

NAME OF THE COURSE		General-Physics Laboratory IV						
Code	PMP014	Year of study			3 <sup>rd</sup>			
Course teacher	Ante Bilušić	Credits (ECTS)			3.0			
Associate teachers		Type of instruction (number of hours)			L	S	E	F
							40	
Status of the course	Obligatory course	Percentage of application of e-learning						
COURSE DESCRIPTION								
Course objectives	Understanding the laws of thermodynamics through independent performance of selected experiments. Understanding and application of the detailed statistical analysis of experimental results. Use of computers in the statistical analysis and report writing.							
Course enrolment requirements and entry competences required for the course	Passed exams in General Physics IV, General-Physics Laboratory I and General-Physics Laboratory II.							
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<p>By the end of the course, students are expected:</p> <ul style="list-style-type: none"> <li>• by application of knowledge in fields of thermodynamics and statistical physics <b>to understand</b> the theoretical background of selected experiments in laws of thermodynamics,</li> <li>• by application of knowledge in fields of thermodynamics and statistical physics <b>to describe</b> the parts and principles of selected experiments laws of thermodynamics,</li> <li>• by application of knowledge in measurements in physics <b>to perform</b> the statistical analysis of the results obtained from measurements using the computer,</li> <li>• <b>to use</b> the document preparation system,</li> <li>• by both application of knowledge in measurements in physics and the results of statistical analysis, <b>to identify</b> and understand the errors of measurement.</li> </ul>							
Course content broken down in detail by weekly class schedule (syllabus)	<p>Laboratory includes the following experiments:</p> <ul style="list-style-type: none"> <li>• Equation of state of ideal gas</li> <li>• Thermal expansion of the solid body</li> <li>• Specific heat capacity of water</li> <li>• Specific heat of ice melting and water evaporation</li> <li>• Specific heat capacity of the solid body</li> <li>• Maxwell-Boltzmann distribution of velocities</li> <li>• Solar cells characteristics</li> </ul>							
Format of instruction	<input type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input checked="" type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)				
Student responsibilities								
Screening student work (name the proportion of ECTS credits for each)	Class attendance	1.0	Research		Practical training			
	Experimental work		Report	1.5	(Other)			

activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Essay		Seminar essay		(Other)	
	Tests		Oral exam	0.5	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	During each term the student's knowledge of the experiment is verbally verified, while on each performed experiment students have to write a report that will be evaluated. The exam consists in the performance of one of the experiments. The final score is based on the knowledge shown during classes and exam, and on reports on conducted experiments.					
Required literature (available in the library and via other media)	<b>Title</b>			<b>Number of copies in the library</b>	<b>Availability via other media</b>	
	Ante Bilušić, Larisa Zoranić <i>Praktikum iz opće fizike IV</i> , skripta, in Croatian			0	yes (free access)	
Optional literature (at the time of submission of study programme proposal)	<ul style="list-style-type: none"> <li>Halliday, Resnick, Walker: <i>Fundamentals of Physics</i>, John Wiley &amp; Sons, 2003.</li> </ul>					
Quality assurance methods that ensure the acquisition of exit competences	Statistics of students' results and students' evaluation via anonymous questionnaires at the end of the course. The survey is conducted according to the rules of the University of Split.					
Other (as the proposer wishes to add)						