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 OPTIMIZATION OF TECHNOLOGICAL PROCESSES (1)**					Discipline code		**4 IPM 12**	
Course type[2]	**DS**	Category[3]	**DI**	Year of study	4	Semester	**7**	Number of credit points	**4**

Faculty	Material Science and Engineering	Number of teaching and learning hours[4]					
Field	Materials Engineering	Total	L	T	LB	P	IS
Specialization	IPM	**100**	**28**	**-**	**28**	**-**	**44**

Pre-requisites from the curriculum[5]	Compulsory	
	Recommended	Computer programming and programming languages.

General objective [6]	The association of knowledge, principles and methods from technical sciences domain with the principles and methods used in the analysis, modeling and optimization of metallurgical processes
Specific objectives[7]	•The concept of a model and modeling methods. •Modeling the processes by material balance and energy balance. • Knowledge of statistical and mathematical methods for the obtaining of mathematical models that describe the functional links between input and output variables of metallurgical processes.
Course description[8]	Technological processes, general considerations regarding the modeling and optimization of technological processes, adaptive optimization, optimization of dynamic processes and optimization of technological processes by determining optimal conditions.

Assessment		Schedule[9]		Percentage of the final grade (minimum grade)[10]
A. Final assessment form [11] exam	Class tests along the semester	20 %	week **7**	70 % (minimum 5)
	Home works	20 %		
	Other activities	%	week	
	Examination procedures and conditions: 1. Subject with closed questions, working conditions oral, percent 100 %; 2. -, working conditions -, percent %; 3. -, working conditions -, percent %	60 % (minimum 5)	exam perio	
B. Seminar	Activity during seminar			% (minimum 5)
C. Laboratory	Acttvity during laboratory			30 % (minimum 5)
D. Project	Activity during project			% (minimum 5)
Course organizer	**Prof. dr. ing. Nicanor CIMPOEȘU**			
Teaching assistants	Sef lucr.dr.ing. Chicet Lucia Daniela			

[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