EE340: Electromagnetics (071)

Instructor	Dr. Hassan Ragheb	Bld. 59 Room 2084	Tel: 2463	hragheb@kfupm.edu.sa	O.H. S-M-W 10-11 AM, U- 12:30-1:30 PM

Course Information	Text	Grading					Attendance
	Elements of Electromagnetics M. Sadiku, 3rd Edition	Quizzes 15%	Project 5%	Two Exams 30%	Lab 20%	Final Exam 30%	6 unexcused absences → Warning 9 unexcused absences → DN

Week	Events	Topics to cover	Ch	Sec	Lab Activity	Exercis
1 Sep. 8-12	Last day to add courses Se. 11th.	Vector Algebra, Coordinate Systems.	1 2	1-8 1-5	No Lab	(**1**) (**2**)
2 Sep. 15-19	Last day to drop without W Sep.18th.	Vector Calculus. Coulomb's Law.	3 4	1-9 1-3	Tutorial 1	(**3**) (**4**)
3 Sep. 22-26	National Holiday Sep. 23rd.	Gauss' Law, Electric Potential.	4	4-8	Tutorial 2	(**4**)
4 Sep. 29-Oct. 3	---	Electric Dipole, Electrostatic energy density. Electrostatics in materials: Currents.	4 5	9-11 1-4	Tutorial 3	(**4**) (**5**)
Eid Al Ftr Vacation						
5 Oct. 20-25*	---	Polarization, Continuity Equation, Boundary Conditions, Electrostatic Boundary-value Problems: Poisson's & Laplace's Equations (1D).	5 6	5-9 1-2	**Exp 1:** Basic of Electrostatics.	(**5**) (**6**)
6 Oct. 27-31	Midterm reports to Registrar Oct. 30th.	Resistance & Capacitance calculations.	6	3-5	**Exp 2:** Introduction to MATLAB.	(**6**)
7 Nov. 3-7	Exam 1 Sat. Nov.3rd, 6:30-8:00 pm	Magnetostatics: Biot-Savart's and Ampere's Laws.	7	1-4	**Exp 3:** Simulation of Laplace's Equ. in 2D using FD method.	(**7**)
8 Nov. 10-14	---	Application of Ampere's Law, Magnetic Flux Density, Magnetic Potentials.	7	4-6	**Exp 4:** Application of capacitance measurement I	(**7**)
9 Nov. 17-21	---	Magnetic Forces. Magnetization. Magnetic Boundary Conditions. Inductors and Inductance.	8	1, 2, 5, 7, 8	**Exp 5:** Application of capacitance measurement II:	(**8**)
10 Nov. 24-28	Last day to drop all courses W Nov. 27	Electromagnetics: Faraday's Law and its applications.	9	1-3	**Exp 6:** Magnetic field outside a current-carrying conductor	(**9**)
11 Dec. 1-5		Displacement Current, Maxwell's Equations, Time-harmonic EM Fields	9	4-7	**Exp 7**: Magnetic field in current-carrying coils	(**9**)
12 Dec. 8-12	Last day for major exams and to withdraw from all courses with WP/WF	Electromagnetic Waves: Propagation in Different Media.	10	1-6	**Exp 8**: Magnetic force on a current-carrying conductor.	(**10**)
Eid Al Adha Vacation						
13 Dec. 29-Jan 2.	---	Power vector, Reflection of Plane Waves at Normal Incidence	10	7-8	**Exp 9:** Magnetic Induction	(**10**)
14 Jan. 5-9	Exam 2 Sat Jan. 5th 6:30-8:00 pm	Reflection of Plane Waves at Oblique Incidence	10	9	**Exp 10:** EM waves Polarization and radiation pattern of a horn antenna	(**10**)
15 Jan. 12-16	Last day of classes January 16	Applications and Important EM structures.	---	Handouts	Lab Final Exam	

*** Normal Thursday class.**

HW will not be collected; rather a quiz related to each set is expected on each week. HW sets and Solution will be posted on the WebCt.