

Santa Clara University
Summer Session III C-2011
Physics 13 = XXXXX

Instructor/Office: Dr. Guy Letteer / Daly Science Center 309
Classtime/Room: Mon - Thurs, 8:30 AM - 12:00 noon / DSC 207
Laboratory/Room: Sec 1-M & F: 1:00 – 5:00 PM / DSC 303
 Sec 2-M & W: 5:00 – 9:00 PM / DSC 303
 Sec 3-T & R: 1:00 – 5:00 PM / DSC 303
 Sec 4-W: 1:00 – 5:00 PM & F: 9:00 AM – 1:00 PM / DSC 303

Lab. Instructor: Marisol Ornelas

Graders:

Textbook: *College Physics, 8th edition*
Author: Serway & Vuille
Office Hours: MTW, 12:30 - 1:00 PM, and by appointment
Telephone: 408-554-2197, for voicemail messages press “6”
Internet address: ERES.SCU.EDU (PHYS013--LETTEER)
E-mail addresses: gletteer@scu.edu / mornelas@shschools.org

Course Overview: This five-unit course is the third in a three-part sequence of introductory physics classes. In this course we will study the general areas of physics known as optics and modern physics. The prerequisite for this class is Physics 12 (or the equivalent). Basic calculus will be used in this class. We will cover material from Part 3 in the textbook according to the following syllabus:

Monday	Tuesday	Wednesday	Thursday	Friday
7-25-11 Introduction Chapters 21, 22 No labs meet!	7-26-11 Chapter 22 Chapter 23 No labs meet!	7-27-11 Quiz 1 Chapter 23 Chapter 24 First lab meets, 5 PM	7-28-11 Chapter 24 Chapter 25	7-29-11 No class- Lab only
8-1-11 Chapter 25 Chapter 26	8-2-11 Chapter 26 Chapter 27	8-3-11 MTEXAM (21-26) Chapter 27	8-4-11 Chapter 28 Chapter 29	8-5-11 No class- Lab only
8-8-11 Chapter 29 Chapter 30 Last Lab Meets! All students go to DSC 206, 1 PM.	8-9-11 Chapter 30 Quiz 2 No labs meet!	8-10-11 Chapter 30 No labs meet!	8-11-11 FINAL EXAM Chapters 21-30 9 AM – Noon No Lab	8-12-11 No class- No lab

Grading:

Your grade for this course will be based on the final curve of the class according to the following factors:

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|------------------|-----|
| (a) Homework | 15% |
| (b) Quizzes | 15% |
| (c) Lab Projects | 20% |
| (d) Midterm Exam | 20% |
| (e) Final Exam | 30% |

(a) Homework (15%):

You will be given a list of problems from which to choose a prescribed number for grading. In addition, you will be assigned *Extra problems* each week. Even though you are not required to turn in all the problems on the list, you are responsible for all of them for the exams and quizzes. Solutions will be made available prior to the test dates at ERES.SCU.EDU (PHYS013--Letteer). No homework will be accepted for credit after the solutions are handed out. It is very important that you stay up with the class--the homework is the best measure of this endeavor. Make every effort to stay caught up!!!

(b) Quizzes (15%):

There will be two (2) quizzes that will be given on Wednesday of the first week and Tuesday of the last week. These will be short (about 25 minutes), closed-book, and involve two or three of the problems from the material we have been working on prior to the day of the quiz. If you are caught up with the syllabus and attending class, you will have no trouble with the quizzes. Complicated formulae will be provided on the quiz.

(c) Labs (20%)

There will be seven lab projects completed in four separate lab sections (either a M-F/PM section, a T-R section, a W-F/AM section, or a M-W/PM section). These will meet in DSC 303, starting at 1:00 PM on Mondays - Fridays, 5:00 PM on Mondays and Wednesdays, and 9:00 AM on Friday. Each student is required to complete the lab projects and submit a lab report. You will be given more information regarding this component of the grade on your first day of lab (either Wednesday, 7.27.11, Thursday, 7.28.11 or Friday, 7.29.11). The schedule of lab projects is listed below. Briefly, the lab grade component will be based on two factors: completion of the lab projects and submission of the lab reports describing the results. Any scheduling problems must be addressed in the first two days of class. The last lab project will be held on Monday, August 8, 2011; 1:00 PM, DSC 206. **EVERYONE MUST ATTEND THIS LAB MEETING...PLEASE PLAN AHEAD IF THIS POSES A CONFLICT.**

(d) Midterm Exam (20%):

On Wednesday, August 3, 2011, we will have a midterm exam on Chapters 21 – 26. This exam is closed-book, however, all the equations will be provided to preclude the memorization of formulae. There will be no makeup exams given, so attendance on this day is mandatory.

(e) Final Exam (30%):

On Thursday, August 11, 2011, we will have a cumulative final exam. You will receive more information about this exam as the time draws near. If you are interested in taking the final exam prior to this day, there might possibly be one on the afternoon before. Please be sure to ask about this if you have a special need.

This course is very challenging for several reasons. First, we will be studying a large variety of topics. Second, we will be investigating nature from both a qualitative and a quantitative point of view, with an emphasis on problem-solving. Finally, the pace of this class is about three times faster than a normal quarter taught at Santa Clara University!

