



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

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Bachelor of Physics

MODULE HANDBOOK

Module name:	Crystallography
Module level, if applicable:	Undergraduate
Code:	FSK6247
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	5 th
Module coordinator:	Pinaka Elda Swastika, M.Sc.
Lecturer(s):	Prof. Dr. Ariswan, M.Si., Rita Prasetyowati, M.Si., Pinaka Elda Swastika, M.Sc.
Language:	Indonesian
Classification within the curriculum:	Elective Course
Teaching format / class hours per week during the semester:	100 minutes lectures per week.
Workload:	Total workload is 90.67 hours per semester which consists of 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):	-
Course Outcomes	CO1. Mastering the principles of X-rays and its application on solid characterization. CO2. Mastering the concepts of crystallization materials. CO3. Able to conduct X-Ray Diffraction (XRD) experimental method. CO4. Able to conduct XRD data analysis and interpretation.
Content:	The principal of X-Ray and its application on solid characterization, X-Ray as electromagnetic waves, diffraction, crystal geometry, and experimental methods to determine crystal structure and parameter.

Study / exam achievements:	The final mark will be weight as follow:				
	No	CO	Assessment Object	Assessment Technique	Weight
	1	CO1, CO2, CO3 and CO4	a. Assignment (study case) b. Quiz c. Mid d. Final Exam	Presentation, Written test	30% 15% 25% 30%
	Total				100%
Forms of media:	Board, LCD Projector, Laptop/Computer				
Literature:	<ol style="list-style-type: none"> 1. B.D. Cullity, 1978, Elements of X- Ray Diffraction, Second Edition, Addison- Wesley Publising Company, INC. Canada. 2. C. Suryanarayana and M. Grant NORTON, 1998. <i>X- Ray Diffraction A Practical Approach</i>, Plenum Press, New York and London. 3. Anthony R. West, 1989. <i>Solid State Chemistry and Its Applications</i>. John Wiley & Sons, Singapore- New York- Toronto. 				

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
CO1		√							
CO2		√							
CO3		√							
CO4					√				