PHYS 1420
COLLEGE PHYSICS 2
Fall 2011

Lecture 12:15pm-1:30pm TR LSC 168
16985 LAB A 12:00pm-2:40pm Mondays LSC 112
17008 LAB B 3:00pm-5:40pm Mondays LSC 112
http://faculty.uca.edu/saustin/1420/1420_f11.html

Instructor

Scott Austin
LSC 012 450-5907 saustin@uca.edu
Office hours: MTR 11am-12pm, TR 2pm-3pm

Course Description

For biology, health science, pre-medical, pre-dental, and other students needing a basic introduction to physics. Forms a two-semester sequence with College Physics 1. Introduces the student to electricity, magnetism, light, and selected topics in modern physics. Lecture and laboratory. Prerequisite: PHYS 1410.

Goals/Objectives

The purpose of this course is to provide an overview and in-depth understanding of the physics of electromagnetism and optics. Additionally, you will be expected to exercise and improve your critical thinking and problem solving skills by participating in discussions, demonstrations, and laboratory activities.

Course Format

Required Equipment

- Text book: WileyPlus (Cutnell & Johnson, "Physics" 8th Edition)
- Calculator

WileyPlus Assignments

Multiple WileyPlus assignments will be due each week.

Classroom Activities

Lecture time will be spent primarily on short lectures and example problem solving.

Laboratory

Lab work will be done during the lab block you are enrolled in. You will be assigned to lab groups. These assignments will be modified every two to three weeks.

You must have a lab notebook. You must use a hard-bound book with quadrille-ruled paper and sewn-in pages. These are inexpensive and readily available at the bookstores and office supply stores. You must have a fresh notebook. You may not use notebooks from previous semesters, unless the pages that have been written

on have been removed. You should always bring the notebook to lab, along with writing utensils, a calculator, and your textbook. You should record all data, calculations, and answers to questions in your lab notebook.

Lab attendance will be recorded. Three unexcused lab absences will result in an automatic course grade of F for the semester.

Each lab will require a short lab report. Before leaving lab you will be required to have written a rough draft outline of your report in your lab notebook

Exams
There will be four problem solving exams administered during the lab blocks. See the attached schedule for dates and times.

Final Exam
The final exam is comprehensive and will consist of a mix of multiple choice and problem solving question.

Grading and Grades
- 15% WileyPlus Assignments+25% Labs+35% Exams+25% Final Exam

Starting Grade Scale
$90\% \leq A \leq 100\%$
$80\% \leq B < 90\%$
$70\% \leq C < 80\%$
$60\% \leq D < 70\%$
$0\% \leq F < 60\%$

Phones and PDAs

Sending or receiving messages with phones or other devices during class or lab will result in the loss of points equivalent to one lab quiz for each infraction.

Using phones as calculators is prohibited.

Having a phone on or visible during an exam or quiz will result in an automatic F for the exam or quiz.

Absences
All labs, quizzes, and exams must be done during the scheduled times.
Consideration will be given for the following at the convenience of the instructor:

- Any student who is required to participate in off-campus, university-sponsored activities such as field trips, musical performances, judging teams, intercollegiate athletic events, etc. must obtain a letter from the faculty or staff member supervising the off-campus activity. The letter must contain specific information concerning the activity and date, be signed by the supervising faculty or staff member, and be submitted by the student to me at least one week in advance.
- Students that must miss a class because of illness, personal crises, mandated court appearances, parental responsibilities, and the like are required to submit a written explanation of the absence at least one week in advance. For emergency situations, students are required to call or e-mail me immediately followed by a written explanation.
- If one cannot come to class because of inclement weather one must call or e-mail me immediately.
- Students who attempt to gain advantage through abuse of this policy (e.g., by providing an instructor with false information) will receive disciplinary action and will fail this course.

Academic Misconduct

Academic misconduct include cheating, falsification, multiple submission, plagiarism, abuse of academic materials, and complicity or misconduct in research; the definition of academic misconduct is stated in the Student Handbook. Any student guilty of an act of academic misconduct will be subjected to one or more of the following penalties as outlined in the Student Handbook: 1. The students' grade in the course or on the examination or assignment affected by the misconduct may be reduced to an extent, including reduction to failure. 2. The student may be placed on probation or suspended from the university for a specific period of time. 3. The student may be expelled from the university. Expect to receive the maximum penalty for any academic misconduct.

Misc Policies

All other policies not explicitly covered in the syllabus can be found in the Student Handbook. For example, academic policies in general can be found beginning on page 26 and the sexual harassment policy can be found on page 93.

Americans with Disabilities Act

UCA adheres to the requirements of the Americans with Disabilities Act. If you need accommodation under this Act contact the UCA Office of Disability Services at 450-3135.

Schedule Fall 2011

W		Month	Day	Subject/Event	Chapter-Sections
1	Th	Aug	25	Inventory, Syllabus, Math Concepts	
2	M	Aug	29	**Lab 1: Waves on a String**	16
	T	Aug	30	Waves and Sound	16
	Th	Sep	1	Waves and Sound	16
3	T	Sep	6	Superposition and Interference	17
	Th	Sep	8	Superposition and Interference	17
4	M	Sep	12	**Lab 2: Electrostatics**	18
	T	Sep	13	Electric Forces and Fields	18
	Th	Sep	15	Electric Forces and Fields	18
5	M	Sep	19	**EXAM 1** (16,17)	
	T	Sep	20	Electric Potential	19
	Th	Sep	22	Electric Potential	19

W		Month	Day	Subject/Event	Chapter-Sections
6	M	Sep	26	**Lab 3: Resistivity**	
	T	Sep	27	D.C. Circuits	20
	Th	Sep	29	D.C. Circuits	20
7	M	Oct	3	**Lab 4: DC Circuits**	
	T	Oct	4	Magnetic Forces and Fields	21
	Th	Oct	6	Magnetic Forces and Fields	21
8	M	Oct	10	**EXAM 2** (18,19,20)	
	T	Oct	11	Electromagnetic Induction	22
	Th	Oct	13	Electromagnetic Induction	22
9	M	Oct	17	**Lab 5: Faraday**	
	T	Oct	18	A.C. Circuits	23
10	M	Oct	24	**Lab 6: AC Circuits**	
	T	Oct	25	A.C. Circuits	23
	Th	Oct	27	A.C. Circuits	23
11	M	Oct	31	**EXAM 3** (21,22,23)	
	T	Nov	1	Electromagnetic Waves	24
	Th	Nov	3	Electromagnetic Waves	24
12	M	Nov	7	**Lab 7: Polarization**	
	T	Nov	8	Reflection	25
	Th	Nov	10	Reflection	25
13	M	Nov	14	**Lab 8: Snell's Law**	
	T	Nov	15	Refraction	26
	Th	Nov	17	Refraction	26

W		Month	Day	Subject/Event	Chapter-Sections
14	M	Nov	21	**EXAM 4** (24,25,26)	
	T	Nov	22	Wave Nature of Light	27
15	M	Nov	28	**Lab 9: Optics**	
	T	Nov	29	Wave Nature of Light	27
	Th	Dec	1	Wave Nature of Light	27
16	M	Dec	5	**Lab 10: Interference**	
	T	Dec	6	Wave Nature of Light	27
	Th	Dec	8	Wave Nature of Light	27
	Th	Dec	15	**FINAL EXAM 2pm-4pm**	