade: 30% 2. theoretical question; open questions of course, working conditions: oral; percent of the final grade: 30% 3. theoretical question; open questions in the lab, working conditions: oral; percent of the final grade: 40%		

Course organizer	Associate Professor, Ph.D. Corăbieru Anișoara
Teaching assistants	Associate Professor, Ph.D. Corăbieru Anișoara

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