Of all the information that you will need to get started in this class, there is one concept that is of paramount importance: **DO NOT FALL BEHIND IN THIS CLASS!!!** With this in mind, please seek help as soon as you feel that you are not understanding the material in lecture. I am always open to questions during class and your success depends on your initiative in asking. Remember, there are no dumb questions except those that you fail to ask!!! If you are confused by something that is being said, it is your right and responsibility to seek clarification. If your question is not satisfactorily addressed in class, please talk to the instructor after class or in office hours or at the start of the next class. There are several other options for getting help (either from the instructor or your colleagues--all you have to do is ask).

Any questions concerning the assessment of your work (such as the assignment of partial credit on either homework or tests) should be taken up with the instructor as soon as possible. I look forward to working with you in this class as we study the small world of the atom, nucleus, and beyond.

**Physics 13--Homework Assignments
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You must complete no less than five (5) problems in any given chapter. Use a homework journal notebook that has pages that cannot be removed. In addition, you must turn in the *Extra Problems* that are assigned each week. Each problem will be scored as follows:

- “3” = Correct method, correct answer, all parts completed
- “2” = Correct method, wrong answer, good effort, partially complete
- “1” = Incorrect method, wrong answer, some effort, incomplete
- “0” = Incorrect method, wrong answer, no effort

Here is a list of the problems (not questions) from which you may choose:

**CHOOSE AT LEAST 5 PROBLEMS FROM EACH CHAPTER...
PLUS, THE EXTRA PROBLEMS THAT ARE ASSIGNED EACH WEEK!!**

Chapter 21: Problems 43, 44, 45, 50, 51, 52, 53, 54

Chapter 22: Problems 1, 4, 7, 13, 15, 18, 21, 25, 33, 38, 40, 43

Chapter 23: Problems 2, 3, 5, 6, 8, 11, 12, 13, 18, 27, 29, 31, 32, 37, 38, 42, 44, 47, 50

Chapter 24: Problems 1, 2, 3, 5, 8, 12, 14, 16, 17, 29, 31, 33, 35, 36, 42, 53, 54, 62

Chapter 26: Problems 2, 3, 4, 5, 6, 7, 9, 13, 14, 18, 21, 23, 27, 28, 29, 30, 39

Chapter 27: Problems 1, 3, 8, 11, 13, 14, 26, 27, 28, 34, 35, 40, 42

Chapter 28: Problems 1, 2, 6, 8, 9, 12, 13, 15, 19, 20, 27, 33

Chapter 29: Problems 1, 9, 10, 13, 15, 16, 18, 21, 22, 25, 26, 33, 35, 39, 42, 47, 50

Chapter 30: Problems 1, 2, 4, 8, 10, 17, 23, 24, 25, 34, 36, 37, 40

<Your homework solutions are due the day before the quiz or exam for each week. You may turn them in at any time prior to this. USE YOUR HOMEWORK JOURNAL!>

**Solutions are available on the Internet:
(after the due date)**

<http://eres.scu.edu>
PHYS013
Letteer

**Physics 13—Tentative Lab Schedule
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Monday	Tuesday	Wednesday	Thursday	Friday
7-25-11 No Labs Today	7-26-11 No Labs Today	7-27-11 No Lab Sec. #4--1:00 PM First Lab-Sec. #2-5:00PM Lab17: Speed/light Lab18: Geo. Optics	7-28-11 Sec. #3--1:00 PM Lab17: Speed/light Lab18: Geo. Optics	7-29-11 Sec. #4--9 AM & Sec. #2--1:00 PM Lab17: Speed/light Lab18: Geo. Optics
8-1-11 Sec. #1--1:00 PM & Sec. #2--5:00 PM Lab19: Phys. Optics Lab20: Spectrometry	8-2-11 Sec. #3--1:00 PM Lab19: Phys. Optics Lab20: Spectrometry	8-3-11 Sec. #4--1:00 PM Lab19: Phys. Optics Lab20: Spectrometry Sec. #2--5:00 PM Lab21: Radioactivity I Lab22: Radioactivity II	8-4-11 Sec. #3--1:00 PM Lab21: Radioact. I Lab22: Radioact. II	8-5-11 Sec. #4--9 AM & Sec. #2--1:00 PM Lab21: Radioact. I Lab22: Radioact. II
8-8-11 All lab sections meet at 1:00 PM in DSC 206 Last lab session = TBA (Lab23).	8-9-11 No Labs Today	8-10-11 No Labs Today	8-11-11 FINAL EXAM 9 AM - Noon No Labs Today	8-12-11 No Labs Today

Lab sections all meet in DSC 303:

Section #1: Monday & Friday, 1:00 – 5:00 PM (XXXXXX)
Lab instructor: Marisol Ornelas

Section #2: Monday & Wednesday, 5:00 – 9:00 PM (XXXXXX)
Lab instructor: Marisol Ornelas

Section #3: Tuesday & Thursday, 1:00 – 5:00 PM (XXXXXX)
Lab instructor: Guy Letteer

Section #4: Wednesday, 1:00 – 5:00 PM (XXXXXX)
Lab instructor: Guy Letteer
& Friday, 9:00 AM – 1:00 PM
Lab instructor: Marisol Ornelas