

King Fahd University of Petroleum and Minerals
Physics Department
Phys 305 Electricity and Magnetism I
Term 171

Grading Policy and Course Schedule

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Course page: <http://faculty.kfupm.edu.sa/phys/aljalal/phys305-171/phys305.htm>

Course Description from the Undergraduate Bulletin:

Introduction to classical electromagnetic theory based on vector calculus. Electrostatics; Laplace and Poisson's equations; Dielectric media and magnetostatics fields in matter; Computer will be used to solve electromagnetic problems.

Textbook:

"Introduction to Electrodynamics", David J. Griffiths, 4th edition.

Grading Policy:

Homework	20%
Project	10%
7 Exams	70%

Homework after the deadline will not be accepted. You may discuss your homework with other students but you are not allowed to copy their work.

The topic of the project is open, but it should be related to the material of the course. You are advised to choose the topic of your project as soon as possible but no later than 23 Nov. 2017. Here are some suggestions: review papers from American Journal of Physics or European Journal of Physics, write about advances or history, develop a computer program, or build a device. You are strongly encouraged to discuss your progress in your project with me during office hours. At the end of the term, you will give a presentation about your project in front of your fellow students.

As per KFUPM policy, a DN will be assigned if the number of unexcused absences exceeds one-fifth of the total class hours scheduled for the course. That is nine lectures.

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	Date	Activity	Note
1	17 Sep	§1.1 Vector Algebra	
	19 Sep		
	21 Sep	§1.2 Differential Calculus	
2	24 Sep		National Day Holiday
	26 Sep	§1.3 Integral Calculus	
	28 Sep		Dropping without permanent record
3	1 Oct	§1.4 Curvilinear Coordinates	
	3 Oct	§1.5 The Dirac Delta Function	
	5 Oct	§1.6 The Theory of Vector Fields	
4	8 Oct	§2.1 The Electric Field	
	10 Oct	§2.2 Div. and Curl of Electrostatic Fields	
	12 Oct		Exam 1 – Ch 1
5	15 Oct		
	17 Oct	§2.3 Electric Potential	
	19 Oct		
6	22 Oct	§2.4 Work and Energy in Electrostatics	
	24 Oct	§2.5 Conductors	
	26 Oct	§3.1 Laplace's Equation	Dropping with "W"
7	29 Oct	§3.2 The Method of Images	
	31 Oct		
	2 Nov		Exam 2 – Ch 2
8	5 Nov	§3.3 Separation of Variables	
	7 Nov		
	9 Nov	§3.4 Multipole Expansion	
9	12 Nov		
	14 Nov		
	16 Nov	§4.1 Polarization	
10	19 Nov	§4.2 The Field of a Polarized Object	
	21 Nov	§4.3 The Electric Displacement	Exam 3 – Ch 3 – 20 Nov
	23 Nov		Submitting the topic of the project Withdrawing all courses with "W"
11	26 Nov	§4.4 Linear Dielectric	
	28 Nov		
	30 Nov	§5.1 The Lorentz Force Law	
12	3 Dec	§5.2 The Biot-Savart Law	
	5 Dec	§5.3 The Divergence and Curl of B	
	7 Dec		Exam 4 – Ch 4
13	10 Dec	§5.4 Magnetic Vector Potential	
	12 Dec		
	14 Dec	§6.1 Magnetization	
14	17 Dec	§6.2 The Field of a Magnetic Object	
	19 Dec	§6.3 The Auxiliary Field H	
	21 Dec		Withdrawing all courses with "WP/WF"
15	24 Dec	§6.4 Linear and Nonlinear Media	
	26 Dec	Project presentations	Exam 5 – Ch 5 – 25 Dec
	28 Dec	Project presentations	Last day of classes