FI121 Basic Physics 1

Module name:	Basic Physics 1	
Module level, if applicable:	Undergraduate	
Code:	FI121	
Sub-heading, if applicable:	-	
Classes, if applicable:	-	
Semester:	1st	
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 exercises). 2. Structured activities (assignments based on conceptual, contextual, and problem-solving approaches) 3. Self-study (reading literature)	3 hours 20 minutes	35
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 (CLO):	After taking this course the students have ability to: CLO1: Describe physics quantities, unit systems, unit conversions, scientific notation, significant numbers, and dimensional analysis. 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. CLO3: Analyze the basic concepts of mechanics. CLO4: Analyze the basic concepts of fluid. CLO5: Analyze the basic concepts of oscillation and wave. CLO6: Analyze the basic concepts of thermodynamic.	
Content:	Measurement systems and vector, basic concept of mechanics (motion in one dimension, motion in two dimensions, dynamics, work	

<table>
<tr><td></td><td>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.</td></tr>
<tr><td>Study/exam achievements:</td><td>
<table>
<tr><th>No</th><th>CLO</th><th>Assessment Object</th><th>Assessment Techniques</th><th>Weight</th></tr>
<tr><td>1</td><td>1 - 3</td><td>Subject specific competences
- Assignment
- Activity class
- Midterm exam</td><td>
Written
Performance
Written test</td><td>
10%
10%
30%</td></tr>
<tr><td>2</td><td>4 - 6</td><td>- Assignment
- Activity class
- Final exam</td><td>Written
Performance
Written test</td><td>10%
10%
30%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table>

The final mark will be weight as follow:</td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer, Demonstration Equipment Package, LMS</td></tr>
<tr><td>Literature:</td><td>

R.A. Serway and J.W. Jewett (2012). Phyisics For Scienctist And Enginers. 9-th Edition. Brooks/Cole Cengage Learning.
D.K. Randall (2013). Physisics For Scientists and Enginers. 4-th Edition. Pearson Prentice Hall.
Paul Allen Tipler, & Mosca, G. (2008). Physics for scientists and engineers. W.H. Freeman.
Walker, J., Resnick, R., & Halliday, D. (2014). Halliday & Resnick fundamentals of physics. John Wiley & Sons, Inc.
Giancoli, D. C. (2005). Physics. volume 1 : principles with applications. Pearson/Prentice Hall.

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PLO and CLO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CLO1		√										
CLO2		√										
CLO3		√										
CLO4		√										
CLO5		√										
CLO6		√										