

PHY 162 General Physics II

Syllabus

Instructor: ***Sheng-Chiang (John) Lee***

SEB 207, 478-301-2599

Office Hours: MW 3 ~ 4:30pm; F 11am ~ 12pm

Co-requisite: PHY 162L; Pre-requisite: PHY 161 or equivalent

Textbook: ***Fundamentals of Physics***, 7th or 8th edition, by Halliday, Resnick and Walker

Course Description:

This course is the second of a 2-semester calculus-based general physics sequence. It serves as an introduction to the field of physics, which is a foundation of disciplines in science and engineering. Although physical principles can/will be demonstrated in the class conceptually, they are all formulated through mathematical expressions. Therefore, students' performance in this aspect will influence the grades significantly. Students who take this course should have basic knowledge of calculus, including the concepts of derivatives and integrations, and ability to perform basic manipulations in calculus.

The topics covered in this class include:

Waves and Sounds, Optics, Electricity and Magnetism.

Students should also take PHY162L, which is the laboratory counterpart of this course.

Objectives:

After taking this course, you are expected to

- Be familiar with the common scientific terminologies (e.g. charges, currents, voltages, electric and magnetic fields, etc.) and the units associated with these new quantities.
- Develop reasonable physical intuitions and be able to qualitatively understand simple physical systems and predict their behaviors.
- Be able to apply scientific logic to solve physical problems analytically and quantitatively.
- Be able to apply acquired knowledge of physics in your understanding of the physical world.

Grading Methods:

Grading Scale:

Score:	90+	85~89	80~84	75~79	70~74	60~69	59-
Grade:	A	B+	B	C+	C	D	F

Grading Components:

	WebCT Quizzes	In-Class Quizzes	Exams (3 mid-terms + 1 final)
Weight:	5%	25%	(15+15+15+25=70)%

WebCT Quizzes are mostly conceptual questions and will be given randomly through WebCT. The purpose of these quizzes is to let you show your concepts about the materials, so that the instructor might teach more efficiently. The quizzes will be post on WebCT few days before a class, and you will be notified about it. The quizzes are due at the midnight (12am) before the corresponding classes. There will be **NO** make-up quiz available. If you miss a quiz, you will receive 0 point for the quiz unless you are legitimately excused.

In-Class Quizzes are problems taken directly from the textbook content of corresponding

PHY 162 General Physics II

assigned readings or class presentation. Most quizzes will be announced in the previous class, and **NO** make-up quizzes are available for unexcused absence or late for a class.

Exams are inevitably **accumulative**, since physics is an accumulative knowledge. You can not master more advanced topics without being fluent with the basics. However, exams will concentrate on the content covered in the corresponding periods, unless otherwise specified. All exams will be close-book. **A formula sheet will be provided**, and you should only bring your pen/pencil, calculator, the formula sheet, and your knowledge of physics to the exams. **No** make-up exams are available unless you are legitimately excused.

Important Dates:

Last Day for Course Withdrawal: 3/20/2008!!!!

Class Policies:

Attendance Policy: Attendance is not mandatory. However, students are solely responsible for learning the materials covered in the missed classes.

Honor Code: You are bound by the Mercer honor code. The College's academic misconduct policy will be followed. All work, for which a grade is received, must be the **original** work of the **student** without aid or assistance of another party, or any printed and or electronic data/information. Academic misconduct cases will be referred to the honor council and the student will automatically receive a grade of incomplete (IC) pending a ruling by the honor council.

Cell Phone and Pager Usage: Out of courtesy for all those participating in the learning experience, all cell phones and pagers must be **TURNED OFF** before entering any classroom, lab, or formal academic or performance event.

Documented Disability Statement: Students with a documented disability should inform the instructor at the close of the first class meeting. The instructor will refer you to the office of Student Support Services (SSS) for consultation regarding evaluation, documentation of your disability, and recommendations for accommodation, if needed. Students will receive from SSS the *Faculty Accommodation Form*. On this form SSS will identify reasonable accommodations for this class. The form must be given to the course instructor for signature and then returned to SSS.

To take full advantage of disability services, it is recommended that students contact the Office of Student Support Services, immediately. The office is located on the third floor of the Connell Student Center.

PHY 162 General Physics II

Tentative Course Schedule

Week	Topic	Required Reading
1/08 – 1/11	Waves & Sounds	Ch 16
1/14 – 1/18	Superposition & Interference	Ch 17 & 35
1/22 – 1/25	Optics	Ch 34 ~ 36
1/28 – 2/01	Electric Charges; 1st Exam	Ch 21
2/04 – 2/08	Electric Charges & Fields	Ch 21 & 22
2/11 – 2/15	Gauss' Law	Ch 23
2/18 – 2/22	Electric Potential	Ch 24
2/25 – 2/29	Capacitance ; 2nd Exam	Ch 25
3/03– 3/07	Spring break	
3/10 – 3/14	Capacitance and Resistance	Ch 25 & 26
3/17 – 3/21	DC Circuits	Ch 27
3/24 – 3/28	Magnetism	Ch 28
3/31 – 4/04	Magnetic Field & Force	Ch 28 & 29
4/07 – 4/11	Magnetic Flux & Faraday's Law; 3rd Exam	Ch 29 & 30
4/14 – 4/18	Inductance, Magnetic Energy, AC Circuits	Ch 30 & 31
4/21 – 4/25	AC Circuits & Electromagnetic Waves	Ch 31 ~ 33
5/03	Final Exam 2:00pm ~ 5:00pm	