

Syllabus for PHYS 110: Electricity and Magntism (Winter 2008)

Schedule: Tuesdays and Thursdays	2:00 - 3:45 PM	@ Physical Sciences 114
Discussion Sections: Mondays	5:30 - 7:00 PM	@ ISB 235
Instructor: Keivan Esfarjani,	ISB 236	keivan@physics.ucsc.edu
Office Hours: Mondays	2:30-4:30 PM	
T.A.: Alexander Morisse,	ISB 329	amorisse@physics.ucsc.edu
Office Hours: Wednesdays	3:00-4:00 PM	
Textbook: “Introduction to Electrodynamics”	3rd Edition	by David Griffiths.
Recommended text: “Feynman Lectures”	Vol 2.	by Richard P. Feynman

Evaluations: Evaluations will be based on students’ performance in the following tasks:

Seven homeworks	14%
Four 1/2 hour quizzes	36%
Midterm, Chaps 1-4, in class	20%
Final, Chaps 1-7, in class	30%

Three unhande-d-in homework problems = FAIL , but blank-sheet homeworks with your name on it are accepted. Each quiz will will contain at least one problem closely related to a homework problem. Quizzes and exams are closed-book; calculators are not allowed in any of the exams, and the needed formulas (cheat sheet) will be provided.

Outline of the course: it will tentatively follow this schedule

Chapter	Section title	Date	Due
1	Vector Analysis	Tu, Jan 8	
2	Coulomb’s law	Th, Jan 10	
2	Gauss’s law	Tu, Jan 15	hmwk1
2	Energy	Th, Jan 17	
3	Laplace equation	Tu, Jan 22	hmwk2
3	Method of Images	Th, Jan 24	quiz1
3	Multipole expansion	Tu, Jan 29	
4	Polarization	Th, Jan 31	hmwk3
4	Displacement	Tu, Feb 5	quiz2
4	Energy & forces	Th, Feb 7	
5	Lorentz force, Biot&Savart law	Tu, Feb 12	hmwk4
5	Ampere’s law, A vector	Th, Feb 14	
Midterm (1-4)		Tu, Feb 19	
6	Dia/para/ferro- magnets, M vector	Th, Feb 21	hmwk5
6	H vector, BCs	Tu, Feb 26	quiz3
7	Emf, Faraday’s law	Th, Feb 28	hmwk6
7	Energy	Tu, March 4	
7	Maxwell’s equations	Th, March 6	
7	Boundary conditions ...	Tu, March 11	quiz4
Last class	Review	Th, March 13	hmwk7
Final (1-7)		Tu, March 18	