

## UNIVERSITAS NEGERI YOGYAKARTA FACULTY OF MATHEMATICS AND NATURAL SCIENCES DEPARTMENT OF PHYSICS EDUCATION **PHYSICS STUDY PROGRAM**

Colombo St. Number 1 Yogyakarta 55281 Telephone (0274)565411 Ext. 217, fax (0274) 548203 Web: <u>http://fisika.fmipa.uny.ac.id/</u>, E-mail: <u>fisika@uny.ac.id</u>

## **Bachelor of Physics**

## **MODULE HANDBOOK**

Module name:	Light Scattering Technology
Module level, if applicable:	Undergraduate
Code:	FSK6256
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	5 <sup>th</sup>
Module coordinator:	Suparno, Ph.D.
Lecturer(s):	Suparno, Ph.D.
Language:	Bahasa Indonesia
Classification within the	Elective Course
curriculum:	
Teaching format / class	100 minutes lectures 120 minutes structured activities and
hours per week during the	120 minutes individual study per week
semester:	
	Total workload is 90,67 hours per semester which consists of
Workload:	100 minutes lectures, 120 minutes structured activities, and
	120 minutes individual study per week for 16 weeks.
Credit points:	2 SKS (3.25 ECTS)
Prerequisites course(s):	Basic Colloidal Physics (FSK6228)

	A. mastering the phenomena that occur in the interaction of						
Course Outcomes	light photons and colloidal particles in various						
	B mastering the monochromatization of light in various						
	spectroscopic techniques						
Course Outcomes	C. analyze the particle size with Static Light Scattering and						
	Dynamic Light Scattering						
	D.	analyze †	the charge and size of	colloidal particle	es at once		
		With Lase Phase Ai	nalvsis Light Scattering	sis techniques (	LDE), anu		
	This course discusses the interaction between electrons on the						
	parti	cle surfac	ce, absorption of light ph	notons by electro	ons on the		
Content:	partie scatt	cle surfac	ce, monochromatization	techniques, typ Dynamic Light S	Scattering		
	Lase	r Dopple	r Electrophoresis (LDE),	and Phase Ana	alysis Light		
	Scat	tering (F	PALS), Properties of light	ght, and light	scattering		
	The final mark will be weight as follow:						
	THE	iiiiai iiiai	k will be weight as follov	V:			
				V:			
	No	CO	Assessment Object	v: Assessment Technique	Weight		
Study / exam achievements:	<b>No</b>	<b>CO</b> 1,	Assessment Object	v: Assessment Technique Written Test	Weight		
Study / exam achievements:	No 1	<b>CO</b> CO1, CO2, CO3,	Assessment Object a. Assignment (Individual, Case Study)	v: Assessment Technique Written Test	Weight 50%		
Study / exam achievements:	No 1	CO1, CO2, CO3, and CO4	Assessment Object a. Assignment (Individual, Case Study) b. Mid	v: Assessment Technique Written Test	<b>Weight</b> 50% 25%		
Study / exam achievements:	No 1	CO1, CO2, CO3, and CO4	Assessment Object a. Assignment (Individual, Case Study) b. Mid c. Final Exam	V: Assessment Technique Written Test	Weight 50% 25% 25%		
Study / exam achievements: Forms of media:	No 1 Boar	CO1, CO2, CO3, and CO4	Assessment Object a. Assignment (Individual, Case Study) b. Mid c. Final Exam Projector, Laptop/Compu	v: Assessment Technique Written Test Total	Weight           50%           25%           25%           100%		
Study / exam achievements: Forms of media:	No 1 Boar	CO1, CO2, CO3, and CO4	Assessment Object a. Assignment (Individual, Case Study) b. Mid c. Final Exam Projector, Laptop/Computer	v: Assessment Technique Written Test Written Test Total Iter	Weight 50% 25% 25% 100%		
Study / exam achievements: Forms of media:	No 1 Boar A. A	CO1, CO2, CO3, and CO4 d, LCD F bsoption . Bohren	Assessment Object a. Assignment (Individual, Case Study) b. Mid c. Final Exam Projector, Laptop/Comput and Scattering of Light and Donald R. Huffman	v: Assessment Technique Written Test Written Test Total John Wiley & S	Weight 50% 25% 25% 100% Cles, Craig Sons, New		
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Study / exam achievements: Forms of media: Literature:	No 1 Boar A. A F Y B. H Ir	CO1, CO2, CO3, and CO4 d, LCD F bsoption . Bohren ork, 1998 amburan	Assessment Object a. Assignment (Individual, Case Study) b. Mid c. Final Exam Projector, Laptop/Comput and Scattering of Light and Donald R. Huffman 3. Cahaya dalam Sistasi, Suparno, P2IS F	v: Assessment Technique Written Test Written Test Total John Wiley & S tem Koloid: T MIPA UNY, Yo	Weight 50% 25% 25% 100% Cles, Craig Sons, New Feori dan ogyakarta,		

## PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
CO1								
CO2								
CO3								
CO4								