

Fall 2007

DEPARTMENT OF PHYSICS

September 28, 2007

**PHYSICS 2Ca: Fluids, Thermodynamics, Waves & Optics**

**INSTRUCTOR**

Alex Groisman, [agroisman@ucsd.edu](mailto:agroisman@ucsd.edu)  
7254 Urey Hall, x21838  
Office Hrs:  
Monday and Wednesday 3:45-4:45 pm

**COURSE COORDINATOR**

Patti Hey, 118 Urey Addition, x2-1468  
[plhey@physics.ucsd.edu](mailto:plhey@physics.ucsd.edu)

**TEACHING ASSISTANT**

Benjamin Heldt ([benheldt@physics.ucsd.edu](mailto:benheldt@physics.ucsd.edu))  
Office hours:  
Friday 10-11am in Mayer Hall 2101

**COURSE SCHEDULE**

The first class is a lecture on Friday, September 28<sup>th</sup>.

Lectures:	M,W	1:00-1:50 PM	WLH 2001
	Tu	8:00-8:50 PM	Peter 110
Quiz:	Fri	1:00-1:50 PM	WLH 2001
Discussion session:	Wed	7:00-7:50 PM	Peter 110
Problem session:	Thur	7:00-8:50 PM	Center 109

On the week of November 5<sup>th</sup>, the class on Friday November 9<sup>th</sup> will be a lecture, not a quiz. On the week on November 12<sup>th</sup> (the week of the Veteran's day), the quiz will be given on Wednesday, November 14<sup>th</sup>, and the class on Friday, November 16<sup>th</sup>, will be a regular lecture.

**TEXT**

Wolfson & Pasachoff, *Physics for Scientists and Engineers*, 3rd Edition (Addison-Wesley, 1999)

**COURSE DESCRIPTION**

Physics 2C is the third quarter of a four-quarter introductory physics sequence. The course is aimed at students majoring in science and engineering (e.g. chemistry, molecular biology, computer science, mathematics). It is a continuation of Physics 2B covering fluid mechanics, thermodynamics, wave motion and sound, Maxwell's

equations and electromagnetic waves, geometric optics, interference and diffraction. The course will closely follow the textbook by Wolfson and Pasachoff, Chapters 16-22 and 34-37.

**Prerequisites:**

Physics 2A and 2B; Math 21C and concurrent enrollment in Math 21D, or equivalent. Knowledge of calculus will be assumed.

**Discussion and Problem Sessions:**

There is a weekly discussion session given by the TA on **Wednesdays at 7:00-7:50 pm in Peter 110**. This is a chance for you to get answers to your questions. Please, come and bring some good questions. In addition, there will be problem sessions given weekly by the TA on **Thursdays at 7:00-8:50 pm in Center 109**. They will focus on problem solving. Your active participation is strongly encouraged.

**Homework Assignments.**

Problems will be assigned weekly as per the attached schedule. The homework will not be graded. To understand the material, however, you must practice solving problems, and it is very important for you to work on your own, and only consult the solutions as a check or if you are stuck. Studying in groups may be valuable, but it can not completely substitute working on your own, since the first step in solving a problem is often also the most complicated one. Problems given on the weekly quizzes will often resemble the homework problems. The textbook contains numerous worked sample problems, and a number of problems and questions at the end of the chapter. Solutions of many of those can be found in the Students' Solution Manual (on reserve in the library.) Please, remember that learning physics is about understanding why a solution works, rather than about getting the correct numbers.

**QUIZZES**

Closed-book quizzes will be given on Friday every week except for the weeks of September 20, and November 22 in accordance with the schedule given below. **No cheat-sheets will be allowed. The necessary equations will be written on the blackboard.** Solutions and scores will be posted on the web. Your overall quiz grade will be computed from your best 6 of the 8 quizzes and will count 66% toward your final grade. Two quizzes can therefore be missed without penalty.

The quizzes will be composed of multiple choice problems. You will have to provide your own scantron card, form No. 20788-PAR. They are available at the bookstore and the general store co-op for about \$0.15 ea. You will need a No. 2 pencil to fill in the scantron. **Bring a scantron form and a pencil or you'll receive no credit for the quiz.**

1. You may use a calculator (but not a laptop) during the quiz. You may wish to bring some blank scratch paper as well.

2. At the first quiz, you will be assigned a code number. This code number will be used to identify your answer sheet for each quiz. **Write your code number, your name, the course number and quarter on the Scantron form. Code number errors (missing or incorrect code number) will be penalized with a deduction from the quiz score.**
3. Any appeal of quiz grades should be made in writing **to the TA, within one week** of the posting of that quiz. You must provide an explanation for why you are appealing the grade (be specific).
4. **There will be no make-up quizzes.** If you anticipate missing more than two quizzes due to unavoidable circumstances, you must **discuss this with the instructor beforehand.**

## FINAL EXAM

The final will be given on **Monday, December 10<sup>th</sup>, from 11:30 am to 2:29 pm**, location to be announced. Your student I.D. is required to take it.

The final will be a closed-book exam and cover **the whole course material**, and it will be composed of multiple choice problems, just like the quizzes. So, you should bring a Scantron form with you. You may use a calculator (but not a laptop) during the final. You may also bring a single 8 1/2" x 11" sheet of paper of formulae and notes **handwritten** on the both sides. The use of printed cheat-sheets is not allowed. You may wish to bring some blank scratch paper as well.

<b>COURSE GRADE:</b>	Quizzes	66% (best 6 of 8)
	Final Exam	34%

## ACADEMIC DISHONESTY

Please read "UCSD Policy on Integrity of Scholarship" in the UCSD General Catalog. These rules will be rigorously enforced. Any confirmed case of cheating will result in an "F" grade in Physics 2C and referral to the appropriate dean for disciplinary action. For the purposes of this class, cheating includes submitting another person's work as your own, copying from another student on Quizzes or the Final Exam (or knowingly allowing another student to copy from you), and use of unauthorized materials during a Quiz or Final Exam. The weekly quizzes might be somewhat similar to the quizzes given to the Phys 2Cb class. Attempts to obtain the material of those latter quizzes will be qualified as cheating. Cheating also includes attempts to manipulate grades unfairly and intentionally misusing code numbers.

## **ADD/DROP PROCEDURE**

Use WebReg to add/change/drop, drop from waitlists. **No add/drop cards will be signed by the instructor or TA.**

### **Last day to:**

Add	Friday, October 12, 2007
Drop without "W" on transcript	Friday, October 26, 2007
Drop without penalty of "F" grade	Friday, November 30, 2007

## **WHOM TO SEE**

Richard Hsu E-mail: [rhsu@physics.ucsd.edu](mailto:rhsu@physics.ucsd.edu) or 534-3290; 115 Urey Hall Addition, Physics Dept. Student Affairs Office, if you have any trouble using WebReg to add/change/drop, drop from waitlists.

The Teaching Assistant if you have questions relating to problem solving methods or to grades received.

The Instructor, if you have basic questions about the subject matter, or if you have administrative problems.

**Schedule of classes, homework and quizzes**  
is posted on the class web site as a separate document.