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]	**Modeling and Simulation in Materials Science 2**					Course code		4.SM.09.DS	
Course type[2]	DS	Category[3]	DI	Year of study	4	Semester	8	Number of credit points	4

Faculty	Faculty of Materials Science and Engineering	Number of teaching and learning hours[4]					
Field	Materials Engineering	Total	L	T	LB	P	IS
Specialization	Materials Science	100	28	-	42	-	30

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

General objective [6]	Combining the knowledge, principles and methods of the technical sciences of the field with the principles and methods used in the analysis, modeling and optimization of metallurgical processes.
Specific objectives[7]	• Knowledge of statistical and mathematical methods for obtaining mathematical models describing functional relations between the input and output variables of metallurgical processes. • Optimization of metallurgical processes by specific methods.
Course description[8]	First-order factorial experimental programs. Second-order factorial experimental programs. Optimization without constraints of the metallurgical processes. Optimization with constraints of the metallurgical processes through linear programming.

Assesment			Sche-dule[9]	Percentage in the final grade (minimum grade)[10]
A. Final assessment form [11]: **Exam**	Class tests along the semester	-		70 % (minimum 5)
	Home works	-		
	Other activities	-		
	Examination procedures and conditions: 1.Subject with open questions; tasks: answers to open questions; working conditions: oral; percent of the final grade 50 % 2.Subject with open questions; tasks: answers to open questions; working conditions: oral; percent of the final grade 50 %	100 % (minimum 5)	Exam period	
B. Seminar	Activity during seminar			-
C. Laboratory	Acttvity during laboratory			30 % (minimum 5)
D. Project	Activity during project			-

Course organizer	Prof. dr. eng. Romeu CHELARIU	
Teaching assistants	Assistant dr. eng. Elena Ionela CHERECHEȘ	

[1]Course 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