

PHYSICS 317L, FIRST DAY HANDOUT

Spring Semester, 2018

MWF 12 - 1 PM, Unique# 56000, Pai 4.42

Instructor: Rory Coker, RLM 8.312, 471-5194, coker2@physics.utexas.edu.
<http://tinyurl.com/cokermain> contains links to all Coker's course information.
Or <http://tinyurl.com/coker317L> takes you directly to the 317L web page.

Text: *Essential University Physics*, Vol. 2, by Richard Wolfson (Pearson/Addison-Wesley, latest edition). Earlier editions will work.

Office Hrs: Tuesday, 12 to 1 PM, and Friday, 2:30 to 3:30 PM, RLM 8.312 [Subject to change.]

Nature of the Course: This is the second semester of physics with calculus for majors in technical fields. You must also be concurrently enrolled in Physics 117N, a separate course which constitutes the laboratory part of the Physics 317L coursework. In general, you should **not** be in this course unless you are thoroughly familiar with all aspects of algebra and trigonometry at the level of a **very good** high school course or a college-level remedial course, and all aspects of integral and differential calculus at the introductory college level.

Examinations: There will be three mid-term examinations and a final which deals with text chapters that have not covered on the mid-terms (see syllabus). The examinations will cover **ONLY** material that has been covered in class lectures, independent of what is in the textbook chapters supposedly covered, so that good class notes and regular class attendance are an *an absolute necessity*. Each examination will have several basic conceptual questions and several numerical or algebraic problems. All will be in multiple-choice format, answered on bubble sheets, and graded by the same Quest system that handles homework. 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. 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.

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 or smart phone and your answers submitted there as well; the homework will consist of conceptual questions and problems to be solved; most answers are in multiple-choice format; a few will require input of a specific numerical answer. You log in with your UT-EID at <https://quest.cns.utexas.edu/>. A link is found on our class webpage, <http://tinyurl.com/coker317L>. There is a continuously-updated running table of homework due dates and times on this same course web page; and of course the due dates and times are clearly stated on the assignments themselves. There is a severe built-in penalty for guessing. I have tried to change this to "one free

try,” before the penalty takes over. “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 charge of roughly \$30 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, you will not be charged more than a total of \$60/semester. For payment questions, email quest.fees@cns.utexas.edu.

Basis of Grade: Best 2 of 3 in-class quizzes, 25%; Homework, 40%; Final, 25%; lecture attendance 10%.

Teaching Assistant: Office hours of the two class TAs: TA # 1, Wei-Jin Zheng, wjzheng@chaos.utexas.edu, office hours: Monday 4-5 PM at RLM 14.318; problem sessions Wednesday 5:30-7:30 PM at RLM 11.238; TA #2, Aastha Tripathi, aastha_tripathi@utexas.edu, office hours Wednesday 3:40 to 4:40 PM, at the coaching tables in RLM.

Laboratory: The laboratory is a separate course, 117N, and must be registered for, taken, and passed, independent of Physics 317L. You must take the lab unless this is your second time to take 317L, and you passed the lab the first time. Labs normally begin the week after classes begin, but check with your lab TA to be sure. If you have registered for 317L but not 117N, you will be automatically dropped from 317L after one warning e-mail from the registrar.

Clickers and Attendance: In large 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 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. Any iClicker will work, when set on the standard channel AA, but because of some very, very unwise changes related to clickers and Quest, you must register your clicker for this class, *on Canvas*, even though we do not use Canvas for anything otherwise in large physics classes. Therefore, please register your clicker remote in Canvas to participate in in-class

activities. Simply go to this class in Canvas, click the “iClicker” link in the menu, and enter the remote ID that can be found on the back. The clicker itself flashes a green light when the classroom system confirms that it is working, during an attendance check. It is *your responsibility* to get your clicker working for the course as soon as possible, so that your attendance is correctly recorded. 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.

Coaching: Coaches will be available at certain posted hours per day (typically 8 to 6) 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 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 or three 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 317L, 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.** Be highly specific in explaining what you want the tutor to help you with, e.g., strategies and techniques for physics problem solving, starting from a thorough review of basic principles and concepts. Have the tutor watch as you work out examples, so that he or she can see specifically where you go off the tracks.

Other Information: For the homework, mid-term quizzes and final exam in this course you will 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 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 $\sqrt[x]{y}$. Such a calculator typically costs not much more than \$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. Beware of, and do not waste money on, any calculator that lacks basic functions such as e^x , or any of the other necessary functions listed above. During exams you cannot use *any device that can be connected to the internet*, such as for example the calculator app on a pocket phone (and note that almost all pocket telephones have a scientific calculator on them somewhere).

UT Notices: (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.”

COURSE SYLLABUS

Date	Topic of lecture	Midterm Exam
Jan 17	Ch. 20	
Jan 19	Ch. 20	
Jan 22	Ch. 21	
Jan 24	Ch. 21	
Jan 26	Ch. 22	
Jan 29	Ch. 22	
Jan 31	Ch. 23	
Feb 2	Ch. 23	
Feb 5	Ch. 24	
Feb 7	Ch. 24	
Feb 9	Ch. 25	
Feb 12	Quiz 1	Chs. 20 - 23
Feb 14	Ch. 25	
Feb 16	Ch. 26	
Feb 19	Ch. 26	
Feb 21	Ch. 27	
Feb 23	Ch. 27	
Feb 26	Ch. 28	
Feb 28	Ch. 28	
Mar 2	Ch. 29	
Mar 5	Ch. 29	
Mar 7	Ch. 30	
Mar 9	Ch. 30	
Mar 19	Ch. 31	
Mar 21	Quiz 2	Chs. 24 - 28
Mar 23	Ch. 31	
Mar 26	Ch. 32	
Mar 28	Ch. 32	
Mar 30	Ch. 33	
April 2	Ch. 33	
April 4	Ch. 33, 34	
April 6	Ch. 34	
April 9	Quiz 3	Chs. 29 - 32
April 11	Ch. 34, 35	
April 13	Ch. 35	
April 16	Ch. 35	
April 18	Ch. 36	
April 20	Ch. 36	

April 23	Ch. 37
April 25	Ch. 37
April 27	Ch. 38
April 30	Ch. 38
May 2	Ch. 39
May 4	Ch. 39

Exact due dates and times for homework assignments are summarized on the course web page, <http://tinyurl.com/coker317L>, and of course on the specific Quest assignment itself. The final exam will emphasize the last quarter of presented class material, namely Chapters 33 - 39, which was not covered on any mid-term exams. This final exam will be held on Tuesday, May 15, 9 to 12 noon, at a place to be announced. **Do not sign up for this course if you have another final scheduled at the same day and time.**