

PHY302K: GENERAL PHYSICS I (Mechanics / Heat / Sound)
Fall 2015, TTh 9:30-11 AM, PAI 2.48
UNIQUE # 54890

- Online Homework: <https://quest.cns.utexas.edu>

Instructor: Prof. Keji Lai, kejilai@physics.utexas.edu, 475-9128, RLM 13.324

Office Hours: TTh 11 – noon at RLM 13.324. Other times by appointment – the instructor may also be available on MWF 11-noon but please email before you come by.

TA: TBD

Discussion Sections: TBD

Office Hours: TBD

Extra Help: Extra TAs are available regularly for coaching on the 5th floor of RLM. Check the bulletin board near the coaching tables for schedules. You may also get help at the Drop-In Tutoring Center in JES A315A (<http://www.utexas.edu/ugs/slc/support/drop-in>).

Text: *College Physics*, 9th or 10th Edition, Volume 1 by Serway and Vuille (older editions are fine too). See attached syllabus for schedule of lectures.

Overview: This is the first part of a non-calculus-based technical physics sequence for students who need to fulfill a general physics requirement. The course covers mechanics of solids and fluids, oscillations and waves, and heat and thermodynamics. 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.

Administrative Issues: Lisa Gentry, ugaffairs@physics.utexas.edu, Undergraduate Office, RLM 5.216, 471-8856

Course Pre- and Co-Requisites: High school trigonometry or Mathematics 305G; and credit or registration for Physics 102M. Note that PHY 102M is a separate course and is a co-requisite of this course unless you have already passed it. If you appear to have not met the requirements, you will receive an email from Lisa Gentry on the 2nd class day and again on the 5th class day. If the problem is not corrected by the 12th class day, you will be dropped from the class.

Drop Dates: The last day to drop the course for a possible refund is Friday Sept 11. Tuesday Nov. 3 is the last day to drop the course with approval or change registration to or from a pass/fail basis. For a complete academic calendar, please refer to the website <http://registrar.utexas.edu/calendars/15-16>

QUEST system: This course makes use of the web-based Quest content delivery and homework server system maintained by the College of Natural Sciences. This homework service will require a \$30 charge per student per class for its use, with no student being charged more than \$60 a semester. This goes toward the maintenance and operation of the resource. Please go to <http://quest.cns.utexas.edu> to log in to the Quest system for this class. After the 12th day of class, when you log into Quest you will be asked to pay via credit card on a secure payment site. Quest provides mandatory instructional material for this course, just as is your textbook, etc. For payment questions, email quest.billing@cns.utexas.edu.

Pre-Class Reading and In-Class Clicker Quizzes: Before coming to class you are expected to have read the relevant materials from the textbook for that day. During the lectures, interactive quiz questions will be given to highlight the course materials. In order to participate, you will need to purchase an i-Clicker and then register it by entering the serial number on the back of your i-Clicker (include leading zeros) under “My Profile” in Quest. When you return to the Quest menu and select this course, you will find your “Clicker Box #” in the information box. Be sure to make note of your box number which will be displayed in the Clicker grid on the screen in the classroom. If you try using your i-Clicker without registering on the Quest site, your serial number will appear at the bottom of the Clicker grid and your response will not be recorded. See <https://getquest.cns.utexas.edu/documentation/student/assignments/iclicker>. If you submit a wrong answer, you still get 80% credit. We will begin to use the clickers on Tuesday September 8. The lowest 4 in-class quiz grades will be dropped. The drops are intended to compensate for non-participation due to legitimate excuses as well as occasional clicker-related problems.

Homework: You will download the homework and submit your answers online at <https://quest.cns.utexas.edu>. The homework assignments will be due at 11pm on the dates listed in the next page. Solutions will be available online the next morning at 9am. There are 12 homework assignments and the lowest 2 grades will be dropped in calculation of the semester grade. You may work together on the homework. You must, however, submit your own work for credit. Read the students’ instructions at <https://getquest.cns.utexas.edu/documentation/student/assignments/online-homework>.

