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Web Page: http://www.elcamino.edu/faculty/dvakil/physics_2a.html -- all web pages are new, so all suggestions are welcome! All materials except exams will be posted on the web page. If something is missing, please inform me.  
Office Hours: right after class = M-Th 3:55-4:30pm or by appointment. Use them!  
Lab Manual for Physics 2A & 3A  
You need to bring the text to class everyday! You may find colored pencils/pens useful during class. I will be using colored chalk on many occasions.  
There might be FREE tutoring available in the Learning Resource Center in the main library.  

Course goals  
This course is an introductory physics course. At the end of the term, you should have developed qualitative and quantitative problem-solving skills that will help you in future classes and in many of life’s endeavors. In addition, you are expected to be knowledgeable in the material covered.  

Student Learning Outcomes  
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,  
   e. access the physical reality of the result in terms of the data given, for a variety of physical situations involving the topics covered in the course.  
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, and  
   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 [or just energy problems in general]  
   d. torque  
   e. the laws of thermodynamics [maybe not too much of this]  
   f. hydrostatics  
   g. hydrodynamics  
   h. Newton's Law of Universal Gravitation [and only a little of this]  
   i. Simple Harmonic Motion [and this]
Homework, late policy, and neatness

Homework problems are worth two points each and will come in sets of approximately 10 problems. However, only a random sample of (approximately half of the) problems will be collected and graded. All homework assignments and labs are due at the beginning of class on the due date. Homework submitted 30 minutes after class begins will be marked late and will be penalized 20%. No homework will be accepted more than 1 class day late, unless arranged 2 days prior to the due date. This strictly-enforced late policy allows me to post solutions quickly. There are deadlines in the real world and they don’t change for emergencies or because you left something at home. You’re in college, and it’s time to prepare for the challenges in the real world.

All assigned problems should be attempted – the biggest source of lost points is when students do not attempt problems. Partial credit will be awarded, so if you try to solve the problem and fail, please submit your attempt. In order to receive partial credit, you must submit a real attempt at the problem. Blank problems will not be rewarded. I strongly urge you not to erase. Instead, cross material out in a way that allows you to see what you did, even if you think it is now wrong.

Solutions to homework problems will be posted in the window cases outside the physics faculty offices one or two days after submission (or earlier, if needed to help study for an exam). The posted solutions will be brief. Questions and requests for clarification, of course, are always welcome and appreciated.

You will receive a copy of how to format your homework – make your solutions fit those requirements.

Make-up work & missing (or doing badly on) exams or labs

Please note: No make-up exams or labs will be offered except under very extenuating circumstances. Your lowest exam and lab grades will be replaced by 0.9 times the average of the other exams/labs, if this is to your advantage.

Clickers

A radio-frequency personal response system (a.k.a. “clickers” which function like “Ask the audience” on TV’s Who Wants to Be a Millionaire) will be used frequently during the class. Clickers will be used to take attendance daily, to ask multiple-choice questions, possibly for short graded (pop?) quizzes, and whatever other functions we deem necessary. Answering clicker questions is required. Participation will be graded, but correctness of answers will not.

Exams

Exam Format: Homework-type problems and several short answer conceptual questions.

Bring to each exam: a calculator. You may also prepare a 3”x5” index card (front and back). All information on the card must be in your own handwriting. Three 3x5 cards or one side of an 8.5”x11” piece of paper are allowed on the final exam. Students whose first language is not English may bring an English translator (book or electronic) to exams, if approved at least one class prior to the exam.

Attendance

Please be prompt and do not leave class early without a good reason. Frequent disruptions of the class will negatively influence your grade. Attendance in this class is mandatory, will be taken daily, and will form part of your “clicker” grade. Material will be covered in class that is not in the textbook and this
material will appear on homework and exams. Classroom time is meant to supplement the readings from the text and vice-versa.

Attendance will not count towards your grade. However, if you’ve missed more than eight hours of class without justification, and you are failing, you may be dropped. If you wish to be dropped from the class, it is your responsibility to withdraw. Do not count on me to drop you just because you do not show up for class. Students who withdraw from the course after July 26 will receive a letter grade based on the entire semester's requirements. If you wish to receive a refund for this class, you must drop by June 21. If you wish to drop and receive no mark on your record, do so by July 9.

Expectations

You should plan to work outside of class for at least 1.5 hours (and more likely 2-3 hours) for every hour of class time (which amounts to 6-18 hours per week). It should take you at least 30 minutes alone to do the required reading each night. While this may sound like a lot, it is no more an impingement on your time than most college classes at four-year schools (e.g. USC, UC, CSU). You will find the reading helpful later, when you start to work on the homework problems.

