

Cal Poly	Physics 133 TR 8:10-9:30 AM Bldg 53 Room 206	Spring 2009
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COURSE WEBPAGE: <http://atom.physics.calpoly.edu/~jodi/S08Phys133>

Instructor: Dr. Jodi Christiansen	Office: 25 Room: 226
Instructor Webpage: http://atom.physics.calpoly.edu/~jodi	Phone: 756-2778
Office Hours: TR 9:30-11 AM, Wed 6-8 PM (W&R in the Learning Center, 52-A3)	Email: jlchrist@calpoly.edu

Text and Materials (available at bookstore and elsewhere)

- *University Physics*, by Young & Freedman, Addison-Wesley
- Scientific calculator (trigonometric functions, scientific notation, etc.)

Class time and assignments: Assigned readings are on the schedule. You are expected to read the chapter before Tuesday's class each week. During class there will be interactive individual/group work focusing on learning exercises, problem solving, and other activities. Regular class attendance is expected!

Grading:

Laboratory	Homework	Worksheets	6 Quizzes	2 Exams	Final	TOTAL
10%	5 %	10%	15 %	30%	30%	100%

Laboratory: You must be registered for a lab section. You must attend and complete every lab. Missing a lab guarantees you an F/I/U for the combined course grade. You must receive a passing grade in lab to pass the course. An F/I/U in either lab or lecture guarantees you an F/I/U in the total course grade. This is a Physics Department policy. S+ = 10% and S = 8.5%, S- = 5.0%.

Homework: End-of-chapter problems will be collected at the start of class on Thursdays. It should be neatly stapled. No late homework will be accepted. I encourage you to work with others, but please turn in your own work.

Worksheets: Worksheets will be passed out during class. I expect you to work with others during class to complete them, but you may need to finish them after class. They are to be turned in with the homework.

Quizzes: 20 minute quizzes will be given on Thursdays at the start of class. Your lowest quiz score will be dropped.

In-class Exams: Exams will be closed book and notes but you will be allowed to bring a formula sheet. There will be two exams during the class period; Thu., April 23 (Chaps 21, 22, 23) and Thu., May 14 (Chaps 24, 25, 26). For the first exam you may bring a single-sided 1/2 page formula sheet. For the second exam, you may bring a double-sided 1/2 page formula sheet.

Final Exam: The final exam is scheduled on Tuesday, June 9 during finals week from, 7:10 AM – 10 AM. It will be cumulative (Chapters 21-30) with emphasis on Chapters 27-30. The final exam will be closed book/notes; however, you may bring a one page formula sheet.

General Policies:

- I encourage you to *work with other students* (form groups?); however, you must do and turn in your own work. It should not be copied from another source/friend. Even if you look at someone else's solution, please close the source and use what you learned to write out your own solution.
- Work submitted for credit must be on time, stapled, neat (no perforations), and readable. Your work should be clearly organized on the page, with explanatory phrases, correct units, and the answer circled or boxed. Late or messy work will receive less than full credit.
- If there is a problem (illness, car trouble, course conflict, game, performance, etc.) let me know as soon as possible and we *might* be able to make other arrangements.
- Check the appropriate university documents for details and deadlines concerning academic honesty, adding, dropping, grading, withdrawal, incomplete, etc.

Unforeseen circumstances may necessitate changes in this information. Changes will be announced in class and posted on the course website.

Grading Rubric

When solving physics problems, it is possible to get the correct answer without understanding the physics that underlies the solution. The lowest level of understanding is being able to get the correct answer, the next level is understanding how you found the answer, and the highest level is being able to explain to others how you found the answer. The purpose of assignments is to help you reach the highest level of understanding. Your grade will be determined by the clarity of your solution.

A homework problem consists of

- **An explanation:** You should clearly articulate the assumptions, the steps (including equations), the reasoning that lead to the solution of the problem, and an assessment of the result. Imagine you are writing a solution for another student in the class, one who is struggling to understand and needs to be helped with every step. You may want to work the problem first on scratch paper and then transfer it to the paper you plan to turn in so that you can add explanations and clarity.
- **An answer:** Your answer should be circled and contain the correct number of significant digits, the units, and if it's a vector, the direction.

Grading: Answer (50%) + Explanation (50%) = Solution (100%)

Answer (5 points possible out of 10)

+5 points	The answer is correct.
-1 point for each omission or error	<p>The value is correct, but...</p> <ul style="list-style-type: none"> • Is not clearly identified (circled for example) <p style="text-align: center;">or</p> <ul style="list-style-type: none"> • Is missing units, directions, or has the wrong number of significant digits. <p>The value is incorrect, but....</p> <ul style="list-style-type: none"> • The answer is incorrect because of a math error ($2+2=3$). <p style="text-align: center;">and</p> <ul style="list-style-type: none"> • The answer was determined to be reasonable in the Assess section of the solution.
+0 points	The answer is incorrect.

Explanation (5 points possible out of 10)

+5 points	<p>The solution could be used as an example in the textbook.</p> <p>The solution uses an appropriate format (Picture, Definition of Variables, Solve, and Assess), the answer is correct, and explanations of all the important steps are included.</p>
-1 point for each omission or error	<p>The solution could be used in the textbook with editing.</p> <p>The solution uses the appropriate format (Picture, Definition of Variables, Solve, and Assess), but needs the addition of some clarifying explanation. The clarifying assumptions could be any one of the following items:</p> <ul style="list-style-type: none"> • Assumptions are not stated (frictionless, point particle) • Inconsistent symbol notation (mathematical model doesn't match free body diagram, vector diagram, circuit, etc.) • Not enough explanation at important points (why the positive root, why was the magnitude of the force the same, why is the potential difference the same, etc.) • Conceptual mistake
+2 points	<p>The solution is a long way from being used in the textbook.</p> <p>The solution shows an honest attempt to work the problem and explain the steps but contains large conceptual mistakes and gaping logical holes.</p>
+0 points	There was no real attempt to explain work.