Midterm Exams and Final Exam: There will be three midterm exams during class time on September 22, October 22, and November 18. The lowest midterm grade will be dropped in calculation of the course grade. No makeup exam will be given. If you miss a midterm exam, it will be the one that will be dropped. The final exam is comprehensive and mandatory and will be held from 9am to noon on Saturday December 12, as scheduled by the Registrar’s Office. No early final exam will be given. The midterm exams and final exam will be closed book. A formula sheet will be provided to you. Bring your own calculator for numerical calculations only (no computer, i-Phone etc.). Academic dishonesty will not be tolerated.

Grading: Course grades will be calculated based on the weighted sum of the following: Homework 30%, In-Class Clicker Quizzes 10%, Midterm Exams 30%, and Final Exam 30%. A historic cutoff scheme for the semester grade is as follows (scores are rounded to integer numbers before assigning the letter grade, for example, 84.499 is rounded to 84 and 84.500 is rounded to 85). A: ≥ 90 , A-: ≥ 85 , B+: ≥ 80 , B: ≥ 75 , B-: ≥ 70 , C+: ≥ 65 , C: ≥ 60 , C-: ≥ 55 , D+: ≥ 50 , D: ≥ 45 , and D-: ≥ 40 . Below 40 is failing. *The instructor reserves the right to readjust the thresholds according to the class performance.*

TA Discussion Sections: TA discussion sections are an integral part of this course. Attendance is not required but strongly encouraged. During each session, the TA will reiterate the course materials, work out examples similar to homework problems, or provide hints to solving homework problems. The sessions will start as soon as the time and location are determined.

Special Accommodations: The University 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.

Tentative Syllabus for Fall 2015

Class	Day	Date	Chapters	Subject	HW due
1	TH	Aug 27	1	Introduction	HW1: Sat, Sept 12
2	T	Sept 1	2	1D Motion	
3	TH	Sept 3	3	Vectors	HW2: Sat, Sept 12
4	T	Sept 8	3	2D Motion	
5	TH	Sept 10	4	Newton's Laws	HW3: Sat, Sept 19
6	T	Sept 15	4	Applications of Newton’s Laws	
7	TH	Sept 17	5	Work and Energy	HW4: Sat, Sept 26
8	T	Sept 22	Midterm Exam 1 (Ch. 1-4)		
9	TH	Sept 24	5	Conservation of Energy	
10	T	Sept 29	6	Momentum and Collisions	HW5: Sat, Oct 3
11	TH	Oct 1	6	Momentum and Collisions	
12	T	Oct 6	7	Rotational Motion	HW6: Sat, Oct 10
13	TH	Oct 8	7	Gravity	
14	T	Oct 13	8	Rotational Equilibrium and Dynamics	HW7: Sat, Oct 17
15	TH	Oct 15	8	Rotational Equilibrium and Dynamics	
16	T	Oct 20	9	Solids and Statics of Fluids	HW8: Sat, Oct 31
17	TH	Oct 22	Midterm Exam 2 (Ch. 5-8)		
18	T	Oct 27	9	Dynamics of Fluids	
19	TH	Oct 29	10	Temperature	HW9: Sat, Nov 7
20	T	Nov 3	10	Ideal Gas	
21	TH	Nov 5	11	Heat and Energy Transfer	HW10: Sat, Nov 14
22	T	Nov 10	12	First Law of Thermodynamics	
23	TH	Nov 12	12	Second Law of Thermodynamics	
24	T	Nov 17	Midterm Exam 3 (Ch. 9-12)		HW11: Mon, Nov 30
25	TH	Nov 19	13	Simple Harmonic Motion	
26	T	Nov 24	13	Waves	
27	TH	Nov 26	Thanksgiving Holiday		
28	T	Dec 1	14	Sound Wave	HW12: Sat, Dec 5
29	TH	Dec 3	14	Wave Interference	
Final Exam (Ch. 1-14), 9 AM – Noon, Saturday December 12					