

# COURSE GUIDE – short form

Academic year 2024-2025

Course name <sup>1</sup>	<b>Strength of materials</b>					Course code	2IMAT05DID			
Course type <sup>2</sup>	DID	Category <sup>3</sup>	DI	Year of study	2	Semester	3	Number of credit points	4	

Faculty	Materials Science and Engineering			Number of teaching and learning hours <sup>4</sup>					
Field	Materials engineering			Total	L	T	LB	P	IS
Specialization	Engineering of Materials Processing			100	28	14	14	-	44

Pre-requisites from the curriculum <sup>5</sup>	Compulsory	Not stipulated.
	Recommended	Mathematical analysis, Algebra, Mechanics, Physics.

General objective <sup>6</sup>	Conveying knowledge concerning the general principles of the strength, stiffness and stability computations, respectively, for the main types of elements used in machine building.
Specific objectives <sup>7</sup>	<ul style="list-style-type: none"> <li>• Experimental determination of the behavior of materials under mechanical testing;</li> <li>• Present simple load and problem-solving design and checking</li> <li>• Solving problems on calculation of deflections to simple requests;</li> <li>• Solving problems of design and checking buckling</li> <li>• Solving the problems of combined loads.</li> </ul>
Course description <sup>8</sup>	Basic theories, loads, stresses, strains, conventional stress-strain diagram, Hooke's law, axial load, transverse shear, torsion, bending, buckling, combined loadings.

Assesment			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	25%	week 8	80% (minimum 5)
	Home works	25%	week 1-14	
	Examination procedures and conditions: Probe1: Problem of axial load; tasks: solving; working conditions: writing; percent of the final grade: 25% Probe 2: Problem of transverse shear or torsion; tasks: solving; working conditions: writing; percent of the final grade: 25% Probe 3: Problem of bending; tasks: solving; working conditions: writing; percent of the final grade: 25% Probe 4: Theoretical subject; tasks: assumptions, judgments; working conditions: writing; percent of the final grade: 25%	50% (minimum 5)	exam period	
B. Seminar	Activity during seminar			10% (minimum 5)
C. Laboratory	Activity during laboratory			10% (minimum 5)
D. Project	Activity during project			% (minimum 5)

Course organizer	PhD Lecturer Liviu ANDRUȘCĂ	
Teaching assistants	PhD Lecturer Liviu ANDRUȘCĂ	

---

<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

<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