



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:	Electromagnetic
Module level, if applicable:	Bachelor Programme
Code:	FSK6419
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	3 th
Module coordinator:	Dr. Kuncoro Asih Nugroho, M.Pd., M.Sc.
Lecturer(s):	Prof. Dr. Ariswa, M.Si., Denny Darmawan, M.Sc.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	200 minutes lectures (include theory and Practice) and 240 minutes structured activities per week.
Workload:	Total workload is 181,33 hours per semester which consists of 200 minutes lectures, 240 minutes structured activities, and 240 minutes individual study per week for 16 weeks.
Credit points:	4 SKS (6.48 ECTS)
Prerequisites course(s):	-
Course Outcomes	CO1. Define the concepts of electrostatics and electrodynamics CO2. Determine the force, field, potential and work and energy in electrostatics. CO3. Find the magnetic field of a current-carrying wire CO4. Proving the strong reciprocal interaction of electric current with magnetic field.

Content:																									
Study / exam achievements:	<p>Assessment to students includes affective, cognitive and psychomotor components. Attitude assessment is done by observing the learning process. Attitude assessments will be observed that are outside the general range, namely very good or bad attitudes. The ability to master the material is also a consideration for the assessment. Student skills are assessed when students carry out practical activities</p> <p>The final mark will be weight as follow:</p> <table border="1" data-bbox="610 562 1393 968"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td rowspan="6">1</td> <td rowspan="6">C01 CO2, CO3 and CO4</td> <td>a. class attendance</td> <td rowspan="6">Presentation / written test</td> <td>5%</td> </tr> <tr> <td>b. Individual Assignment (class aktifitas)</td> <td>15%</td> </tr> <tr> <td>c. Group Assignment</td> <td>20%</td> </tr> <tr> <td>d. Quiz</td> <td>20%</td> </tr> <tr> <td>e. Mid</td> <td>20%</td> </tr> <tr> <td>f. Final Exam</td> <td>20%</td> </tr> <tr> <td colspan="3">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	C01 CO2, CO3 and CO4	a. class attendance	Presentation / written test	5%	b. Individual Assignment (class aktifitas)	15%	c. Group Assignment	20%	d. Quiz	20%	e. Mid	20%	f. Final Exam	20%	Total			100%
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Forms of media:	Board, LCD Projector, Laptop/Computer																								
Literature:	<p>A. Fujimoto, M., 2007, <i>Physics of Classical Magnetism</i>, New York: Springer</p> <p>B. Griffith, D.J., 1995, <i>Introduction to Electrodynamics</i>, Second edition, New Delhi Prentice-Hill of India Private Limited</p> <p>C. Ida, N, 2015, <i>Engineering Electromagnetics, third Edition</i>, New York: Spinger</p> <p>D. Reitz, J.R. & Milford, F.J., 1990 <i>Foundation of Electromagnetics Theory</i>, Third edition, California, Addison-Wesley Publishing Company Reading Massachusetts Menlo Park California</p> <p>E. Roald K. Wangsness, 1979, <i>Electromagnetic Fields</i>, 2nd edition, New York, John Wiley & Sons, Inc</p> <p>F. Staelin, DH, 2011, <i>Electromagnetic and Application</i>, Cambridge: Massachusetts Institute of Technology</p> <p>G. Suyoso, 2003. <i>Listrik Magnet (common Text Book)</i>, IMSTEP, JICA, FMIPA UNY</p> <p>H. Tipler, 1996. <i>Fisika Untuk Sains dan Teknik jilid 2 (Terjemahan)</i>. Penerbit Erlangga, Jakarta</p> <p>I. Nugroho, K.A, 2007, <i>Pemanfaatan Gaya Tolak Menolak Magnet Sebagai Generator Alternatif Bertenaga Gelombang Air</i>, Yogyakarta pada tanggal 25 Agustus 2007.</p>																								

PLO and CO mapping

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