

### Module Handbook

Module Name:	Basic Physics
Module Level:	Bachelor
Abbreviation, if applicable:	Lecture FID101 Practical Work FID102
Sub-heading, if applicable:	
Courses included in the module, if applicable:	
Semester/term:	1 / First year
Module coordinator(s):	Dr. Suko Hardjono, Apt., MS
Lecturer(s):	Drs. Siswanto, M.Si. Supadi, S.Si., M.Si Dr. Khusnul Ain Dr. Suko Hardjono, Apt., MS Dr. Nuzul Wahyuningdyah, Apt., MS Dr. Bambang Tri Purwanto, Apt., MS
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course/ <del>Elective Studies</del>
Teaching format/class hours per week during the semester:	Lecture 100 minutes lectures, 13 lecture classes/semester Practical Work 100 minutes practical work classes, 13 practical work classes /semester
Workload:	Lecture Total 22 hours a semester Practical Work Total 22 hours a semester
Credit Points:	Lecture 2 Practical Work 1
Requirements:	
Learning goal/competencies:	Knowledge <ul style="list-style-type: none"> <li>– To understand the concept of measurement; and basic concepts and principles in basic physics.</li> </ul> Skills <ul style="list-style-type: none"> <li>– Discipline, honesty, and skilled.</li> </ul> Competence <ul style="list-style-type: none"> <li>– To understand and able to apply the concept of basic theories of physics.</li> <li>– To understand and able to apply the the basic concepts of physics, including the use of equipment in accordance with the basic concepts of physics in question, measure and interpret data and prepare reports measurement results of practical.</li> </ul>
Content:	Lecture Introduction, fluid mechanics, heat, waves and optics, modern physics, electricity and magnetism

	<p><b>Practical Work</b>  Measurement of the length expansion, surface tension and liquid viscosity, sound rate with resonance tube, microscopic diameter and numerical aperture microscope, refractive index and the wavelength, coefficient of Geiger Muller tubes, oscilloscope and determines the focus distance of the lens</p>
Study/exam achievements:	<p><b>Lecture</b>  Student are considered to be competent and pass if at least get 50% of maximum mark of the exams based learning.</p> <p>Final score (NA) is calculated as follow :  50% Exam I + 50% Exam II</p> <p>Final index is defined as follow :  A : 100 &gt; NA &gt; 75  AB : 75 &gt; NA &gt; 70  B : 70 &gt; NA &gt; 65  BC : 65 &gt; NA &gt; 60  C : 60 &gt; NA &gt; 55  D : 55 &gt; NA &gt; 50  E : 50 &lt; NA</p>
	<p><b>Practical Work</b>  Student are considered to be competent and pass if at least get 50% of maximum mark of the exams based learning.</p> <p>Final score (NA) is calculated as follow :  50% Exam I + 50% Exam II</p> <p>Final index is defined as follow :  A : 100 &gt; NA &gt; 75  AB : 75 &gt; NA &gt; 70  B : 70 &gt; NA &gt; 65  BC : 65 &gt; NA &gt; 60  C : 60 &gt; NA &gt; 55  D : 55 &gt; NA &gt; 50  E : 50 &lt; NA</p>
Forms of Media:	OHP and LCD projector
Literature:	<ol style="list-style-type: none"> <li>Atkins, P 6 de Paula J 2006, <i>Physical Chemistry for the Life Science</i>, W.H. Freeman Publishers, Oxford.</li> <li>Chang R., 2007, <i>Chemistry</i>, 10th Ed, McGraw-Hill Book Company, New York</li> <li>Connors, KA &amp; Mecozzi, S 2010, <i>Thermodynamics of Pharmaceutic-at Systems An Introduction to Theory and Applications</i>, 2nd Ed, John Wiley &amp; Sons, Inc., Hoboken.</li> <li>Florence, AT &amp; Attwood, D., 2006, <i>Physicochemical Principles of Pharmacy</i>, 4th Edition, Pharmaceutical Press, London</li> <li>Levine, IN 2009, <i>Physical Chemistry</i>, 6th Edition, McGraw-Hill Book Company New York.</li> <li>Maron, SH &amp; Lando, JB 1974, <i>Fundamental of Physical Chemistry</i>, 1st Edition, McMillan Publishing Co., New York.</li> </ol>

	7. Mortimer, RG 2008, <i>Physical chemistry</i> , 3rd Edition, Elsevier Inc., Burlington.
	8. Sinko, PJ, Singh Y, 2011, <i>Martin's Physical Pharmacy and Pharmaceuticals Sciences</i> , 6th Edition, Lippincott Williams & Wilkins, Philadelphia,
	9. Zumdahl, SS, Zumdahl SA, 2007, <i>Chemistry</i> , 7th Edition, Houghton Mifflin Company, Boston.
Notes:	