

# COURSE GUIDE – short form

Academic year 2024-2025

Course name <sup>1</sup>	<b>Superalloys</b>					Course code	MATAE IA 101				
Course type <sup>2</sup>	DID	Category <sup>3</sup>	DI	Year of study	5	Semester	1	Number of credit points			5

Faculty	Materials Science and Engineering					Number of teaching and learning hours <sup>4</sup>					
Field	Materials Engineering					Total	L	T	LB	P	IS
Specialization	Advanced Materials and Experimental Analysis Techniques					125	28	-	14	-	83

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

General objective <sup>6</sup>	Presenting the structure, the properties, the applications and main processing methods of superalloys
Specific objectives <sup>7</sup>	Conveying practical information concerning the: <ul style="list-style-type: none"> <li>• production,</li> <li>• fabrication</li> <li>• processing</li> <li>• laboratory study</li> <li>• exploitation of superalloys.</li> </ul>
Course description <sup>8</sup>	General characterization of superalloys, superalloys microstructure and properties, physical metallurgy of Ni-based superalloys, single crystal superalloys for turbine blades, superalloys applications.

Assessment			Schedule <sup>9</sup>	Percentage in the final grade (minimum grade) <sup>10</sup>
A. Final assessment form <sup>11</sup> :  Exam	Class tests along the semester	%		60 %
	Home works	%		
	Other activities	%		
	Examination procedures and conditions: Probe 1: Grid test with 40 questions, each of them with 4 variants of answer among which only one correct 100%; Probe 2: working conditions; percent of the final grade %; Probe 3: working conditions; percent of the final grade %;	100 % (minimum 5)	Exam period	
B. Seminar	Activity during seminar			
C. Laboratory	Activity during laboratory			40 %
D. Project	Activity during project			

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

<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