PHYS-2A-Section1384-Fall 2015
Lecture: MW: 2:00 pm-3: 25 pm
Lab: Th: 2:00 pm-5: 10 pm

Instructor: Asma Said
Phone: 310-660-3593
Ext:4826
email: asaid@elcamino.edu. Note: The spam-blocking software used by the school occasionally blocks emails sent to me by students. If you wish to contact me by email, you should send email from an El Camino email account, as these emails will not be affected by the spam blocker. If you submit your homework through an off-campus email service and the homework does not arrive in my inbox, you will not receive credit for the homework.

Office:

Office Hours:

Website: http://asmasaid.weebly.com/phys-2a-fall-2015.html
(This syllabus, as well as information about homework assignments and the course calendar are available through the website.)

Nicenet: I have set up an internet forum which students can use to discuss topics from class, or exchange hints on the homework. To access this, go to http://www.nicenet.org and enter the course key, which is 86C4L4A34

ATTENDANCE: A student missing any class session during the first two weeks may be dropped from the course in order to allow other students to enroll. Therefore, if you expect to miss a class during the first two weeks, you must inform me in advance. Also, if you miss twelve or more hours of class time up to the last day to drop, you may be dropped. Attendance will be taken at the beginning of class, and students arriving late will be marked absent. If you arrive after class begins, you will need to see me after class so that I can mark you present. If you expect to miss a class for any reason, please send me an email. **The instructor may drop students, whose absences from the class exceed 10% of the scheduled class meeting time, i.e. If you miss 9.6 hours of class time, you may be dropped.**

QUESTIONS: I will generally begin the class periods by asking for questions. Please prepare by reviewing notes from recent lectures between class meetings, and reading ahead in the text, so that you will be able to ask questions at the beginning of the class. Good questions make the class more interesting and more helpful.

CELL PHONES: Please turn your cell phones off or set them to "vibrate" before class starts. The first two times your cell phone sounds in class there will be no penalty. After that, I will deduct 0.1 percentage points from your final grade per occurrence.

COURSE STRUCTURE: A schedule which gives exam dates, lab dates, and homework due dates has been posted on my website.

ACADEMIC HONESTY:
El Camino College places a high value on the integrity of its student scholars. When an instructor determines that there is evidence of dishonesty in any academic work (including, but not limited to cheating, plagiarism, or theft of exam materials), the disciplinary action appropriate to the misconduct as defined in BP 5500 may be taken. A failing grade on an assignment in which academic dishonesty has occurred and suspension from class are among the disciplinary actions for academic dishonesty (AP 5520). Students with any questions about Academic Honesty or discipline policies are encouraged to speak with their instructor in advance. The policy can be read at:
http://www.elcamino.edu/administration/board/boarddocs/5500%20Standards%20of%20Student%20Conduct.pdf

ACCOMMODATIONS IN CLASS:
"Students who believe they may need accommodations in this class are encouraged to contact the Special Resource Center on campus as soon as possible to better ensure such accommodations are implemented in a timely fashion. As well please contact me privately to discuss your specific needs. "

READING: The text we use is College Physics, 10th Edition, by Serway and Jewett, to purchase the book
www.cengagebrain.com ISBN 9781285858500 one semester eBook/onlineEWA
http://www.cengagebrain.com/shop/en/US/storefront/US?cmd=CLHeaderSearch&fieldValue=9781285858500
www.cengagebrain.com
ISBN 9781285858418   for two semester eBook/online homeworkEWA
http://www.cengagebrain.com/shop/en/US/storefront/US?cmd=CLHeaderSearch&fieldValue=9781285858418

Students' Learning Outcomes:
PHYS 2A General Physics: SLO #1
Students will demonstrate ability to correctly read and record, with appropriate units and uncertainties, measurements taken from a vernier caliper and a micrometer caliper by measuring the lengths and diameters of several cylindrical objects. Students will be asked to perform mathematical operations using the measured quantities in order to calculate results from those measurements, and to record those results with appropriate units and uncertainties.
PHYS 2A General Physics: SLO #2
Students can identify the physical principles, which are relevant in a given physical situation involving mechanics, heat, fluids or sound and describe how these principles are manifested in, and influence the behavior of that physical situation.
PHYS 2A General Physics: SLO #3
Students can identify and apply the applicable laws of physics along with the necessary mathematics to successfully solve a mechanics problem.

