



## UNIVERSITETI “KADRI ZEKA” UNIVERSITY

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### SYLLABUS

Course: Laboratory project of Physic

Basic information of the course	
Academic unit:	<b>FAS</b>
Course Title:	<b>Laboratory project of physic</b>
Level:	<b>Bachelor</b>
Program:	<b>Mathematic Education</b>
Course status:	<b>Elective</b>
Academic year:	<b>2019/2020</b>
Year of study:	<b>Year II, Semester III</b>
Number of hours per week:	<b>2+2</b>
Credits – ECTS:	<b>5 ECTS</b>
Timer / Location:	
Professor of subject:	<b>Prof. Ass. Dr.</b>
Contact details:	
Description, Objectives and expected results	
Course description:	<b>The subject involves handling and solving physical problems through laboratory labs based on the Maricar Laboratory. Students will be involved in individual and group projects, performing simulation, visualization and accounting projects for problems in the field of physics, using application programs such as the Maricar Lab (MATLAB). Solving problems with the help of the matrices Laboratory will be from the fields of physics such as mechanics, heat, electricity and magnetism, optics, atomic physics, nuclear physics and astronomy.</b>
Objectives of the course:	<b>This course aims to prepare students with basic skills in using the Matricor Laboratory to teach physics, to visualize and simulate physical models, and to solve various problems and situations in physics.</b>
Expected learning outcomes:	<b>After completing this course, the student will be able to:</b> <ul style="list-style-type: none"> <li>• Use the Matrices Laboratory in their projects in the field of physics</li> <li>• Determine and choose ways and ways to solve problems in the field of physics</li> <li>• Determine the importance of using the matrices Laboratory to carry out laboratory experiments</li> <li>• Problems by physics in the mathematical context and choose them through the Maricar Laboratory</li> <li>• Visualize, simulate and experiment with different physical problems</li> </ul>

Student contribution			
Activity	Hours	Day / Week	Total
Lectures	2	15	30
Theoretical exercises / laboratory	2	15	30
Contacts with teacher / consultations	0.2	15	3
Colloquiums, seminars	2	15	30
Homework	0.3	15	4.5
Self-learning time student (at the library or at home)	2	15	30
Final preparation for the exam	1	15	15
Spent time for realization of colloquium, tests, quiz and presentations.	0.3	15	4.5
Projects, seminars, presentations, etc.	2	1	2
<b>Total</b>			<b>150</b>
<b>5 ECTS.</b>			
Teaching methodology and assessment methods			
Teaching methodology:	Regular lesson is organized and realized using a convenient combination of three teaching methods: a) With interaction, the student at the center - group work (a combination of andragogical and pedagogical methods) b) With interaction, the center teacher (andragogical methods) c) The center-group teacher (andragogical method)		
Concretizations material	TI, Tables, Markers, Video Projectors, Printers, Lab Equipment, etc.		
Methods of assessment:	The exam consists of a written part and the oral part. The assessment is based on the following activities: Participation and engagement in hours (10%) (Koll.) Test 1-40% (written examination) (Koll.) Test 2-40% (written examination) Seminar papers (individual independent work) - 10% Final exam: 80% (for those who do not pass colloquiums). Points Score 91-100 10 81-90 9 71-80 8 61-70 7 51-60 6		
<b>Literature</b>			
Base literature:	<ul style="list-style-type: none"> <li>• Analiza numerike me MATLAB, Lulzim Hanelli, Flora Osmani, Tiranë 2014.</li> <li>• Elementary Mechanics Using MATLAB. Malthe-Sorensen, Anders. Springer. 2015.</li> <li>• Elementary Thermal Physics Using Matlab. Malthe-Sorensen, Anders. Springer. 2016.</li> <li>• Computational Physics using MATLAB®, Kevin Berwick, West Lafayette, Indiana, USA, September 2012.</li> <li>• <a href="https://www.mathworks.com">https://www.mathworks.com</a></li> </ul>		

Designed teaching plan:	
Week	The lecture to be held
<i>I - week :</i>	
<i>II - week :</i>	
<i>III - week :</i>	
<i>IV - week :</i>	
<i>V - week:</i>	
<i>VI- week</i>	
<i>VII-week</i>	
<i>VIII-week</i>	
<i>IX-week</i>	
<i>X-week</i>	
<i>XI-week</i>	
<i>XII-week</i>	
<i>XIII-week</i>	
<i>XIV-week</i>	
<i>XV-week</i>	
<b>Academic policies and rules of etiquette:</b>	
<p>Regular attendance of students assessed with 10 points,</p> <ul style="list-style-type: none"> <li>- Students are free to ask questions and active participation in all teaching activity.</li> <li>- They are not allowed cell phones, late arrival or departure from the class without reason.</li> <li>- Plagiarism and copying in exams are penalized under the statute and other regulations of the university.</li> <li>- The Code of conduct applies to both students and teachers.</li> </ul>	