

COURSE DESCRIPTION – ACADEMIC YEAR 2023/2024

Course title	Laboratory of Physics applied to Mechanics
Course code	42606
Scientific sector	-
Degree	Professional Bachelor in Wood Technology (LP03)
Semester	2
Year	1
Credits	4
Modular	No
Total lecturing hours	-
Total lab hours	40
Attendance	<p>Strongly recommended</p> <p>A student report based on the activities and experiments performed during the laboratory sessions is the basis for the assessment of the course.</p> <p>The evaluation for non-attending students is based on a 30 min presentation and a 30 min oral exam.</p>
Prerequisites	
Course page	Microsoft Teams and https://ole.unibz.it/
Specific educational objectives	This course supports the lecture 42605 Physics, and provides theoretical as well as practical exercises to develop problem solving skills related to the same topics.
Lecturer	Niko Münzenrieder (https://www.unibz.it/en/faculties/engineering/academic-staff/person/42095-niko-muenzenrieder)
Contact	L604 niko.muenzenrieder@unibz.it
Scientific sector of lecturer	FIS/03
Teaching language	German
Office hours	After consultation and agreement with lecturer, arrange beforehand by email.
Lecturing Assistant (if any)	
Contact LA	
Office hours LA	
List of topics	<ol style="list-style-type: none"> 1. Theoretical exercises on classical physics 2. Practical exercises on Newtonian mechanics, including mechanical forces, energy, momentum, and thermodynamics. 3. Project focused on the measurement of physical properties of wood
Teaching format	Exercises, labs, and project project work

Learning outcomes	<p><u>Knowledge and understanding</u></p> <p>1. Knowledge and understanding of physical laws of:</p> <ul style="list-style-type: none"> - Mechanics - Thermodynamics <p><u>Applying knowledge and understanding</u></p> <p>2. Ability to analyse and simple experiments on mechanics, thermodynamics.</p> <p><u>Making judgements</u></p> <p>3. Students are expected to develop the ability to judge the plausibility of measurements.</p> <p><u>Communication skills</u></p> <p>4. Further development of a quantitative, technical, and scientific terminology to express ideas and opinions about physical phenomena.</p> <p>5. Ability to visualize and present results.</p> <p><u>Ability to learn</u></p> <p>6. Development of an analytic attitude enabling the student to divide a problem into sub-tasks which can be solved using previously acquired knowledge.</p>
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Assessment	<p>Formative assessment</p> <table border="1"> <thead> <tr> <th>Form</th> <th>Length /duration</th> <th>ILOs assessed</th> </tr> </thead> <tbody> <tr> <td>In-class exercises</td> <td>Continuously as part of course-accompanying exercises</td> <td>1-4, 6</td> </tr> </tbody> </table> <p>Summative assessment for attending students</p> <table border="1"> <thead> <tr> <th>Form</th> <th>Length /duration</th> <th>ILOs assessed</th> </tr> </thead> <tbody> <tr> <td>Report</td> <td>5 pages</td> <td>1-6</td> </tr> </tbody> </table> <p>Summative assessment for non attending students</p> <table border="1"> <thead> <tr> <th>Form</th> <th>Length /duration</th> <th>ILOs assessed</th> </tr> </thead> <tbody> <tr> <td>Presentation</td> <td>30 minutes</td> <td>1, 3-6</td> </tr> <tr> <td>Oral</td> <td>30 minutes</td> <td>1-4, 6</td> </tr> </tbody> </table> <p><u>The course is evaluated on a simple pass/fail basis. No marks are given</u></p>	Form	Length /duration	ILOs assessed	In-class exercises	Continuously as part of course-accompanying exercises	1-4, 6	Form	Length /duration	ILOs assessed	Report	5 pages	1-6	Form	Length /duration	ILOs assessed	Presentation	30 minutes	1, 3-6	Oral	30 minutes	1-4, 6
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Assessment language	German																					
Assessment Typology	Monocratic																					
Evaluation criteria and criteria for awarding marks	<p>The following will be assessed:</p> <ul style="list-style-type: none"> • The correctness and presentation of results, and the correct use of physical quantities and units • The correctness of the answers and arguments presented, and the terminology used. <p>For non-attending students the presentation and oral exam must both be passed individually</p> <p><u>The course is evaluated on a simple pass/fail basis. No marks are given</u></p>																					

Required readings	Blackboard and blackboard of course: 42605 Physics
Supplementary readings	<p>Various textbooks can be used as a reference, for example:</p> <ul style="list-style-type: none"> • Physik für Bachelors, Johannes Rybach, Carl Hanser Verlag, 3. Auflage, 2007 (only in German). • Mechanics and Thermodynamics, Wolfgang Demtröder, Springer International Publishing, 2017. • Electrodynamics and Optics, Wolfgang Demtröder, Springer International Publishing, 2013. • Physics for Scientists and Engineers with Modern Physics, Douglas C. Giancoli, Pearson, 4th edition, 2008.
Software used	Word processing and data visualization tools, e.g. Word, Open office, Excel, Origin, Python, etc.