FI344 Electricity and Magnetism

Module name:	Electricity and Magnetism
Module level, if applicable:	Undergraduate
Code:	FI344
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	4th
Module coordinator:	Selly Feranie
Lecturer(s):	Selly Feranie
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory course

Type of Teaching	Contact hours per week during the semester	Class Size
1. Lecture (conceptual, contextual and problem-solving approaches through expository, discussions and exercises). 2. Structured activities (assignments based on conceptual, contextual and problem-solving approaches) 3. Self-study (reading literature)	3 hour 20 minutes	35

Workload:	The total workload is 181 hours 20 minutes (6.4 ECTS) per semester, consisting of 40 hours/2400 minutes lectures (1.41 ECTS), 56 hours/3360 minutes structured activities (1.98 ECTS) and 56 hours/3360 minutes self-study (1.98 ECTS) per week for 12 weeks, 29 hour 11 minutes for four exams (1.03 ECTS)
Credit points:	6.4 ECTS
Pre-requisites course(s):	FI122 Basic Physics II, FI222 Mathematical Physics I, FI240 Mathematical Physics II
Course Learning Outcomes (CLO):	After taking this course the students have ability to: CLO1: Apply procedural knowledge and mathematics skills in solving problems of electrostatics systematically and logically CLO2: Apply procedural knowledge and mathematics skills in solving problems of electric field in matter systematically and logically CLO3: Apply procedural knowledge and mathematics skills in solving problems of magneto statics systematically and logically CLO4: Apply procedural knowledge and mathematics skills in solving problems of magnetic field in matter systematically and

			logically
	CLO5:		Apply procedural knowledge and mathematics skills in solving problems of electro dynamics systematically and logically
	CLO6:		Apply procedural knowledge and mathematics skills in solving problems of Maxwell equations in boundary and matter systematically and logically
	CLO7:		Design a project that solve problems related to electricity and magnetism
Content:	Electrostatics, electric field in matter, magnetostatics, magnetic field in matter, electrodynamics		

Study/exam achievements:

The final mark will be weight as follow:

No	CLO	Assessment Object	Assessment Techniques	Weight
1		Subject specific competences:		
	CLO1 – 8	a. Individual assignments	Written	20%
		b.　　　Exam		
	CLO1	- Exam 1	Written test	20%
	CLO2 - 3	- Exam 2	Written test	20%
	CLO4 - 5	- Exam 3	Written test	20%
	CLO6 - 7	- Exam 4	Written test	20%
Total				100%

Forms of media:	Board, LCD Projector, Laptop/Computer
Literature:	1. David J. Griffiths, (2017), *Introduction to Electrodynamics 4th Edition*, Cambridge University Press 2. Joseph Edminister, (2013), *Schaum's Outline of Electromagnetics, 4th Edition (Schaum's Outlines) 4th Edition*, McGraw-Hill Education 3. Noah M MacKay, (2020), *Theory of Physics, Volumes 1 & Classical Mechanics & Electromagnetism*, independently published

PLO and CLO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CLO1		√										
CLO2		√										
CLO3		√										
CLO4		√										
CLO5		√										
CLO6		√										
CLO7		√										