



UNIVERSITAS PENDIDIKAN INDONESIA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES EDUCATION
DEPARTMENT OF PHYSICS EDUCATION
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Bachelor of Physics

MODULE HANDBOOK

Module name:	Basic Physics I	
Module level, if applicable:	Undergraduate	
Code:	F1121	
Sub-heading, if applicable:	-	
Classes, if applicable:	-	
Semester:	1 st	
Module coordinator:	Endi Suhendi	
Lecturer(s):	Endi Suhendi	
Language:	Bahasa Indonesia	
Classification within the curriculum:	Compulsory course	
Type of Teaching	Contact hours per week during the semester	Class Size
1. Lecture (conceptual, contextual and problem-solving approaches through expository, discussions and practical methods). 2. Structured activities (assignments based on conceptual, contextual and problem-solving approaches) 3. Self-study (reading literature)	3 hour 20 minutes	45
Workload:	The total workload is 181 hours 20 minutes (6.4 ECTS) per semester, consisting of: 200 minutes lectures (1.65 ECTS), 240 minutes structured activities (1.98 ECTS), 240 minutes self-study (1.98 ECTS) per week for 14 weeks, 400 minutes for two exams (0.24 ECTS), and 960 minutes for two exam preparations (0.56 ECTS)	
Credit points:	6.4 ECTS	
Pre-requisites course(s):	-	

Course learning outcomes:	<p>After taking this course the students have ability to:</p> <p>CLO1. Describe physics quantities, unit systems, unit conversions, scientific notation, significant numbers, and dimensional analysis.</p> <p>CLO2. Describe the definition of vectors and scalars, addition of vectors geometrically, addition of vectors by components, unit vector, multiplication of vectors by scalar and vectors.</p> <p>CLO3. Analyze the basic concepts of mechanics.</p> <p>CLO4. Analyze the basic concepts of fluid.</p> <p>CLO5. Analyze the basic concepts of oscillation and wave.</p> <p>CLO6. Analyze the basic concepts of thermodynamic.</p>																				
Content:	<p>Measurement systems and vector, basic concept of mechanics (motion in one dimension, motion in two dimensions, dynamics, work and energy, linear momentum and collisions, rotational motion, static equilibrium), basic concept of fluid mechanics, basic concept of oscillation and waves, and basic concept of thermodynamics.</p>																				
Study/exam achievements:	<p>The final mark will be weight as follow:</p>																				
	<table border="1"> <thead> <tr> <th data-bbox="662 1001 727 1059">No</th> <th data-bbox="727 1001 847 1059">CLO</th> <th data-bbox="847 1001 1075 1059">Assessment Object</th> <th data-bbox="1075 1001 1342 1059">Assessment Techniques</th> <th data-bbox="1342 1001 1473 1059">Score</th> </tr> </thead> <tbody> <tr> <td data-bbox="662 1059 727 1261">1</td> <td data-bbox="727 1059 847 1261">1 - 3</td> <td data-bbox="847 1059 1075 1261"> Subject specific competences - Assignment - Activity class - Midterm exam </td> <td data-bbox="1075 1059 1342 1261"> Written Performance Written test </td> <td data-bbox="1342 1059 1473 1261"> 10% 10% 30% </td> </tr> <tr> <td data-bbox="662 1261 727 1373">2</td> <td data-bbox="727 1261 847 1373">4 - 6</td> <td data-bbox="847 1261 1075 1373"> - Assignment - Activity class - Final exam </td> <td data-bbox="1075 1261 1342 1373"> Written Performance Written test </td> <td data-bbox="1342 1261 1473 1373"> 10% 10% 30% </td> </tr> <tr> <td colspan="4" data-bbox="662 1373 1342 1408">Total</td> <td data-bbox="1342 1373 1473 1408">100%</td> </tr> </tbody> </table>	No	CLO	Assessment Object	Assessment Techniques	Score	1	1 - 3	Subject specific competences - Assignment - Activity class - Midterm exam	Written Performance Written test	10% 10% 30%	2	4 - 6	- Assignment - Activity class - Final exam	Written Performance Written test	10% 10% 30%	Total				100%
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Total				100%																	
Forms of media:	<p>Board, LCD Projector, Laptop/Computer, Demonstration Equipment Package, LMS</p>																				
Literature:	<ol style="list-style-type: none"> 1. Paul A. Tipler (Dr. Bambang Soegijono). (2001). <i>FISIKA Jilid 1, Untuk Sains dan Teknik</i>, Erlangga-Jakarta. 2. Serway and Jewet (2004). <i>Physics For Scientist And Engineers. 6-th Edition</i>. Thomson Brooks/Cole. 3. David Halliday & Robert Resnick (Pantur Silaban Ph.D & Drs. Erwin Sucipto). (1989). <i>FISIKA Jilid 1</i>, Erlangga-Jakarta. 4. Douglas C. Giancoli. (2001). <i>FISIKA Jilid 1</i>, Erlangga-Jakarta 5. Randall. (2008) . <i>Physics For Scientists and Engineers. Second edition</i>. Pearson Addison Wesley. San Francisco New York. <i>of waves</i>, Dover Publication Inc., New York. 																				