A detailed list of topics to be covered and associated reading follows:

Topic Number	Topic	Reading Assignment (Serway & Jewett 6th Edition)
1	Motion in One Dimension	Chapter 2
2	Vectors and Two-Dimensional Motion	Chapter 3

3	The Laws of Motion	Chapter 4
4	Energy	Chapter 5
5	Momentum and Collisions	Chapter 6
6	Rotational Motion and the Law of Gravity	Chapter 7
7	Rotational Equilibrium and Rotational Dynamics	Chapter 8
8	Solids and Fluids	Chapter 9
9	Thermal Physics	Chapter 10
10	Energy in Thermal Processes	Chapter 11
11	The Laws of Thermodynamics	Chapter 12
12	Vibrations and Waves	Chapter 13
13	Sound	Chapter 14

GRADING: Your grade will be based on homework, in-class work, labs, exams, and a final exam, which will be weighted towards the final grade as follows:

> Homework:………………………15% of total grade
> Labs:…………………………. 15% of total grade
> Exams: 3@ 17% each.………… 51% of total grade
> Final Exam:………………………19% of total grade

Grade Assignment:
> A: 90% to 100%
> B: 80% to 89.9%
> C: 65% to 79.9%
> D: 55% to 64.9%
> F: 0% to 54.9%

In-class work: From time to time, I may decide to collect problems, which have been assigned as in-class work. If I do this, grades on these problems will be counted as part of your homework score.

EXAMS
Exams will be given on 9/17, 10/15, 11/12, and the Final Exam will be held on 12/09.
You may bring a calculator of your choice to each of the exams. You may bring a single HANDWRITTEN 3"x5" note card to each of the first three exams, and a single HANDWRITTEN 5"x8" note card to the Final Exam. Blank note cards will be provided a

week before each exam by the instructor. You must use the blank note cards provided by the instructor. You will not be allowed to use formula sheets prepared on your own paper.

Studying for an exam: Before an exam, review all of the relevant homework problems. Make sure that you can solve all of them cold, closed book, no notes. If you are unable to do any of the problems closed-book, review your notes, close the book again, and start from scratch. Repeat this process until you can do all of the homework problems without notes. If possible, try to solve unassigned problems from the book.

Missed Exams: In general, no makeup exams will be given. In case you missed an exam for any of the reasons listed below, and only under the conditions listed, I will assign a grade that is the average of other exams to replace your grade for the missed exam. Medical Emergencies: If you miss an exam due to medical emergency or acute illness, you must provide a written medical excuse. If at all possible, please advise me of your absence before the exam begins. Non-emergency visits ,which you would normally be able to schedule around an exam (regular checkups, etc.) do not generally constitute an excuse for missing an exam.
- If you expect to miss an exam for any reason other than a medical emergency or acute illness, you must inform me about it BEFORE the day of the exam, and will be considered excused only under unusual circumstances. You must provide a written document supporting your excuse.
- In rare circumstances (such as a family emergency) a conflict may arise which forces you to leave town before receiving a response from me on your request to miss an exam. Even under such circumstances, I must receive a notification from you, either through email, written notice, or voice mail 310-660-3593 Ext:4826 before the exam occurs, and may still choose not to consider as an insufficient reason for missing an exam.
- HOMEWORK

Homework assignments will be submitted twice. One online, and the same homework must be submitted on paper. The grade will be equally divided between both homework. The online homework must be submitted on the due date 11:59 pm, and the one on paper must be submitted in class. In order to enroll in this class use the class key (elcamino 3313 3414).
Turning in the Homework: In addition to submitting the online homework, a hard copy of the homework is due at the *beginning* of class on the due date. You should be working on the problems in a homework assignment as we work our way through the material in class. Homework turned in during class will be deducted 5%. Homework turned in after class on the due date will be deducted 10%. Homework will not be accepted after 11:59 pm on the due date. If you need to miss class for a reason other than a medical emergency, you will need to hand the homework in early or arrange to have someone else bring it in.

Homework and Academic Honesty: Most physics students will seek homework assistance from their classmates from time to time. Although cooperation on homework assignments is generally quite useful, the main goal of the course is for you to develop your own thinking skills. It is therefore important that you do not allow discussion of a homework problem with another student to degenerate into a scenario where you are simply copying his/her work.

To prevent this from happening, I strongly encourage the following: When you approach another student for assistance with a homework problem, ask him/her to explain to you

orally (without writing) how the problem was solved. If an oral discussion does not suffice, you may exchange written hints on paper, provided that nobody turns in that particular piece of paper for credit.
However, YOU MAY NOT LOOK AT WORK WHICH ANOTHER STUDENT INTENDS TO
TURN IN; this creates too much temptation for copying. Phone conversations, for example, are ideal for exchanging the right level of information. You are also encouraged to contact classmates or post questions on the class Nicenet site.

