

PHYSICS n309K, FIRST DAY HANDOUT

Summer Semester, 2013

Weekdays 2:30 to 4 PM Unique #92670 Pai 2.48

Instructor: Rory Coker, RLM Hall 8.312, 471-5194, <http://tinyurl.com/cokerwr> contains links to all Coker's course information. Or <http://tinyurl.com/phy309k> takes you directly to the 309K web page.

Text: *The Physics of Everyday Phenomena*, 7th Edition, by Griffith and Brossing (© 2012).

Office Hrs: Tuesdays and Thursdays, 9 to 10 AM in RLM 8.312; also Wednesdays at 12 to 1 PM in the same room.

Nature of the Course: This is a “conceptual” physics course, which does not use calculus, and uses very minimal algebra. The course is intended only for students who are not majors in science, engineering or technical fields.

Examinations: There will be three mid-term examinations and a comprehensive final which slightly emphasizes material from the last two chapters (10, 11), which were not covered on mid-terms (see syllabus). The examinations will cover **ONLY** material that has been presented in class lectures, independent of what is in the textbook chapters supposedly covered, so that good class notes and regular class attendance are an **absolute necessity**. Each examination will have roughly a dozen basic conceptual questions. All will be in multiple-choice format, answered on bubble sheets, and graded by the same Quest system that handles homework. In fact the exam questions are part of the same general problem bank from which the homework questions are drawn. On the mid-term examinations, you can use a “crib sheet” that you have made for yourself, handwritten by you on both sides of a single 8.5 by 11 sheet of white paper, and signed with your name. Each crib sheet is for a specific exam and cannot be re-used; it must be turned in when you turn in your exam. No other reference material may be used: no books, no old homework solutions, no notes, no nothing— unless provided by the instructor at the time of the test. **There will be no makeup exams.** The lowest exam grade (*of 3*) will be dropped in computing the class averages. The mid-term exams are held during the regular class lecture time, on June 24, on July 15, and on July 29.

Homework: Homework is handled by the on-line College of Natural Sciences system called Quest. The homework assignments can be viewed on your web browser and your answers submitted there as well; the homework will consist of conceptual questions in a multiple-choice format, usually with around 7 to 9 choices per problem. There is a severe penalty for guessing. You log in with your UT-EID at <https://quest.cns.utexas.edu/>. A link is found on our class web-page, <http://tinyurl.com/phy309K>. “Late Homework” and “Makeup Homework” *DO NOT EXIST!* Doing the homework is vital! Trouble in doing the homework is a clear indication of trouble with your study habits; don't neglect the warning! When

you need help, don't hesitate to get it, but try to work *on your own* and start work well before the homework is due. It is when doing the homework, *on your own*, that you find out what *you* don't understand and what *you* need to study more effectively, or ask the class TA, or coaches, or the instructor, or your tutor for more information concerning. If you don't find this out when doing the homework, you will first find it out when you take the relevant mid-term exam... and then it is far, far too late. The homework also directly contributes as a significant percentage of your final course grade.

The Quest homework service will require a \$25 charge per student for its use, which goes toward the maintenance and operation of the resource. After the 12th day of class, when you log into Quest using the link provided above, you will be asked to pay that amount via credit card on a secure payment site. You have the option to wait up to 30 days to pay while still continuing to use Quest for your assignments. If you are taking more than one course using Quest, which would be very unlikely unless you were a science or engineering major, you will not be charged more than a total of \$50/semester. Quest provides mandatory instructional material for this course, just as does your textbook. For payment questions, email `quest.fees@cns.utexas.edu`.

Basis of Grade: Best 2 of 3 in-class quizzes, 20% each; Homework, 25%; Comprehensive Final, 25%; lecture attendance, 10%.

Clickers and Attendance: In large or small undergraduate physics classes we take attendance with a so-called iClicker, which can be purchased at the UT Co-op. Attendance is specifically checked by a so-called in-class "Attendance clicker quiz," a single physics question which you have to answer with your clicker. The standard approach is to assign full credit if the question is answered correctly, half-credit if it is answered incorrectly, and zero credit (absence) if the clicker was not used. Once you purchase a clicker you must go to "My Profile" *in Quest itself* and enter the serial number on the back of your clicker (include leading zeroes). When you return to the Quest menu and select this course, you will find a "Clicker Box #" in the information box. You will need this number to verify that your clicker works in class. The clicker itself also flashes a green light when the classroom system confirms that it is working, during an attendance check, and projected on a screen during the check is a grid including your box number, which will also turn green when your choice is recorded. It is your responsibility to get your clicker working in class ASAP, so that you will be correctly recorded as present and attending. The "Clicker FAQ" page on Quest tells you what to do if you purchased a used clicker which has its serial number rubbed off; following the instructions you can create a new serial number. If you have a used clicker, make sure it is set to the standard classroom channel, AA. *Do not come up halfway through the semester* and ask how to register your clicker or ask why your attendance has not been counted. There are at least two different versions of the clicker, called iClicker and iClicker2. Both of them will work in the classroom, Pai 2.48.

Coaching: Coaches will be available at certain posted hours per day (typically 9 to 5)

at tables near the elevators on the 5th level of the physics building, RLM Hall. Please do not ask coaches to do your homework for you! They are there to answer questions you might have, set up and solve simple example problems, and explain concepts that you are having trouble with. Be aware that some coaches may give you incorrect information!

