

PHY 341 – Classical Electrodynamics II

General Information

Class Meetings: Tues, Thur. at 9:30 AM – 11:00 AM in RLM 5.114

Unique #: 58555

Course Schedule: See attached *Syllabus* for schedule of lectures, reading assignments, tests, and homework assignments.

Instructor: Professor Roy Schwitters
Office: RLM 9.320, tel. 471-9962
email: schwitters@physics.utexas.edu
Office hours: Tuesdays 11:00 AM - noon, Wednesdays 10:30 AM - noon.

Web info.: UT Blackboard

Assistant: Minglei Xiao
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Text: Required Text: *Introduction to Electrodynamics*, Third Edition, David J. Griffiths, Prentice-Hall, Inc. (1999).

Optional Discussion Sections:

Mondays 6:30 PM to 8:00 PM in RLM 5.120
Wednesdays 4:30 PM to 6:00 PM in RLM 5.120

Homework: A total of eleven homework assignments will be given during the term. Typically, homework problems will be given out at the Thursday lecture and they will be due the following Thursday at the beginning of lecture. Late homework will be accepted for one additional week. Late homework will receive a maximum of one-half credit; homework more than one week overdue will receive no credit.

Exams: Three quizzes will be given during the term. No makeup tests will be given. There will be a final examination, scheduled by the university. A makeup final examination will be given only in documented cases of illness or emergency. The quizzes and final examination will be closed-book; a single 8 1/2" x 11" page of *your* notes and calculators may be used.

Grading: Grades will be determined from points accumulated during the term. Points are given for performance on assigned homework, tests given during the term, participation in class and the final examination. The goal is to accumulate 100 points. Four points (maximum) will be given for each satisfactory homework assignment. Each of the scheduled tests will have a maximum score of 16 points. Up to 8 points will be given for class participation—in lecture and discussion section—based on attendance, performance in "pop" quizzes, etc. The maximum point value of the final exam will be determined for each student

as the difference between 100 and the total points acquired through homework, test scores and participation. Thus, for students who keep up with the homework (44 points possible), have a perfect score on both tests (48 points) and have a good record of class participation (8 points), the final examination will be worth 0 points and they don't have to show up for it. For the student who had to miss one test and lost 24 points on homework and the other things, the final exam will be worth 40 points. The student who blows off the entire semester (not recommended!) can still, in principle, reach 100 points by having a perfect score on the final exam alone. The number of points required for a given grade—grade cutoff values—will be determined after the final exam; *no prescribed cutoff values should be assumed.*

Grades will be reported on the +/- scale.

Syllabus
 Classical Electrodynamics II

Class	Date	Topic	Homework Assigned	Reading (Chapter)
1 T	15-Jan	Introduction/ Special Relativity		12.1
2 Th	17-Jan	Spacetime	1	
3 T	22-Jan	Kinematics		12.2
4 Th	24-Jan		2	
5 T	29-Jan	Relativistic Electrodynamics		12.3
6 Th	31-Jan		3	
7 T	5-Feb	Conservation Laws		8.1
8 Th	7-Feb		4	8.2
9 T	12-Feb			
10 Th	14-Feb	Quiz 1		
11 T	19-Feb	Electromagnetic Waves		9.1
12 Th	21-Feb	EM waves in vacuum	5	9.2
13 T	26-Feb	EM waves in matter		9.3
14 Th	28-Feb	Absorption, dispersion	6	9.4
15 T	5-Mar	Waveguides		9.5
16 Th	7-Mar	Rayleigh scattering	7	
17 T	19-Mar			
18 Th	21-Mar	Quiz 2		
19 T	26-Mar	Potentials and fields		10.1
20 Th	28-Mar		8	10.2
21 T	2-Apr	Point charges		10.3
22 Th	4-Apr		9	
23 T	9-Apr	Relativistic energy loss		
24 Th	11-Apr		10	
25 T	16-Apr	Radiation		11.1
26 Th	18-Apr	Quiz 3		
27 T	23-Apr	Electric/magnetic dipole		
28 Th	25-Apr	Point charges	11	11.2
30 T	30-Apr			
31 Th	2-May	Review		
	TBD	Final Examination		