**PHYS-11-Section1602-Spring2016\_Lecture: T Th: 11:15-12:40 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 bythe 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.

Website: <http://asmasaid.weebly.com/physics-11_s2016.html>(This syllabus, as well as information about homework assignments and the course calendar are available through the website.)

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 4.8 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, 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%20C> onduct.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. "

**Recommended Text:**

 Conceptual Physics 12/e Loose Leaf:

ISBN-10: 0321909798
ISBN-13: 9780321909794

**Required Workbook:**

Practice Book for Conceptual Physics 12/e:

ISBN-10: 0321940741

ISBN-13: 9780321940742

# Students’ Learning Outcomes:

PHYS 11 Descriptive Introduction to Physics:

SLO#1. Applying Relevant Principles Given a description of a physical situation (floating ice cube, falling body,...) students will be able to recognize the basic physical principles involved in order to correctly answer conceptual questions.

**Physics 11 Course Objectives**

Students shall be able to:

Distinguish between Newton’s Laws of Motion for linear and non-linear motion, work, energy, impulse and momentum.

2. Explain the significance of Newton’s Laws of Motion, work and energy, and momentum.

3. Explain conceptually/qualitatively physical phenomena in terms of specific principles of physics.

4. Make qualitative predictions about the outcome of a natural physical event using specific principles of physics.

**Physics 11(Section 1602 Course Outline**

**Spring 2016**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Week** | **Start Date** | **Topic** | **Chapter Reading** | **Homework assignment** | **Exams/Quiz Tentative Dates** |
| 1 | JAN/19 | Scales in the | 1 & 11 |  |  |
|  | Universe |
| JAN/ 21 | Atoms and Nature |
|  |  | of matter |
|  |  |
| 2 | JAN/26JAN/28 | Measurement, uncertainty, vectors. |  2 |  |  |
| 3 | FEB/02 |  |  3 | H.W.1 due | Quiz 1 |
| FEB/04 | Basic definitions ofMotion |
|  |   |
|  |  |
| 4 | **FEB/ 09** | Newton's Laws of Motion | 4,5 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 56 | **FEB/11** | **First Midterm** |  |  | **First Midterm** |
| FEB/16FEB/18 | Projectiles and circular motion.Universal Gravitational Law. | 9,10 | H.W.2 due |  |
| FEB/23FEB/25  | Momentum and Impulse. | 6 |  | Quiz 2 |
| 7 | MAR/01 | Work and Energy | 7 | H.W.3 due |  |
|  |  |
| MAR/03 |  |
|  |  |
| 8 | MAR/08 MAR/10 |  Heat, temperature and Calorimetry.**Midterm 2** | 15,17 |  | **Second Midterm** |
| 9 | MAR/22OCT/24 | Traveling and Standing Waves.Sound | 19,20 | H.W. 4 due | Quiz 3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 10 | MAR/29MAR/31  | Electrostatics | 22 |  |  |
| 11 | APR/05 |  | 23 |  |  |
|  |  Voltage, current, resistance, and capacitance. |
| ARP/07 |
|  |  |
| 12 | ARP/12ARP/14  | Magnets, currents and magnetic fields**Midterm 3** | 24 | H.W. 5 due |  |
| 13 | ARP/19ARP/21 | Electromagnetism, and power generation. | 25 |  | **Third Midterm** |
| 14 | ARP/26 |  | 26 | H.W.6 due | Quiz 4 |
|  |  |
|  | Properties of Light |
| ARP/28 |
|  |  |
| 15 | MAY/03 | Color Reflection | 28 |  |  |
| 16 | MAY/05 |  |  |  |  |
|  | MAY/10MAY/12 | Review Session Final Exam WeekFinal Exam |  |  |  |

**GRADING:**

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

Homework:………………………15% of total grade

Class Work:…………… .……… 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: 75% to 89.9%

C: 60% to 74.9%

D: 50% to 59.9%

F: 0% to 49.9%

**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 the assigned dates.** You may bring a calculator of your choice to each of the exams.

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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|  |  |  |

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RULES FOR HOMEWORK

1. General Appearance of Assignment: PROBLEMS VIOLATING THE FOLLOWING RULES WILL NOT BE GRADED.
	1. Handwriting should be neat, legible, and reasonably dark.
	2. 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 willstop grading the assignment.
	3. 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.

1. The following steps must be followed when STARTING a homework problem:
	1. 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 tothe diagram.
	2. If appropriate, use your diagram to define a coordinate system.
	3. 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* = 3.0kg” on your paper, on or next to the diagram. Do not simply write “3.0kg”; assign a symbol and write “*m* = 3.0kg”.
2. 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*, ∆*x* = *v*av∆*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.
3. USE THE CORRECT UNITS.
	1. Every numerical answer must include the correct unit.
	2. 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:

∆x = v∆t

∆x = (4)(2)

∆x = 8m

**WRONG**

Example:

∆x = v∆t

∆x = (4m/s)(2s)

∆x = 8m

**RIGHT**

* 1. 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* = *F* = 10N = 10~~kg~~m/s2 = 10m/s2

*m* 5kg 5~~kg~~

Notice that expanding “N” into “kgm/s2” allows you to cancel the “kg’s”, leaving m/s2, which is the correct unit for acceleration.

1. Use lines to separate a problem from the other problems on the same assignmen