

# COURSE GUIDE – short form

Academic year 2024 -2025

Course name <sup>1</sup>	<b>HEAT AND THERMOCHEMICAL TREATMENTS TECHNOLOGIES</b>					Discipline code	3 EPI 03		
Course type <sup>2</sup>	<b>DS</b>	Category <sup>3</sup>	<b>DI</b>	Year of study	3	Semester	<b>5</b>	Number of credit points	<b>5</b>

Faculty	Material Science and Engineering					Number of teaching and learning hours <sup>4</sup>					
Field	Mechanical Engineering					Total	L	T	LB	P	IS
Specialization	EPI					<b>125</b>	<b>28</b>		<b>8</b>	<b>28</b>	<b>41</b>

Pre-requisites from the curriculum <sup>5</sup>	Compulsory	
	Recommended	Chemistry, Physics, Study of materials

General objective <sup>6</sup>	Study of technologies used for thermal and thermochemical treatments for finalizing properties of the material to be exploited
Specific objectives <sup>7</sup>	Knowledge, analysis, efficient design and effective and appropriate use of thermal treatments and thermochemical technologies used in the industry of machinery
Course description <sup>8</sup>	<p>I. Introduction. The purpose of heat treatments.</p> <p>II. The link between equilibrium diagrams and thermal treatments applied.</p> <p>III. Thermal parameters and specific temporal for heat treatments and thermochemical technologies.</p> <p>IV. Primary thermal treatment technology.</p> <p>V. Steels quenching technology; Quench implementing technology solution; Martensitic hardening technology; Shallow hardening.</p> <p>VI. Annealing technology.</p> <p>VII. Thermochemical treatments.</p>

Assessment		Schedule <sup>9</sup>		Percentage of the final grade (minimum grade) <sup>10</sup>
A. Final assessment form <sup>11</sup> 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)		
B. Seminar	Activity during seminar			% (minimum 5)
C. Laboratory	Activity during laboratory			25 % (minimum 5)
D. Project	Activity during project			25 % (minimum 5)
Course organizer	<b>Lecturer Ph.D. Eng. Mirabela Minciuna</b>			
Teaching assistants	<b>Lecturer Ph.D. Eng. Mirabela Minciuna</b>			

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

<sup>2</sup> DF – fundamental, DD – 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

<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