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]	**Research / Practice (sem. 3)**					Course code		MATAE PA 205	
Course type[2]	DS	Category[3]	DI	Year of study	2	Semester	3	Number of credit points	7

Faculty	Materials Science and Engineering	Number of teaching and learning hours[4]					
Field	Materials Engineering	Total	L	T	LB	P	IS
Specialization	Advanced Materials and Experimental Analysis Techniques	175	-	-	175	-	-

Pre-requisites from the curriculum[5]	Compulsory	
	Recommended	

General objective [6]	Training human resource such as to be able to contribute to the development of scientific knowledge, by cultivating theoretical and practical capacities, necessary for the use of thermal analysis techniques available within the laboratory.
Specific objectives[7]	Learning the operating mode of the devices available within the laboratory and their corresponding soft-wares: dilatometer LINSEIS L75H/1400, calorimeter DSC F3 Maia NETZSC (software PROTEUS), dynamic-mechanical analyser 242 Artemis NETZSCH (software PROTEUS)
Course description[8]	• Learning the structure and functioning of the dilatometer LINSEIS L75H/1400 • Recording and interpretation of dilatograms • Learning the structure and functioning of the differential scanning calorimeter (DSC) F3 Maia NETZSC and the software PROTEUS • Performing some experiments by DSC with temperature scans • Interpretation of DSC thermograms with temperature scans • Performing some experiments by DSC with isothermal maintaining • Interpretation of DSC thermograms with isothermal maintaining • Performing some experiments by DSC with thermal cycling • Interpretation of DSC thermograms with thermal cycling • Learning the structure and functioning of the dynamic-mechanical analyser (DMA) 242 Artemis NETZSCH and the software PROTEUS • Performing some experiments by DMA with temperature scans • Interpretation of DMA thermograms with temperature scans • Performing some experiments by DMA with isothermal maintaining and strain sweep • Interpretation of DMA thermograms with isothermal maintaining and strain sweep

Assessment			Sche-dule[9]	Percentage in the final grade (minimum grade)[10]
A. Final assessment form [11]: Exam	Class tests along the semester	%		
	Home works	%		
	Other activities	%		
	Final evaluation	%		
B. Seminar	Activity during seminar: evidence of answers, paper portfolio (reports, scientific reviews)			

C. Laboratory	Activity during laboratory • Written test • Laboratory register (experimental files, reviews) • Practical demonstration	100 %
D. Project	Activity during project	

Course organizer		
Teaching assistants	Prof.dr.ing. Leandru-Gheorghe BUJOREANU	

[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