

Module/Course Description

PHYSIC (FIS 100)

A. Module Identity		
1.	Name	Physic
2.	Code	FIS 100
3.	Credit	3 (2-3)
4.	Semester	2
5.	Coordinator	Dr. Mersi Kurniati, M.Si
6.	Lecturers	Lecturer Team of Physic Department
7.	Language	Indonesian
8.	Program(s) in which the course is offered	Internal department: - Other departments: <i>Common First Year Program (Education of general competency) by University</i>
9.	Type of teaching	a. Traditional classroom: 100 % b. Blended system: Traditional classroom.... %, Online.... % c. e-Learning system: % d. Others:%

B. Workload of course components (total contact hours and credits per semester)								
Credit		Contact Hours				Self-Study	Other	Total
SKS *)	ECTS	Lecture	Exercise	Laboratory	Practice			
3		28			30	56		114

*) Semester credit unit according to the Indonesian higher educational system

1 credit unit lecture = 2 hours/ week for lecture and 2 hours/ week for self-study within 14 weeks/ semester

1 credit unit class exercise or laboratory or field practice = 3 hours/week within 12-14 weeks/semester

***) 1 hour for lecture= 50 minutes; 1 hour for class exercise or laboratory or field practice = 60 minutes

C. Module Objective (Learning Outcomes)
The student having the ability to use physics formulations in solving simple physics problems and applying them for applied problems solving

D. Detailed Course Learning Outcomes (LO) in Relation to Learning Domains, Teaching Strategies, and Assignment Methods

No.	LO in Learning Domains	Teaching Strategies	Assessment Methods
a.	Knowledge		
1.	Students are able to explain the scientific method and the importance of measurement in physics.	Presentation of teaching materials. Debriefing sessions	Midterm Exam
2.	Students are able to predict the position, velocity, and acceleration of an object in one-dimensional motion by using the functional relations of those vector quantities as a function of time.	Presentation of teaching materials. Debriefing sessions	Midterm Exam
3.	Students are able to outline the motion phenomenon and its relation with the causes of those movements	Presentation of teaching materials. Debriefing sessions	Midterm Exam
4.	Students are able to use the concepts of work and energy as well as the concepts of impulse and momentum in solving motion problems	Presentation of teaching materials. Debriefing sessions	Midterm Exam
5.	Students are able to solve the physics questions on kinematics and circular motion rotation	Presentation of teaching materials. Debriefing sessions	Midterm Exam
6.	Students are able to explain fluid static and fluid dynamic	Presentation of teaching materials. Debriefing sessions	Midterm Exam
7.	Students are able to explain the concepts of vibrations, waves, and sounds	Presentation of teaching materials. Debriefing sessions	Midterm Exam
8.	Students are able to explain the concepts of temperature and heat	Presentation of teaching materials. Debriefing sessions	Final Exam

9.	Students are able to outline the thermodynamics study	Presentation of teaching materials. Debriefing sessions	Final Exam
10.	Students are able to explain the static electricity	Presentation of teaching materials. Debriefing sessions	Final Exam
11.	Students are able to solve the physics questions on electric current and direct current circumference	Presentation of teaching materials. Debriefing sessions	Final Exam
12.	Students are able to explain the concept of magnetism	Presentation of teaching materials. Debriefing sessions	Final Exam
13.	Students are able to solve the physics questions on lights and optics	Presentation of teaching materials. Debriefing sessions	Final Exam
14.	Students are able to solve the questions on modern physics	Presentation of teaching materials. Debriefing sessions	Final Exam

E. Module Content

List of Topic	Number of Weeks	Contact Hours
Introduction, System of Units and Vectors	1	2
Kinematics	1	2
Dynamics	1	2
Energy and Momentum	1	2
Kinematics and Rotation of Rigid Object	1	2
Fluid	1	2
Vibrations and Waves	1	2
Temperature, Heat and Expansion	1	2
Laws of Thermodynamics	1	2
Electric Charge, Field, and Potential	1	2
Electric Current and Direct Current Circumference	1	2
Magnetic Field and Electromagnetic Induction	1	2
Light and Optics	1	2
Modern Physics	1	2

F. Course Assessments			
No.	Assessment Type *)	Schedule (Week Due)	Proportion of the Final Mark
1.	Mid-term examination	8 th week	30 %
2.	Final examination	16 th week	30 %
3.	Practicum	10 times in a semester	30 %
4.	Assignment	Every Week	10 %

**) Example: mid-term examination, final examination, quiz, homework, project, etc.*

G. Media Employed
<ul style="list-style-type: none"> - Classroom - Laptop - LCD - Microphone (loudspeaker) - Whiteboard

H. Learning Resources
<p>h1. Textbooks:</p> <ol style="list-style-type: none"> 1. Cutnell JD, Johnson KW. 2013. Introduction to Physics. Singapore: Wiley. 2. Tipler PA. 1991. Fisika untuk Sains dan Teknik Jilid 1. Jakarta (ID): Penerbit Erlangga 3. Haliday D, Resnick R. 1983. Fisika Jilid 1. Jakarta (ID): Penerbit Erlangga