

COURSE GUIDE – short form

Academic year 2024 - 2025

Course name ¹	EQUIPMENT AND INSTALLATIONS FOR HEAT TREATMENT					Discipline code		3.EPI.09.DS		
Course type ²	DS	Category ³	DI	Year of study	3	Semester	6	Number of credit points	3	

Faculty	Material Science and Engineering					Number of teaching and learning hours ⁴					
Field	Mechanical Engineering					Total	L	T	LB	P	IS
Specialization	Equipment for Industrial Processes					75	28		14		33

Pre-requisites from the curriculum ⁵	Compulsory	Students enrolling in this course are required to have completed the subjects: Physics 1, Physics 2, and Thermotechnics.
	Recommended	-

General objective ⁶	The objective of this course is for students to understand heat treatments and thermochemical treatments using laser, plasma, electron beam, or other unconventional methods used in material processing to obtain semi-finished/finished parts with technological properties suitable for machinability by cutting, cold plastic deformation, and/or mechanical properties such as hardness and strength.
Specific objectives ⁷	After completing the course, students should be able to analyze and use effectively and appropriately the equipment for heat treatment technologies.
Course description ⁸	The content of the course establishes the foundations for the use of advanced heat treatment technologies by quantitatively and qualitatively evaluating the characteristic phenomena and processes using established methods and criteria from the field of materials processing engineering.

Assessment		Schedule ⁹	Percentage of the final grade (minimum grade) ¹⁰
A. Course	Final exam		50% (minimum grade: 5)
C. Laboratory	Activity during laboratory		50% (minimum grade: 5)
Course organizer	Lecturer Ph.D. eng. Viorel GRANCEA		
Teaching assistants	Lecturer Ph.D. eng. Viorel GRANCEA		

¹Course name from the curriculum

² DF – fundamental, DD – 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