You are expected to work at (or above) the college level and most of you will find that this requires a lot of preparation outside of class. Do not be surprised to find yourself needing around 7 hours per week for the homework problems in the middle of the term. However, no more than 20-30 minutes should be spent on any one problem in one sitting. If you have not made significant progress after half an hour, put the problems down, do something else, and come back to them many hours (or days) later. If that doesn’t work, ask for help. Hopefully, this strategy will decrease the total time spent on homework. Your time investment will decrease as your experience and intuitions grow.

The most important expectation I have of you is to ask questions (either in class or in office hours) especially if you do not understand something covered in class (or in the readings). I cannot read minds, so help me help you (as Jerry Maguire says). Don’t be shy. Chances are that if you are having trouble with something in class, you are not alone and I need to address it.

Laboratory exercises

Lab activities will be handed out at least one class in advance or will come from the lab manual. For such labs, you will be expected to have read the material and you may have a brief quiz at the beginning of the lab to enforce this. The pre-lab quiz questions will be supplied to you ahead of time.

Remarks

Working together on homework and lab experiments is allowed and encouraged. However, copying other student’s work (partially, or in full) is plagiarism, is unacceptable, and is not as difficult to detect as you might think. No credit will be given to plagiarized work. If you worked in a group on the homework and most members in the group have similar solutions, make a note of who was in your group. In other words, give credit where credit is due.

Some hints for success:
1. Ask questions in class to clarify points not understood
2. Compare notes with peers after class
3. Read material before class, and then again afterwards
4. Be certain you have the necessary background (e.g. you are comfortable solving systems of equations)
5. Attend every lecture
6. Do not fall behind. If you do, work diligently to catch up.
7. Allow as much time as possible to review for exams. **Do not cram everything at the last minute.**
8. **Make use of my office hours and tutors** for questions you may have.
9. **Keep all handed-back assignments.** My computer deletes and changes scores.

**If you are struggling:**
I may ask to see students that are struggling during the semester. While I cannot require you to visit me, I strongly suggest you visit when suggested.

**Disabilities**
If you have a disability (learning, physical, seeing, hearing, or otherwise), let me know so I can work with you. You should also considering visiting the Special Resource Center, located in the Student Services Building. They have incredible facilities and a very helpful staff.
Due next class

Last name, First name  (nickname if preferred)  Semester (e.g. Fall 2005)
Course (e.g. Astro 25)

Phone number (best one to reach you at)
Non-ECC Email address – print clearly! You have a free ECC email address that you should use for ALL ECC emails: firstname_lastname@elcamino.edu

Your job, how many hours per week you work
Major/Minor (if you have one)
Total units you’re taking and/or what other classes you’re in

Why are you taking classes at ECC?
What is your overall educational goal?
What do you hope to gain from this course?

Is there anything I should know about you as your instructor? (e.g. disabilities, bad vision, ADHD, etc.)

List two things you like people to know about you. (Hobbies?)
Mr. Vakil’s office = Physics 117F is here
CLICKER USAGE

Please read this entire sheet! Keep the top portion for your records.

Each clicker has a label on the back with a number between 1 and 75. From now on, you should use the same clicker for every class.

My name is _______________
My Clicker Number is _______________

Voting

To vote, press and release the number of your choice. The light above the “1” should blink amber (orange) until the signal is received by the teacher’s computer. When the signal is received, the light should turn green and then go off. If your response was a valid choice (i.e. 1 or 2 for a True/False question – 3 through 9 are not valid choices), the response box (projected on the same display as the question) corresponding to your clicker number should change from the background color (probably black or white) to orange.

Two problems:

1) If your signal was not received by the teacher’s computer, your light will flash amber (orange) up to 10 times and then turn red. Try resubmitting your vote. If it doesn’t work the second time, try again and if it still fails, ask your teacher for a temporary replacement clicker to be used for the rest of class.

2) Don’t press the “Go” button below the “7”. This will change the “channel” of your clicker, and your teacher’s computer only reads channel 41 right now. All clickers are currently set to channel 41. If you do accidentally press “Go”, the colors on your clicker light should alternately flash red-orange-green. When this happens, press “4” and “1” and press “Go” again. This should turn the light green, indicating you successfully changed back to channel 41. If not, try “Go” “4” “1” “Go” again. If that doesn’t work, ask your teacher for a temporary replacement clicker to be used for the rest of class.

Changing your vote

You may change your vote as many times as you like until polling closes. Only your final vote will be recorded by the computer unless told otherwise. Each time you change your vote, the response box corresponding to your clicker number will alternate between two colors. Polling opens when the PowerPoint presentation shows a green box in the upper right corner. When that box turns red, polling closed.

---------------------- detach the portion below, sign below, and return to the teacher ------------------

Your Responsibility – Receiving and returning the clicker

It is your responsibility to make sure that your clicker is returned at the end of class. If your clicker is missing at the beginning of the class, notify the instructor and you will receiver a loaner for that day only. If your clicker is not received at the end of class, you will be held responsible and will need to reimburse the school if your clicker is not found within one week.

Print your name ___________________________ Signature ___________________________