

# COURSE GUIDE – short form

Academic year 2017-2018

Course name <sup>1</sup>	<b>Metallurgical Processes Modeling and Optimization</b>					Course code	4SM07DID		
Course type <sup>2</sup>	DID	Category <sup>3</sup>	DI	Year of study	IV	Semester	VIII	Number of credit points	6

Faculty	Faculty of Materials Science and Engineering	Number of teaching and learning hours <sup>4</sup>					
Field	Materials Engineering	Total	L	T	LB	P	IS
Specialization	Materials Science	144	28	-	28	-	88

Pre-requisites from the curriculum <sup>5</sup>	Compulsory	
	Recommended	

General objective <sup>6</sup>	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 <sup>7</sup>	<ul style="list-style-type: none"> <li>Knowledge of statistical and mathematical methods for obtaining mathematical models describing functional relations between the input and output variables of metallurgical processes.</li> <li>Optimization of metallurgical processes by specific methods.</li> </ul>
Course description <sup>8</sup>	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.

Assessment		Schedule <sup>9</sup>	Percentage of the final grade (minimum grade) <sup>10</sup>
Continuous assessment	Class tests along the semester		-
	Activity during laboratory	Week 1-14	40 % (minimum 5)
	Homework		-
Final assessment	Final assessment form <sup>11</sup>	Oral exam	60 % (minimum 5)
	Examination procedures and conditions: Exam 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 %		

Course organizer	Prof. dr. eng. Romeu CHELARIU	
Teaching assistants	Assoc. dr. eng. Nicanor CIMPOEȘU Assist. dr. eng. Oana RUSU	

<sup>1</sup>Course name from the curriculum

<sup>2</sup>DF – fundamental, DID – in the field, DS – specialty, DC – complementary (from the curriculum)

<sup>3</sup>DI – imposed, DO – optional, DL – facultative (from the curriculum)

<sup>4</sup>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)

<sup>5</sup>According to 4.1 – Pre-requisites - from the Course guide – extended form

<sup>6</sup>According to 7.1 from the Course guide – extended form

<sup>7</sup>According to 7.2 from the Course guide – extended form

<sup>8</sup>Short description of the course, according to point 8 from the Course guide – extended form

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<sup>9</sup> For continuous assessment: weeks 1 – 14, for final assessment – colloquium: week 14, for final assessment-exam: exam period

<sup>10</sup> A minimum grade might be imposed for some assessment stages

<sup>11</sup> Exam or colloquium