



UIN SUNAN KALIJAGA YOGYAKARTA

FACULTY OF SCIENCE AND TECHNOLOGY

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Undergraduate Programme in Physics

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MODULE HANDBOOK

Module Name	Electromagnetics I
Module level, if applicable	Bachelor
Code, if applicable	FIS414013
Subtitle, if applicable	-
Courses, if applicable	Electromagnetics I
Semester(s) in which the module is taught	3 rd (third)
Person responsible for the module	Dr. Widayanti, M.Si
Lecturer(s)	Dr. Widayanti, M.Si
Language	Indonesia
Relation to curriculum	Compulsory course in the second year (3 rd semester) Bachelor Degree
Type of teaching, contact hours	150 minutes lectures and 180 minutes structured activities per week.
Workload	Total workload is 136 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam
Credit points	3
Requirements according to the examination regulations	Minimum attendance 75% All assignments submitted Attendance on time
Recommended prerequisites	Elementary Physics II, Mathematical Physics II
Module objectives/intended learning outcomes	After completing this course, the students: CO 1. Students are able to explain the concepts of static electricity CO 2. Students are able to calculate electrical quantities using the laws of static electricity CO 3. Students are able to formulate physics problems related to the distribution of charge sources and develop hypotheses about the methods that will be used to determine the electric field CO 4. Students will be able to distinguish and analyze static electricity problems related to charge sources in a vacuum and within dielectric media
Content	1. Vector; 2. Coulomb's Law; 3. Electric Field; 4. Gauss Law; 5. Scalar Potential ; 6. Conductor in Electrostatic Field;

	<p>7. Electrostatic Energy; 8. Electric Multipole 9. Boundary Condition at a surface of discontinuity; 10. Special Methods in Electrostatic; 11. Electrostatics in the presence of Matter ;</p>																																																						
Study and examination requirements and forms of examination	<p>The final mark will be weighted as follows:</p> <table border="1"> <thead> <tr> <th>NO</th> <th>Assessment methods (components, activities)</th> <th>Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination</td> <td>40%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination</td> <td>30%</td> </tr> <tr> <td>3</td> <td>Class Activities : Quiz, Homework, etc.</td> <td>30%</td> </tr> </tbody> </table> <p>The final assessment is expressed in the form of a letter value converted from a number value with the following categories:</p> <table border="1"> <thead> <tr> <th>NO</th> <th>Number Value</th> <th>Letter Value</th> <th>NO</th> <th>Number Value</th> <th>Letter Value</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>≥ 95</td> <td>A</td> <td>7</td> <td>65-69.99</td> <td>B/C</td> </tr> <tr> <td>2</td> <td>90-94.99</td> <td>A-</td> <td>8</td> <td>60-64.99</td> <td>C+</td> </tr> <tr> <td>3</td> <td>85-89.99</td> <td>A/B</td> <td>9</td> <td>55-59.99</td> <td>C</td> </tr> <tr> <td>4</td> <td>80-84.99</td> <td>B+</td> <td>10</td> <td>50-54.99</td> <td>C-</td> </tr> <tr> <td>5</td> <td>75-79.99</td> <td>B</td> <td>11</td> <td>55-34.99</td> <td>D</td> </tr> <tr> <td>6</td> <td>70-74.99</td> <td>B-</td> <td>12</td> <td><35</td> <td>E</td> </tr> </tbody> </table>	NO	Assessment methods (components, activities)	Weight (percentage)	1	Final Examination	40%	2	Mid-Term Examination	30%	3	Class Activities : Quiz, Homework, etc.	30%	NO	Number Value	Letter Value	NO	Number Value	Letter Value	1	≥ 95	A	7	65-69.99	B/C	2	90-94.99	A-	8	60-64.99	C+	3	85-89.99	A/B	9	55-59.99	C	4	80-84.99	B+	10	50-54.99	C-	5	75-79.99	B	11	55-34.99	D	6	70-74.99	B-	12	<35	E
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Media employed	White-board, Lcd Projector, e-learning (https://daring.uin-suka.ac.id/)																																																						
Reading list	<ol style="list-style-type: none"> R.K. Wangness, Electromagnetic Field, 2nd Ed., John Wiley and Sons, 1986. Griffith, J. <u>Introduction to Electrodynamics</u>, Prentice-Hall Inc., 1989. 																																																						

PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10
CO 1		√	√							
CO 2		√	√							
CO 3		√	√				√			
CO 4		√	√				√			