

COURSE GUIDE – short form

Academic year 2017 - 2018

Course name ¹	SURFACE ENGINEERING MODERN EQUIPMENT (1)					Codul disciplinei		5 SITM 04	
Course type ²	DS	Category ³	DI	Year of study	1M	Semester	1	Number of credit points	4

Faculty	Material Science and Engineering					Number of teaching and learning hours ⁴					
Field	Mechanical Engineering					Total	L	T	LB	P	IS
Specialization	SITM					98	14	-	14	-	56

Pre-requisites from the curriculum ⁵	Compulsory	
	Recommended	

General objective ⁶	Discipline prepare the specialists in the field of design, control and exploitation of surface or near-surface treatment equipment.
Specific objectives ⁷	Gaining knowledge about the phenomena that underlie the field of surface engineering, particularities of the different procedures and specific conditions used during processing for forming requested capabilities in technological design and concept, and designing equipment used in deposition-coating techniques.
Course description ⁸	<p>Surface Engineering is the concept of "surface or near-surface treatment of a material in order to obtain functional properties that are different from the bulk material".</p> <p>The course describes surface modification procedures taking into consideration the primary properties of the surface and the properties that can be modified in order to provide aesthetics, oxidation resistance, hardness, or other characteristics.</p> <p>The cover techniques may be divided broadly into three categories:</p> <ul style="list-style-type: none"> - heat treatments with surface effects and equipment (electron beam heating, laser beam heating) - thermo chemical treatments (with fluidized bed heating, plasma heating).

Assessment		Schedule ⁹	Percentage of the final grade (minimum grade) ¹⁰
Continuous assessment	Class tests along the semester -	week	%
	Activity during tutorials/laboratory works/projects/practical work		40 %
	Assignments -	week	%
Final assessment	Final assessment form ¹¹	colloquium	60 % (minimum 5)
	Examination procedures and conditions: 1. Subject with open questions ; tasks answer to open questions ; working conditions oral; percent 50 %; 2. Subject with open questions ; tasks answer to open questions ; working conditions oral; percent 50 %; 3. - ; tasks - ; working conditions - ; percent %;		

Course organizer	Professor Ph.D. Eng. Dan Gelu GALUSCA	
Teaching assistants	S.L Eng.Mirabela MINCIUNA PhD	

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