

# COURSE GUIDE – short form

Academic year 2024-2025

Course name <sup>1</sup>	<b>Metallic Materials 2</b>					Course code	3.SM.08.DS		
Course type <sup>2</sup>	DID	Category <sup>3</sup>	DI	Year of study	3	Semester	6	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 Engineering	150	42		14	28	66

Pre-requisites from the curriculum <sup>5</sup>	Compulsory	Not applicable
	Recommended	Not applicable

General objective <sup>6</sup>	Characterization of metallic materials (steels), obtained by elaboration, by analysis of metallographic structure and chemical composition.
Specific objectives <sup>7</sup>	Primary and secondary structures analysis for irons and steels, main metallurgical factors that influence irons and steel features (cooling rate, chemical composition, impurities, de-oxidation, boiling, melting rate, superheating degree in liquid state, inoculation, graphitization treatment, alloying, vacuum treatment, using of plasma devices, gases, vibration, heredity etc), for ferrous alloys improvement.
Course description <sup>8</sup>	The characteristics of the formation of iron structures and the influence of certain manufacturing conditions on the characteristics of iron. Manufacture of alloys under different conditions and interference with the iron characteristics obtained. Characteristics of steel structure formation and characterization of steels.

Assesment		Schedule <sup>9</sup>	Percentage in the final grade (minimum grade) <sup>10</sup>
A. Final assessment form <sup>11</sup> :	Class tests along the semester	20%	60 % (minimum 5)
	Home works	20%	
	Other activities	%	
	Examination procedures and conditions: Three subjects in the course topics; oral presentation and answers to course specialty questions.	60% (minimum 5)	
B. Seminar	Activity during seminar		% (minimum 5)
C. Laboratory	Activity during laboratory		20% (minimum 5)
D. Project	Activity during project		20 % (minimum 5)

Course organizer	Nicanor CIMPOEȘU, prof. phd. eng.
Teaching assistants	Elena Ionela CHERECHEȘ, asist. dr. ing.

<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

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<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

<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