IF TWO ASSIGNMENTS ARE SIMILAR TO AN EXTENT WHICH CAN ONLY BE EXPLAINED BY COPYING OR A SIMILARLY DETAILED SHARING OF INFORMATION, **BOTH** ASSIGNMENTS WILL RECEIVE A SCORE OF ZERO. ANY STUDENTS WHO COPY OR WHO ALLOW THEIR HOMEWORK TO BE COPIED WILL RECEIVE A ZERO ON THE HOMEWORK ASSIGNMENT. IF THIS HAPPENS TWICE, YOU WILL RECEIVE A ZERO HOMEWORK GRADE FOR THE ENTIRE SEMESTER. Other Students' Information: You should also acquaint yourself with other students who might be able to help you. In the space below, write the contact information of three other students:

Name	Phone Number	email

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RULES FOR HOMEWORK

1. General Appearance of Assignment: PROBLEMS VIOLATING THE FOLLOWING RULES WILL NOT BE GRADED.
a. Handwriting should be neat, legible, and reasonably dark.
b. Problems must be solved in exactly the order assigned. That is, problem 1 should be solved first, then problem 2, etc. Once I encounter problems appearing in the wrong order, I will stop grading the assignment.
c. A reasonable attempt must be made to follow the rules given here. An assignment which shows little or no effort to follow the rules described here will not be graded.

2. Write your name, date, and assignment letter (assignments are listed as 1, 2, 3, etc.) in the upper-right corner of the front page. Staple all pages together at the upper-left corner.

3. YOU MAY WRITE ONLY ONE EQUATION OR STATEMENT PER LINE. After you have written one equation on a line, go to the next line to write the next equation.

If you write small and find this wasteful, you may draw a line down the middle of your paper to make two columns, and then begin working down the right side of the paper after you have completely used up the left side.

4. The following steps must be followed when STARTING a homework problem:
a. Draw a diagram which presents all information given in the statement of the problem. Any symbolic variables (such as x, t, F, etc.) must either appear in the diagram or be listed next to the diagram.
b. If appropriate, use your diagram to define a coordinate system.
c. If information is given as a numerical value (such as 3.0m, 12.0s, 8.0N, etc.), a symbol (such as x, t, F, etc.) must be assigned to the numerical value. For example, if a problem says that a box has a mass of 3.0kg, you should write "$m = 3.0$kg" on your paper, on or next to the diagram. Do not simply write "3.0kg"; assign a symbol and write "$m = 3.0$kg".

5. To begin COMPUTATION: Start your solution by stating a well-known equation you have seen either in lecture or in the text (e.g. $F = ma$, $\Delta x = v_{av}\Delta t$, etc.) that is appropriate to the problem at hand. The first equation in a solution should NEVER have numerical values plugged into it; it should be strictly in "variable" form.

6. USE THE CORRECT UNITS.
a. Every numerical answer must include the correct unit.
b. Any time a number representing a physical quantity appears in a solution, units must be included. Do not insert numbers into an equation without inserting the accompanying units.

Example:

$\Delta x = v\Delta t$
$\Delta x = (4)(2)$
$\Delta x = 8m$

WRONG

Example:
$\Delta x = v\Delta t$
$\Delta x = (4m/s)(2s)$
$\Delta x = 8m$

RIGHT

c. Check to make sure that the correct unit for your answer follows from the computation; do not just "tack on" the correct unit at the end of the problem. This generally requires a simple computation. An example follows:

Example: Suppose you wish to compute the acceleration of a 5kg object subject to a 10N force. You would write:

$a = \dfrac{F}{m} = \dfrac{10N}{5kg} = \dfrac{10\text{kg}m/s^2}{5\text{kg}} = 10m/s^2$

Notice that expanding "N" into "kgm/s^2" allows you to cancel the "kg's", leaving m/s^2, which is the correct unit for acceleration.

7. Use lines to separate a problem from the other problems on the same assignment.
COURSE OBJECTIVES
On successful completion of this course, the student will be able to:

1. Analyze physical problems in order to:

       a. recognize the physical principles required to solve the problem
       b. isolate and model the physical principles underlying each part of the problem
       c. formulate the equations for each part
       d. combine and solve the system of equations for the problem

2. Explain, conceptually and/or quantitatively, physical phenomena perhaps too difficult for realistic mathematical modeling at the introductory physics level.

3. Demonstrate the ability to

       a. construct simple mechanical systems
       b. make meaningful measurements using basic mechanical measuring devices
       c. manipulate the collected data using basic error theories
       d. report the outcome of the experiment
       e. explain the results physically

4. Demonstrate ability to solve problems using

       a. Newton's laws of motion
       b. momentum and impulse
       c. work-energy theorem
       d. torque
       e. the laws of thermodynamics
       f. hydrostatics
       g. hydrodynamics
       h. Newton's Law of Universal Gravitation
       i. Simple Harmonic Motion