

**General Physics II**  
**PHS 202-B**  
SUMMER 2008

**Instructor:** Dr. Nate Magee and Dr. Margaret Benoit

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**Office hours:** in SC-P 137/ SC-P 113: by appointment

**Required Text:** Fundamentals of Physics: *Halliday, Resnick, and Walker 8th ed. (Vol. 2 pkg)*

**WileyPLUS is required:** <http://edugen.wiley.com/edugen/domain/dmn8177/>

**Course web site:** [www.tcnj.edu/~magee](http://www.tcnj.edu/~magee)

<b>Meeting Time/Space:</b>	Mon/Tues/Thurs	Lectures:	SC P 317	(11:00 -1:30 pm)
	Labs		SC P 310	(1:40 -3:30 pm)

**Course description:** General Physics II is an introduction to electricity, magnetism, and optics. Emphasis in the course will be in applying the knowledge and formulas to real-world situations. In addition, many of the concepts, problem solving skills and modeling techniques we will learn are useful for everyday activities and situations. We will work through most of the material in each chapter in one class period, spending a little extra time on important or difficult topics.

**Course objectives:** The objective of this course is to develop important analytical skills and to provide a strong foundation for further technical study. Mastery of the materials and skills that will be taught in this course will be fundamental to success in any engineering or technical discipline.

**TOPICS**

0.	Thermodynamics .....	Chapter 18-20
1.	Electric charge .....	Chapter 21
2.	Electric fields .....	Chapter 22
3.	Gauss' law .....	Chapter 23
4.	Electric potential .....	Chapter 24
5.	Current, resistance, and circuits .....	Chapter 26-27
6.	Magnetic fields and forces .....	Chapter 28-29
7.	Induction and inductance .....	Chapter 30
8.	Maxwell's equations .....	Chapter 32
9.	Electromagnetic waves .....	Chapter 33
10.	Images, interference, and diffraction .....	Chapter 34-36

**COURSE STRUCTURE**

**Assignments: Reading and Problem Sets**

Reading of the appropriate chapter(s) will be assigned to be completed prior to each class. Comprehension of this reading will be necessary to actively participate in class.

Problem sets will be assigned weekly and will consist of questions and problems drawn from the text as well as other sources. Problem sets are generally due one week after they are issued. They will be graded and contribute significantly to your grade. They are not optional. We will reserve some time during class to work on problem-solving, but much of the work will need to be completed outside of class. The problem sets are an essential to your learning and should be done carefully. Solutions to problem sets will need to be entered at Wiley plus website. Numerical values are not generally the same as those in the text. Late submissions will not be accepted without prior approval.

**Exams: 2 tests and 1 comprehensive final exam**

Two tests will be spaced evenly during the semester. The final exam will be comprehensive.

**Labs:**

A tentative calendar for our course will be available on the course web site. These labs will require teamwork, hands-on problem solving, and writing, and will be an important part of your course grade. The low lab grade of the semester will be dropped.

**Classroom lectures and discussions:**

The classroom time will be devoted to lectures, discussions, and problem solving that follow text material. Please do not hesitate to ask questions during class. Your active participation in the classroom is important for developing a positive learning experience for all students in the course.

**Grading:**

Grades will not be curved. Percentage grades will be converted directly to letter grades according to the following scale:

<b>Grade</b>	<b>Range</b> <i>(rounded to whole percent)</i>
A	93-100
A-	90-92
B+	88-89
B	83-87
B-	80-82
C+	77-79
C	73-76
C-	70-72
D	60-69
F	<60

**Weighting of course components:**

- 40% tests
- 25% final exam
- 10% problem sets
- 20% laboratory grade
- 5% classroom participation

**Attendance:**

Course attendance will be monitored closely and contributes to your participation grade. Please talk to me personally if expect to miss an upcoming class or lab.

**Cancellation/School Closings:**

If class should be canceled for any reason, any scheduled exams or due problem sets will be transferred to the first day we return to class.