UNIVERSITAS NEGERI PADANG
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
MATHEMATICS DEPARTMENT, MATHEMATICS STUDY PROGRAM
Main Campus Universitas Negeri Padang.
Jalan Prof. Dr. Hamka Air Tawar Padang, Sumatera Barat
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Module name:	Fundamental of Physics
Module level, if applicable:	Bachelor
Code:	FMA1.60.1303
Subheading, if applicable:	-
Classes, if applicable:	Fundamental of Physics
Semester:	1st (first semester)
Module coordinator:	Dr. Arsizal, M.Si.
Lecturer(s):	Dr. Asrizal, M.Si,and team
Language:	Indonesian Language and English
Classification within the curriculum:	Compulsory Courses in the first year (1st semester) Bachelor Degree
Teaching format / class hours per week during the semester:	a. Lectures : Cooperative learning with methods such as expository, discussion, and presentation. (3 x 50 minutes = 150 minutes) b. Structured assignment : Weekly individual written assignment. (3 x 60 minutes = 180 minutes) c. Individual study. (3 x 60 minutes = 180 minutes) d. Practical lesson in the Laboratorium (170 minutes).
Workload:	Total workload is 181,33 hours per semester, which consists of 150 minutes lectures per week for 16 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, and 170 minutes laboratory work per week, in total 16 weeks per semester (including mid and final exam).
Credit points:	4 sks = 6.04 ECTS
Prerequisites course(s):	No prerequisite is needed
Course Outcomes:	After completing this course, the students have ability to: CO 1. Showing scientific attitude in conducting experiment in laboratory and in writing the reports CO 2. Explain the concepts of quantities and units, particle kinematics, the basic concepts of the laws of thermodynamics. CO 3. Apply the concepts of: particle dynamics; effort and energy; linear momentum; angular momentum; fluid dynamics; temperature; and heat in discussing simple physics problems.

Content:	• quantities and units • particle kinematics • particle dynamics • work and energy • Linear momentum • Angular momentum and rigid body • Static Fluid Dynamic • Fluid Temperature and • Heat Thermodynamic • Laws
Study/exam achievements:	The final mark will be weighted as follows: The practicum (20%), final examination (30%), mid term exam (30%) and assignment (20 %). The final and mid-term exams are essay tests with a closed book (120 minutes). Presentations: The class participants will be separated into several small groups. Each group will be assigned to a certain topic relating to the course material. The students should discuss the issue, write a paper, and give a presentation in class. Under the supervision of a lecturer or lecturer assistant, practical work is held in the physics laboratory. The practicum is useful for illustrating a relevant concept or proving the theory in physics.
Forms of media:	White Board, laptop, Projector, e-learning via elearning2.unp.ac.id, and zoom meeting.
Literature:	1. D. Halliday dan R.Resnick, 2013. *Fundamental of Physic* 10th ed. Wiley. 2. Sutrisno, 1996, *Fisika Dasar seri Mekanika*, Penerbit ITB, Bandung. 3. Tim Fisika Umum FMIPA UNP, 2016, *Diktat Fisika Umum*, FMIPA UNP.

PLO and CO Mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1		√								
CO2							√			
CO3									√	