UIN SUNAN KALIJAGA YOGYAKARTA
FACULTY OF SCIENCE AND TECHNOLOGY

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Undergraduate Programme in Physics

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MODULE HANDBOOK

Module Name	Elementary Physics 1
Module level, if applicable	Bachelor
Code, if applicable	FIS414001
Subtitle, if applicable	-
Courses, if applicable	Elementary Physics 1
Semester(s) in which the module is taught	1st (First)
Person responsible for the module	Dr. Nita Handayani, M.Si
Lecturer(s)	Dr. Nita Handayani, M.Si
Language	Indonesia
Relation to curriculum	compulsory course in the first year (1st semester) Bachelor Degree
Type of teaching, contact hours	150 minutes lectures, 170 minutes practicum and 180 minutes structured activities per week.
Workload	Total workload is 181,3 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 170 minutes practicum per week, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam
Credit points	4
Requirements according to the examination regulations	Minimum attendance 75% All assignments submitted Attendance on time
Recommended prerequisites	No prerequisites stated on
Module objectives/intended learning outcomes	After completing this course, the students: CO 1. Able to analyze the basic concepts of quantities, units and measurements; basic concepts of classical mechanics; basic concepts of waves and thermodynamics CO 2. Able to design experiments on mechanics, waves and thermodynamics and carry out measurement activities properly and correctly. CO 3. Able to apply physics concepts in solving physics problems based on scientific methods
Content	Kinematics of Point Objects, Relative Motion, Dynamics of Point object (Newton's laws of the force concept, work and energy, impulse and momentum, conservation laws), Dynamics System of point Objects (center of mass), Rotational motion (angular momentum, rigid body rotation with a fixed axis), Elasticity and Oscillations, Wave Mechanics, Statics and Fluid Dynamics, Thermophysics (kinetic theory of gases, Heat and work, The first law of thermodynamics , efficiency, Carnot cycle)

Study and examination requirements and forms of examination	The final mark will be weighted as follows:

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NO	Assessment methods (components, activities)	Weight (percentage)
1	Final Examination	25%
2	Mid-Term Examination	25%
3	Class Activities : Quiz, Homework, etc.	15%
4	Project Based Learning (PBL)	10%
5	Practicum	25%

The final assessment is expressed in the form of a letter value converted from a number value with the following categories:

NO	Number Value	Letter Value	NO	Number Value	Letter Value
1	≥ 95	A	7	65-69.99	B/C
2	90-94.99	A-	8	60-64.99	C+
3	85-89.99	A/B	9	55-59.99	C
4	80-84.99	B+	10	50-54.99	C-
5	75-79.99	B	11	55-34.99	D
6	70-74.99	B-	12	<35	E

Media employed	White-board, LCD Projector, e-learning (https://daring.uin-suka.ac.id/)
Reading list	1. Young and Freedman, 2012, University Physics with Modern Physics 13th edition, Addison Wesley
	2. Searway R.A, Jewett, J.W., 2008, Physics for Scientist and Engineers with Modern Physics: Seventh Edition
	3. Halliday, D., Resnick, R., and Walker, J., Principle of Physics, 10th, John Wiley & Sons, 2014
	4. Paul A. Tipler, Gene Mosca, *Physics for Scientists and Engineers with Modern Physics (extended version)*, 6th Edition, W.H. Freeman and Company, 2008.

PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9
CO 1		√							
CO 2									√
CO 3				√					