Course Description Form

1. Course Name:

Electromagnetic theory 1

2. Course Code:

3. Semester / Year:

First Semester 2024-2025

4. Description Preparation Date:

20-9-2024

5. Available Attendance Forms:

Official working hours / attendance

6. Number of Credit Hours (Total) / Number of Units (Total)

12 working hours per week

7. Course administrator's name (mention all, if more than one name)

Name: Alaa ahmed

8. Course Objectives

Course Objectives	Study of electromagnetic theory Teaching the basic concepts of electromagnetism Knowledge of the concepts of electrostatics and magnetism and their applications Learn how to mathematically deal with the concepts of electromagnetism

9. Teaching and Learning Strategies

Strategy	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1			vectors	Theoretical	Questions, discussion, assignments daily activities
2			Differential Calculus	Theoretical	
3			Second Derivative	Theoretical	
4			Integral calculus	Theoretical	
5			Exam 1	Theoretical	
6			Curvilinear Coordinates	Theoretical	
7			The Dirac Delta Function	Theoretical	
8			The Electric Field	Theoretical	
9			The Electric Potential	Theoretical	
10			Exam2	Theoretical	
11			Work and Energy	Theoretical	
12			Conductors	Theoretical	
13			Laplace Equation	Theoretical	
14			Exam3	Theoretical	
15			Review	Theoretical	
				Theoretical	

11. Course Evaluation

1. Follow-up daily attendance 2. Quizzes daily tests 3. Monthly Tests 4. Final exam

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Introduction to Electrodynamics by David Griff 3rd edition
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

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