

# COURSE GUIDE – short form

Academic year 2024-2025

Course name <sup>1</sup>	<b>PHYSICS 1</b>					Course code	1.ISI.03			
Course type <sup>2</sup>	DF	Category <sup>3</sup>	DI	Year of study	1	Semester	1	Number of credit points	4	

Faculty	Material Science & Engineering	Number of teaching and learning hours <sup>4</sup>					
Field	Industrial Engineering	Total	L	T	LB	P	IS
Specialization	Security Engineering in Industry	100	28	-	14	-	58

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

General objective <sup>6</sup>	Acquiring physics knowledge as the basis for specialized disciplines. Assimilation of knowledge from modern physics for the complete scientific training of future engineers. Acquiring application and theoretical methods of laboratory and individual bibliographic exercise.
Specific objectives <sup>7</sup>	<ul style="list-style-type: none"> <li>• This course is intended to introduce the students of engineering to those areas of Classical Mechanics, Thermodynamics and Quantum Mechanics. (theoretical and practical problems of mechanics)</li> <li>• The ability to verify through practical experiments the theoretical notions taught, in order to develop the students' practical sense.</li> <li>• The acquisition by students of a minimum of strict knowledge necessary to understand the notions that will be taught to them in the specialized discipline.</li> </ul>
Course description <sup>8</sup>	<ul style="list-style-type: none"> <li>• Classical Mechanics</li> <li>• The Principles of Classical Mechanics. Conservation Laws and Theorems</li> <li>• Harmonic Oscillation Motion, Damped Oscillation Motion, Forced Oscillation Motion</li> <li>• Thermodynamics</li> <li>• Fluids Mechanics. Basic characteristics of fluids</li> <li>• Statics of Fluids. Dynamics of Fluids</li> </ul>

Assesment			Schedule <sup>9</sup>	Percentage of the final grade (minimum grade) <sup>10</sup>
A. Final assessment form <sup>11</sup> :	Class tests along the semester	%		60 % (minimum 5)
	Home works	%		
	Other activities	%		
	Examination procedures and conditions: Writing Exam	100% (minimum grade 5)	Exam period	
B. Seminar	Activity during seminar			% (minimum 5)
C. Laboratory	Activity during laboratory			40% (minimum 5)
D. Project	Activity during project			% (minimum 5)

Course organizer	Professor PHD, Maricel Agop	
Teaching assistants	Lecturer, PHD, Cristina-Marcela RUSU	

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<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