

Homework and Reading: Lecture topics and homework assignments are listed in the table at the end of the syllabus. You should read the assigned lecture topic before coming to the class, take notes in class and ask questions. Some 15 – 20 problems will be assigned from each chapter. Homework assignment will not be collected or graded. However, it is very important to solve the problems on your own to do well in the exams. Solutions to the homework problems will be made available at the library reserve desk.

Quizzes: There will be an approximately 30 minute quiz. It will be given during the lab class and will be a multiple choice test with some short problems. The chapters will be announced in class. There are no make-ups for missed quizzes. NO EXCEPTIONS!!

Instructional Objective: By the completion of the course, the student will be able to understand and make D.C. and A.C. electrical circuits, follow the concept of magnetism and electromagnetism, apply integral calculus to evaluate electric and magnetic fields, and understand the nature of light. They will learn to solve numerical problems using calculus, algebra and some vector algebra. The topics that will be discussed in this course are listed below:

Electrostatics
Magnetism
A.C. electricity

D.C. electricity
Electromagnetism
Electromagnetic Waves

Attendance: Success in this course will depend to a great extent on your coming to the class and solving problems on your own. Much of the material is complex, and you must hear the lecture/discussion on the material to understand it. If absences become excessive, you may be dropped from the class. If the drop date has passed you will receive an F grade. It is your responsibility to officially drop the course.

Academic Honesty: Cheating in any form, whether copying directly from another student's work, or plagiarizing material from another source, or passing along test information, is strictly forbidden. If caught, you will fail the course or may be expelled from the school.

For a successful completion of the course:

- Plan to study a minimum of **8 hours** per week outside the class time.
- Remember what you have learned in Physics 221.
- Enroll in the Problem Solving class, **Phys 024, CRN #22881, T 3:30 – 4:35 pm**. It is a one-unit course with CR/NC. The class starts on February 6, 2007.
- Attempt all homework problems yourself. If you get stuck, ask for help. Do not skip the topics.
- Work in small study groups (2-3) for homework and exams.
- GET HELP!! From the instructor during office hours, the tutoring center and the Math lab.

HOMEWORK AND READING ASSIGNMENT

This is a tentative schedule. You will be notified of the changes in class.

Week /Month	Lecture Topic	Homework Assignment
1 / Jan 15	Electric Fields	Ch.23 P 7,12,15,19,22,29,35,41,43,47,49,55,57,63,65,67
2 / Jan 22	Gauss's Law	Ch.24 P 6,13,15,21,25,29,33,35,43,44,47,49,55,57, 61,67,69
3 / Jan 29	Electric Potential	Ch.25 P 9,13,14,16,23,25,27,34,35,43,44,53,60, 61,66,67,69,71
4 / Feb 5	Electric Potential	
5 / Feb 12		Test I on Thursday, February 15, 2007
6 / Feb 19	Capacitance and Dielectrics	Ch.26 P 7,11,21,23,27,28,39,45,49,53,55,65,67,69,70,73
7 / Feb 26	Current and Resistance	Ch.27 P 9,11,17,24,27,31,35,39,43,51,55,56,61,63,65
8 / Mar 5	Direct Current Circuits	Ch.28 P 9,10,15,18,19,21,25,29,37,39,45,57,65,67,71,75
9 / Mar 12	Magnetic Fields	Test II on Thursday, March 15, 2007
10 / Mar 19	Magnetic Fields	Ch.29 P 5,9,15,17,23,27,31,33,37,43,45,47,49,50, 57,61,63,64,69
11 / Mar 26	Sources of the Magnetic Field	Ch.30 P 5,7,9,12,15,17,19,21,25,29,33,37,49,53,59,63
12 / Apr 2		Spring Break
13 / Apr 9	Faraday's Law	Ch.31 P 7,9,11,15,21,29,37,41,50,57,59,61,63,67,70
14/ Apr 16	Inductance	Test III on Thursday, April 19, 2007 Ch.32 P 8,15,17,21,23,26,27,36,43,51,53,58,61,65,69,70
15 / Apr 23	Alternating Current Circuits	Ch.33 P 5,7,11,13,15,17,21,23,29,31,33,39,41,47,53, 57,61,63,65
16 / Apr 30	Alternating Current Circuits	
17/ May 7	Electromagnetic Waves	Ch.34 P 7,10,15,17,21,24,28,29,31,37,44,49,51,55, 57,59,61,63
18/ May 14	Review for the Finals	Final Exam on Tuesday, May 22, 2007

Instructor: Dr. Brinda Subramaniam

Grading Policy:

Grades depend on lab write-ups and general performance in class.

All the experiments will be done on Thursday except for the three weeks when we will have the tests.

Notes:

The lab is an integral part of the lecture. The experiments that you perform in the lab will provide you the physical evidence of the principles learned in lecture class and a hands-on understanding of some difficult concepts.

You have to do all the experiments. If you are absent, you cannot turn in the lab report using someone else's data **except once**. If you miss more than **two** reports, you may be dropped automatically. There are no make-ups for the lab.

You will be working in a group of three or four. You are expected to collaborate in all parts of the experiment. A carbon copy of data collected during the lab period must be turned in at the end of each laboratory experiment, one per group. Completed lab report will be due at the beginning of the class one week after the experiment is performed. You will lose 10% of points/week for late lab reports.

How to write lab reports

All reports should include the following items:

1. Cover sheet with title, date, your name and partner's name.
2. Original data, calculations, graphs, answers to the questions
3. Graphing data:
All graphs preferably be done in pencil on graph paper and should have a title.
Axes should be labeled with units and scale should be marked.
4. Conclusion:
What principle or law of nature did you investigate?
What did you learn?
What are the major sources of error in the experiment?

Week	Date	Name of the Experiment
1	January 18	Lab No. 1
2	January 25	Lab No. 2
3	February 1	Lab No. 3
4	February 8	Lab No. 4
5	February 15	Test I
6	February 22	Lab No. 5
7	March 1	Lab No. 6
8	March 8	Lab No. 7
9	March 15	Test II
10	March 22	Lab No. 8
11	March 29	Lab No. 9
12	April 5	Spring Break
13	April 12	Lab No. 10
14	April 19	Test III
15	April 26	Lab No. 11
16	May 3	Lab No. 12
17	May 10	Lab No. 13