



MODULE HANDBOOK DESCRIPTION

Module designation	<i>Physics I</i>	
Code	<i>FBS1103</i>	
Semester(s) in which the module is taught	<i>1/first year</i>	
Person responsible for the module	<i>Dr.rer.nat Teti Zubaidah, S.T., M.T.</i>	
Language	<i>Indonesian/English</i>	
Relation to curriculum	<i>Compulsory for all majors</i>	
Teaching methods	<i>lectures, small group discussion, case base method.</i>	
Workload (incl. contact hours, self-study hours)	Contact minutes every week, each week of the 16 weeks/semester: <ul style="list-style-type: none"> • Lectures: 3 x 50 minutes • Exercises and Assignments: 3 x 60 minutes • Self-study: 3 x 60 minutes. Total study hours = 8 hours 30 minutes/week.	
Credit points	<i>3 SKS (~ 4.8 ECTS)</i>	
Required and recommended prerequisites for joining the module	-	
Module objectives/intended learning outcomes	<i>1. Students are able to understand the basic concepts of measurements, quantities & units, mechanics, kinematics, thermodynamics, and energy conservations.</i>	<i>PLO2</i>
	<i>2. Students are able to analyse physical problems related to mechanics and kinematics.</i>	<i>PLO3</i>
	<i>3. Students are able to solve daily life physical problems in teamwork.</i>	<i>PLO7</i>
Content	<i>Introduction to College Physics, Physics & Measurements, Scalar & Vector, Motion in one-dimension with constant velocity, Motion in one-dimension with acceleration & fall free motion, Motion in two-dimension, Circular motion, Universal gravitation, Newton's Laws, Momentum & Collision, Work, Energy & Power, Laws of thermodynamics, Energy conservations.</i>	

Examination forms	<ul style="list-style-type: none"> - <i>Written case study</i> - <i>Midterm and final test</i>
Study and examination requirements	<p><i>The final grade in the module is composed of:</i></p> <ul style="list-style-type: none"> <i>a. Attendance: 10%</i> <i>b. Case assessment: 4 x 15% = 60%</i> <i>c. Midterm assessment: 15%</i> <i>d. Final assessment: 15%</i> <p><i>Students must have a final grade of 65% or higher to pass</i></p>
Reading list	<ol style="list-style-type: none"> <i>1. Giancoli D.C., 2014, Physics - Principle with Application Vol. 1 7th Ed., Pearson.</i> <i>2. Serway R.A. & Jewett Jr. J.W., 2014, Physics for Scientists and Engineers with Modern Physics 9th Ed., BROOKS/COLE CENGAGE Learning.</i> <i>3. Paul Peter Urone & Roger Hinrichs, 2020, College Physics, OpenStax.</i> <i>4. Samuel J. Ling, Jeff Sanny, William Moebs, 2021, University Physics Volume 1, OpenStax.</i> <i>5. Samuel J. Ling, Jeff Sanny, William Moebs, 2021, University Physics Volume 2, OpenStax.</i>