

## PHY 352K – Classical Electrodynamics

### General Information

**Class Meetings:** Tues., Thur. at 12:30 PM – 2:00 PM in RLM 7.104

**Unique #: 56290**

**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](mailto:schwitters@physics.utexas.edu)  
**Office hours:** Tuesdays 11:00 PM - noon, Wednesdays 10:30 AM - noon.

**Web info.:** UT Canvas

**Assistants:** TBD  
**Office:**  
**email:**

**Text:** Required Text: *Introduction to Electrodynamics*, Fourth Edition, David J. Griffiths, Prentice-Hall, Inc. (2013).

#### **Optional Discussion Sections:**

TBD

**Homework:** A total of ten 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:** Two 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 20 points. Up to 20 points will be given for class participation—in lecture and discussion section—based on attendance, performance in "pop" quizzes, interactions in lectures and sections, and extra-credit problems assigned. 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 (40 points possible), have a perfect score on both tests (40 points) and have a good record of class participation (20 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 44 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.

Required Disability Notification added by Department:

Disability Accommodations:

Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259, <http://www.utexas.edu/diversity/ddce/ssd/>

**Syllabus**  
Classical Electrodynamics

Class	Date	Topic	Reading (Chapt.)	Homework Assigned	Exam Ch. Covered
1 Th	25-Aug	Introduction	1.1-1.2		
2 T	30-Aug	Vector Calculus	1.3-1.4		
3 Th	1-Sep	Vector Fields	1.5-1.6	1	
4 T	6-Sep	Electric Field	2.1		
5 Th	8-Sep	Gauss' Law	2.2	2	
6 T	13-Sep	Electric Potential	2.3		
7 Th	15-Sep	Work-Energy	2.4	3	
8 T	20-Sep	Conductors	2.5		
9 Th	22-Sep	Finding Electric Fields/Potentials	3.1	4	
10 T	27-Sep	Method of Images/ Review	3.2		
11 Th	29-Sep	<b>Quiz 1</b>			1-3.2
12 T	4-Oct	3D Methods	3.3-3.4		
13 Th	6-Oct	Electric Dipole, Polarization	4.1	5	
14 T	11-Oct	Electric Fields in Dielectric Materials	4.2		
15 Th	13-Oct	"	4.3	6	
16 T	18-Oct	"	4.4		
17 Th	20-Oct	Magnetism: Force and Field	5.1	7	
18 T	25-Oct	"	5.2		
19 Th	27-Oct	Ampere's Law	5.3	8	
20 T	1-Nov	Comparison with Electric Force	5.4		
21 Th	3-Nov	<b>Quiz 2</b>			3.3-5
22 T	8-Nov	Magnetic Fields in Matter	6.1		
23 Th	10-Nov	"	6.2-6.3	9	
24 T	15-Nov	Ferromagnetism	6.4		
25 T	17-Nov	Electrodynamics	7.1	10	
26 Th	22-Nov	Induction	7.2		
27 T	30-Nov	Maxwell's Equations	7.3		
28 Th	1-Dec	Review			
Th	8-Dec	<b>Final Examination</b>	9 AM-12 PM		all