UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF PHYSICS EDUCATION
PHYSICS PROGRAM
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Bachelor of Physics **MODULE HANDBOOK**

Module name:	Perspective and Study on Mathematics and Natural Science
Module level, if applicable:	Undergraduate
Code:	FMI6201
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	1st
Module coordinator:	Team
Lecturer(s):	Team
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	100 minutes lectures and 120 minutes structured activities per week.
Workload:	Total workload is 90.67 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes self-study per week for 16 weeks.
Credit points:	2 SKS; 3.24 ECTS
Prerequisites course(s):	-
Course Outcomes	After taking this course the students have ability to:

<table>
<tr><td></td><td>CO1. Showing polite, honest, good attitude in lectures.
CO2. Understand the insights of natural sciences
CO3. Understands the basic concepts of the scientific method in solving mathematics and science problems
CO4. Understand the ways of reasoning in mathematics by using logic and correct reasoning
CO5. Integrate the fields of mathematics and science in everyday life
CO6. Know the development of mathematics and science in the context of the latest science and technology.</td></tr>
<tr><td>Content:</td><td>This course discusses the basic methods of Mathematics and Natural Science (scientific method) in solving problems and the way / technique of arranging conclusions based on the correct rules of reasoning (mathematical logic). It also covers the basic concepts of science and its latest developments</td></tr>
<tr><td>Study / exam achievements:</td><td>CO1: Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude. The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO2 to CO6</td><td>a. Individual assignment
b. Group assignment
c. Quiz
d. Mid exam
e. Final exam</td><td>Presentation/ Written test</td><td>10%
20%
20%
20%
30%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Board, LCD Projector, Laptop/Computer</td></tr>
</table>

Literature:	1. Neuhauser, C., 2004, *Calculus for Biology and Medicine, Second Edition*, Upper Saddle River: Pearson Education, Inc. 2. Margenau, H. and Murphy, G.M., 1943, *The Mathematics of Physics and Chemistry*, New York: D., Van Nostrand Company, Inc. 3. Doggett, G. and Sutcliffe, B.T., 1995, *Mathematics for Chemistry,* Eddison Wesley Longman Limited. 4. Pusat Penelitian Kelapa Sawit, *Budidaya Kelapa Sawit,* Editor: Lalang Buana, Donald Siahaan, Sunardi Adiputra. 5. Okasha, Samir. (2002). *Philosophy of Science a very short Introduction.* New York: Oxford University Press 6. Jujun S. Suriasumantri. (2007). *Filsafat Ilmu Sebuah Pengantar Popular.* Jakarta: Pustaka Sinar Harapan 7. Peter Soedojo. (2004). *Pengantar Sejarah dan Filsafat Ilmu Pengetahuan Alam*. Yogyakarta: Gadjah Mada University Press 8. Sukirman, 2006. *Logika dan Himpunan*. Yogyakarta: Hanggar Kreator 9. Tarski, Alfred. 1994. *Introduction to Logic and to the Methodology of Deductive Sciences*. New York: Oxford University Press

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
CO1			✔					✔	
CO2			✔					✔	
CO3			✔					✔	
CO4			✔					✔	
CO5			✔					✔	
CO6			✔					✔	