Tutors: If you find yourself having trouble with understanding the material, or keeping up, it is important *as soon as possible* to take steps to improve your situation. *Do not wait* until the course is half over and you have flunked two exams! One thing that helps many is to hire a tutor. The physics undergraduate student office on the 5th level of RLM Hall has a list of physics graduate students available for tutoring. Rates and hours must be arranged individually between you and the tutor. If this is your second time to take 309K, i.e., if you have *already* had to drop the course, or took the course previously and made D or F, **you should definitely get and work closely with a competent tutor from the very first day of the class.**

Other Information: For the homework and mid-term quizzes in this course you will probably need a good “scientific” calculator, and the knowledge of how to use it rapidly and accurately. The calculator should use “scientific” (powers of ten) notation and would usually have keys for at least the following functions: \sin , \sin^{-1} , \cos , \cos^{-1} , \tan , \tan^{-1} , e^x , $\ln x$, $\log x$, 10^x , x^2 , \sqrt{x} , y^x and $\sqrt[x]{y}$. You will generally not need most or any of this functionality in 309K, but this is just a description of a standard “scientific” calculator, and one like this can be found for \$10, at any drugstore or grocery store. Do not waste money on a fancier calculator with fancier features, unless you really need them for some other course. During exams you can always use a calculator like this, but you CANNOT use *any device that can be connected to the internet*, such as the calculator function of a pocket telephone.

People who lack emotional maturity and good study habits rarely pass physics courses. Experience indicates that the following advice may fall upon deaf ears for some fraction of the class, but here goes anyway:

(1) ATTEND CLASS. Missing even one class can get you so far behind that you will never be able to catch up again. There is an avalanche effect: when you miss a class, you don't understand anything being said in the next class you come to, and you soon stop coming to class at all... and do not pass physics.

(2) TAKE THE BEST NOTES IN CLASS YOU POSSIBLY CAN. Rewriting these notes later into neater form, with all logic and math steps clearly explained by yourself, to yourself, will create a document you can study effectively with the greatest of ease: a physics text you wrote yourself!

(3) DO THE HOMEWORK ON YOUR OWN and submit it in plenty of time before the deadline. Doing the homework *on your own* teaches you what you need to know to do well on the tests. Working with another student or a tutor in doing the homework is almost always a bad idea, simply because you will be on your own on the mid-term tests and final, and obviously therefore you need to learn the class

material on your own! Where you have trouble with homework, you have a crystal clear indication before the test that you don't understand certain concepts. This gives you time to study, talk to coaches, tutors or the instructor, and master the concepts, so that you can do well on the midterm tests.

(4) **STUDY!** You are kidding yourself if you don't put in about 2 to 3 hours per night of study time for each hour of class lectures, **NOT COUNTING TIME SPENT ON HOMEWORK**. *Many students do not seem to know how to study physics*. It is vital to study with the very specific aim of thoroughly understanding the general concepts. What you have to learn is **Physics!** That is, to pass the course you have to understand the abstract *ideas* well enough to be able to use and apply them conceptually in concrete situations.

(5) See the instructor *as soon as you find yourself in difficulty*, so that you can get prompt help or advice. There is not much that can be done for you *after* you have flunked two exams. Studying and doing the homework diligently is required to pinpoint your problems *before* testing on the material.

UT Legal BS: (1) "The University of Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471- 6259, 471-6441 TTY."

(2) "This course carries the Quantitative Reasoning flag. Quantitative Reasoning courses are designed to equip you with skills that are necessary for understanding the types of quantitative arguments you will regularly encounter in your adult and professional life. You should therefore expect a substantial portion of your grade to come from your use of quantitative skills to analyze real-world problems."

Ground Rules: The following rules are based on elementary courtesy and common sense, but it won't hurt to state them here.

(1) **TURN OFF AND PUT AWAY ALL** personal electronic devices, including pocket phones, netbooks, lap-top computers, tablets, iPods, iPads and similar media players, PDAs and any other kind of electronic junk. If you are using some device to take class notes on, that would be OK.

(2) **COME TO CLASS ON TIME**. It doesn't matter whether you come to class 5 minutes late or 30 minutes late, you will have no idea whatsoever what the day's lecture is about. Be there when it starts.

(3) **READ NEWSPAPERS OR MAGAZINES AND CHAT WITH BUDDIES OUTSIDE OF CLASS**. If you have a lecture-related question, ask it to the instructor during the lecture, not to the student sitting beside you.

COURSE SYLLABUS

Date	Topic of lecture	Exam Scheduled
June 6	Ch. 1	
June 7	Ch. 1	

June 10	Ch. 1	
June 11	Ch. 2	
June 12	Ch. 2	
June 13	Ch. 2	
June 14	Ch. 3	
June 17	Ch. 3	
June 18	Ch. 3	
June 19	Ch. 4	
June 20	Ch. 4	
June 21	Ch. 4	
June 24	Quiz 1	Covers Chs. 1 - 3
June 25	Ch. 5	
June 26	Ch. 5	
June 27	Ch. 5	
June 28	Ch. 6	
July 1	Ch. 6	
July 2	Ch. 6	
July 3	Ch. 6	
July 5	Ch. 7	
July 8	Ch. 7	
July 9	Ch. 7	
July 10	Ch. 7, 8	
July 11	Ch. 8	
July 15	Quiz 2	Covers Chs. 4 - 6
July 16	Ch. 8	
July 17	Ch. 8, 9	
July 18	Ch. 9	
July 19	Ch. 9	
July 22	Ch. 9, 10	
July 23	Ch. 10	
July 24	Ch. 10	
July 25	Ch. 10, 11	
July 26	Ch. 11	
July 29	Quiz 3	Covers Chs. 7 - 9
July 30	Ch. 11	

Exact due dates and times for homework assignments are summarized on the course web page, <http://tinyurl.com/phy309K>, and of course on the Quest assignment itself. The final exam will be cumulative, that is, will cover Chapters 1 through 11. The final exam will be held on July 31 or August 1, at a time and place to be announced about mid-semester.