



# UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Computer Science and Electronics

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## Bachelor in Computer Science

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## MODULE HANDBOOK

Module name	<b>Basic Physics 1</b>
Module level, if applicable	Bachelor
Code, if applicable	MFF-1011
Courses, if applicable	Basic Physics 1
Semester(s) in which the module is taught	Fall (Odd)
Person responsible for the module	Department of Physics
Lecturer(s)	Team
Language	Bahasa Indonesia and English
Relation to curriculum	Bachelor degree, Compulsory course in the first year (1 <sup>st</sup> semester)
Teaching methods	150 minutes of lectures and 180 minutes of structured activities per week.
Workload (incl. contact hours, self-study hours)	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Private study: 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points
Requirements according to the examination regulations	Students have taken Basic Physics I course (MFF-1011) and have an examination card where the course is stated on.
Required and recommended prerequisites for joining the module	No prerequisite is needed.

Learning outcomes and their corresponding PLOs	<p>After completing this course, the students should be able to:</p> <p><b>CO1.</b> Understand the concept of electricity, magnet, optics, and the theory of quantum in physics.</p> <table border="1" data-bbox="630 331 1036 548"> <thead> <tr> <th colspan="2">PLO</th> <th>CO1</th> </tr> </thead> <tbody> <tr> <td>Program</td> <td><b>PLO1</b></td> <td></td> </tr> <tr> <td>Learning Outcome (PLO)</td> <td><b>PLO2</b></td> <td>√</td> </tr> <tr> <td></td> <td><b>PLO3</b></td> <td></td> </tr> <tr> <td></td> <td><b>PLO4</b></td> <td></td> </tr> <tr> <td></td> <td><b>PLO5</b></td> <td></td> </tr> </tbody> </table>	PLO		CO1	Program	<b>PLO1</b>		Learning Outcome (PLO)	<b>PLO2</b>	√		<b>PLO3</b>			<b>PLO4</b>			<b>PLO5</b>	
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Content	<ul style="list-style-type: none"> <li>• Measurement and Magnitude of Physics</li> <li>• Kinematics</li> <li>• Dynamics I: The Concept of Style</li> <li>• Dynamics II: Business and Energy, Many Particle Systems</li> <li>• Dynamics of Stringent I: Torque and Moments of Inertia</li> <li>• Dynamic Strength II: Equilibrium of Rotation and Translations, Gravity, Fluid, Vibration, Waves</li> <li>• Temperature, Heat and Law of Thermodynamics I,</li> <li>• Entropy and the Law of Thermodynamics II</li> </ul>																		
Study and examination requirements and examination forms	In class group discussion, Quiz, Mid-terms examination and Final examination																		
Media employed	Whiteboard, LCD Projector, Laptop/Computer																		
Assessments and evaluation	<p>The final mark will be weighted as follows:</p> <table border="1" data-bbox="638 1094 1373 1272"> <thead> <tr> <th>No</th> <th>Assessment methods</th> <th>Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>3</td> <td>Class Activities: Quiz, Homework, etc.</td> <td>30%</td> </tr> </tbody> </table> <p>The initial cut-off points for grades A, B, C, and D should not be less than 80%, 70%, 50%, and 40%, respectively.</p>	No	Assessment methods	Weight (percentage)	1	Final Examination	40%	2	Mid-Term Examination	30%	3	Class Activities: Quiz, Homework, etc.	30%						
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Reading list	<ol style="list-style-type: none"> <li>1. Halliday, D., Resnick, R and Walker, J., 2014, Fundamental of Physics, Fundamentals of Physics Extended, tenth edition, John Wiley &amp; Sons, Inc., USA.</li> <li>2. Tipler, P.A., 2008, Physics for Scientists and Engineers, sixth edition, W. H. Freeman and Company, New York, USA</li> <li>3. Raymond A. Serway, and John Jewett, 2014, Physics for Scientists and Engineers, Brooks / Cole Cengage Learning, Singapore.</li> </ol>																		

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