

SCIENCE EDUCATION STUDY PROGRAM

JI Ir. Sutami No 36A Kentingan Surakarta 57126 Telephone (0271) 669124, Facsimile (0271) 648939 Website: http://ipa.fkip.uns.ac.id, Email: ipa@fkip.uns.ac.id

Module Handbook

Midule Hallubook								
Module Name	Fisika Das	sar (Basic	Physics)					
Module Level	Undergraduate Program							
Code, if applicable	2213142003							
Date created	27 th July 2020							
Date updated	24 th Janua	ry 2023						
Sub-title, if applicable	-							
Courses, if applicable	-							
Semester(s) in which the	1 st							
module is taught								
Module coordinator(s)	Dr. Riezky	y Maya Pro	obosari, S.Si.,	M.Si.				
Lecturer(s)	Drs. Supu	rwoko, M.	Si.					
	Dyah Fitri	iana M, M	.Sc					
Language	Bahasa In	donesia (Iı	ndonesian Lang	guage)				
Course Classification	Compulsory Course / Elective Studies							
Teaching format/class	Direct in	struction/	face to face/	blended learr	ning: 2 x 50			
hours per week during	minutes /	Week: lect	ure, discussion	1				
semester	Structure	ed Activit	y: 2 x 60 m	inutes / Week	: Team-based			
	projects							
	Self-study	y Activity:	2 x 60 minute	s / Week				
			•	170 minute	-			
		-	-	minutes = 850	minutes			
	Hour = 85	0 minute/6	60 = 14,17 h					
Workload			i	T				
	Type	CSU	Face to	Structured	Self-study			
			Face	Activity				
	T	2	22.53h	27h (0,89	27h (0,89			
			(0.74	ECTS)	ECTS)			
			ECTS)					
	P 14,17h (0,48 ECTS)							
	Note: 1 hour equals with 0.033 ECTS							
	The work	load hours	including the	examination an	d preparation			
Credit Points	2 CSU (3	ECTS)						
	-							



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Learning	PLO 1
goals/competencies	Demonstrate comprehensive knowledge of core concept in physics, biology, chemistry, and earth science
	PLO 09 Identify problems and apply logical and critical thinking in the context of science and technology
	PLO 12 Organize data and information in science education-based entrepreneurship
	CLO 1 Student are able to apply the concepts in Basic Physics in everyday life CLO 2
	Students are able to observe, make measurements, and report experiment results CLO 3
	Students are able to demonstrate responsibility in conducting and reporting experiments
Category	Basic Science/Basic Integrated/Integrated Science
Content	The objective of this course is to equip, strengthen and provide a foundation for students in the field of physics so that they can take advanced courses related to their field. The material presented includes: Mechanics (Particle kinematics and dynamics; Impulse and linear momentum; Work and energy; particle system motion; Special Relativistic kinematics; Force moment/torque and angular momentum, Rotation and translation of rigid bodies); Temperature and Heat (Temperature, Heat and its changes, Phase changes), Light and Optics (Geometry Optics, Image formation), Electricity (static and Current) This course is completed by hands-on experiment in the laboratory.
Attribute Soft skill	Students can solve problems in the field of study studied



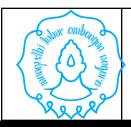
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Study/exam	Students are considered to complete the course and pass if they					
achievements	obtain at least 60% of maximum final grade.	•				
acmevements	_	The final grade				
	(FS) is calculated based on the following ratio:					
	Aspect	(%)				
	Project	52				
	Participation	18				
	Mid-Term Test	15				
	Final Exam	15				
	Final Score	100				
Literature	1. Alrasheed, S. (2019). Principles	of Mechanics				
	Fundamental University Physics. In Adva	nces in Science,				
	Technology and Innovation. Springer.					
	2. Debora M. Katz, 2017, Physics for	Scientists and				
	Engineers: Foundations and Connection					
	Physics, Student Edition, Boston-USA: Ce					
	3. EUGENE HECHT, 2018, College P	0 0				
	Edition, USA: McGraw-Hill Education	,				
	4. Serway, R. A. & Jewett, J. W. (2004). Phy	sic for Scientists				
	and Engineers, Six Edition. Californ					
	Brook/Cole	illia. Tiloilisoii				
		المحمد مستمين				
	5. Giancoli Douglass C., Physiscs for E					
	Physiscis, (1994) Canada D Van Nostrad C					
	6. John R. Taylor, An Introduction to	Error Analysis,				
	University Science Books, 1997					
Notes	(a)Scheduled instruction in a classroom (50	// (/				
	structured activity (60 minutes); and (c) indivi-	dual activity (60				
	minutes) according to the Regulation of Indone	esia Ministry of				
	Research, Technology, and Higher Education N	lo. 03/2020.				

PLO and CLO Mapping

	PL O1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8		PLO 10	PLO 11	PLO 12	PLO 13	PLO 14
CLO 1	1													
CLO 2									1					



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CLO						√	
3							

Assessment

ATTITUDE ASSESSMENT SHEET

No.	Student Number		Score		
		Responsibility	Teamwork	Discussion Ethics	

PARTICIPATION OBSERVATION SHEET

No.	Student Number		Score		
		Asking	Answering	Refuse or support	

POSTER/PRODUCT ASSESSMENT RUBRIC

Aspect		Score		
	1	2	3	
Content	Short text	Many information		4, if 3 criteria are met 3, if 2 criteria are met



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Design	Interesting color	Key information stand out	Proporsional	2, if 1 criteria are met 1, if 0 criteria are met
Picture	Interesting	Meaningful according to the contents	Originality (input the source)	0, if the task haven't done
Purpose	Information is easy to read	Information is less easy to read	Information is hard to read	