C O U R S E G U I D E – s h o r t f o r m

Academic year 2024-2025

Course name[1]	**MODERN SYSTEMS IN SURFACE ENGINNERING (1)**					Discipline code		**SITM IA 110**	
Course type[2]	**DA**	Category[3]	**DI**	Year of study	1	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	**100**	**14**	**-**	**14**	**-**	**72**

Pre-requisites from the curriculum[5]	Compulsory	-
	Recommended	-

General objective [6]	Following the functional goal and the imposed properties to the surface of metallic parts in industrial applications, it is presented methods and technological processings used in parts manufacturing on specialized equipments
Specific objectives[7]	Physical-chemical concept by surface engineering Mechanical and geometrical concept in surface engineering Techniques and equipments for surface treatment based on phases transformation
Course description[8]	1. Introduction. Surface enginnering concept 2. Solid surface 3. Surface layers 4. Treatment techniques of superficial layers based on mechanical and thermal effect and mass transport through diffusion 5. Surface treatment with electrons fascicle 6. Treatment technologies with laser 7. Ionic implantation

Assessment		Schedule[9]		Percentage of the final grade (minimum grade)[10]
A. Final assessment form [11] exam	Class tests along the semester	%	week	50 % (minimum 5)
	Home works	%		
	Other activities	%	week	
	Examination procedures and conditions: 1. Subject with open questions, working conditions oral, percent 100 %; 2. -, working conditions -, percent %; 3. -, working conditions -, percent %	100 % (minimum 5)	exam perio	
B. Seminar	Activity during seminar			% (minimum 5)
C. Laboratory	Acttvity during laboratory			50 % (minimum 5)
D. Project	Activity during project			% (minimum 5)
Course organizer	**lecturer phd. eng Achiței Dragoș**			
Teaching assistants	**lecturer phd. eng Achitei Dragos**			

[1]Course name from the curriculum

[2] DF – fundamental, DD – 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