

**PHY n317K: GENERAL PHYSICS I**  
**SUMMER 2017, MTWTh 10-11:15 AM, PAI 2.48**  
**UNIQUE # 88200**

- Homework Server: <https://quest.cns.utexas.edu>
- Canvas: <http://canvas.utexas.edu>

**Instructor:** Zhen Yao, [yao@physics.utexas.edu](mailto:yao@physics.utexas.edu), 512-471-1058, RLM 13.208

Office Hours: Right after each class in the hallway outside PAI 2.48. Wednesday 1-2 pm in RLM 13.208. Other times by appointment.

**TA:** TBA

Discussion Sessions/Office Hours: TBA

**Text:** *Essential University Physics*, 3rd Edition, Volume 1 by Richard Wolfson (older editions are fine as well). See attached syllabus for schedule of lectures.

**Overview:** This is the first part of a calculus-based technical physics sequence recommended primarily for premedical students and others in the biomedical sciences. 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:** Please see Ms. Kelly McCoy, Undergraduate Office, RLM 5.214, 471-8856

**Course Pre- and Co-Requisites:** Credit with a grade of at least C- in Mathematics 408C or 408R; or credit with a grade of at least C- in 408K or 408N and registration in 408L or 408S; credit with a grade of at least C- or registration in Physics 117M.

**Grading:** Course grades will be calculated based on the weighted sum of the following: Homework – 15%, Midterm Exams – 50%, and Final Exam – 35%. Course grades will be determined by a class curve at the end of the session and no prescribed cutoff values should be assumed.

**Quest:** This course makes use of the web-based Quest content delivery and homework server system maintained by the College of Natural Sciences. This service will require each student to pay a \$30 charge per course and \$60 for two or more courses per semester for its use. This charge 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. At some point during the second or third week, 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](mailto:quest.billing@cns.utexas.edu).

**Homework:** You will download the homework and submit your answers online at <https://quest.cns.utexas.edu>. Solutions will be available online right after the due time. The lowest two homework grades will be dropped in calculation of the course grade. Read the students' documentation at <https://getquest.cns.utexas.edu/documentation/student>. You are

encouraged to work together on the homework. You must, however, submit your own work for credit.

**Midterm Exams and Final Exam:** There will be three in-class midterm exams on Thursday June 15, Thursday June 29, and Tuesday July 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 7 to 10 pm on Thursday July 27, as scheduled by the Registrar's Office. No early final exam will be given. The midterm exams and final exam will be closed book and notes. A formula sheet will be provided to you and calculators may be used for numerical calculations only. Academic dishonesty will not be tolerated.

**Pre-Class Reading and In-Class Activities:** Before coming to class you are expected to have read the relevant materials from the textbook for that day. The lectures will not simply regurgitate what you have read, rather they will focus on explaining and expanding the concepts that you may have difficulty understanding, with the help of demonstrations, interactive quiz questions and example problems.

**Important Dates:** The last day to drop a course for a possible refund is Tuesday June 6. The last day to change registration to or from the pass/fail or credit/no credit basis is Wednesday June 21. The last day to drop the course with approval is Tuesday July 25.

**Special Accommodations:** 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.

## Tentative Schedule

	DAY	DATE	TOPICS	CHAPTERS
1	TH	06/01	Introduction	1
2	M	06/05	Motion in a Straight Line	2
3	T	06/06	Vectors	3
4	W	06/07	Motion in Two and Three Dimensions	3
5	TH	06/08	Force and Motion	4
6	M	06/12	Using Newton's Laws	5
7	T	06/13	More Newton's Laws	5
8	W	06/14	Energy, Work, and Power	6
9	TH	06/15	<b>Midterm Exam 1 (Ch. 1-5), 10-11:15 am, PAI 3.02</b>	
10	M	06/19	Conservation of Energy	7
11	T	06/20	Gravity	8
12	W	06/21	Conservation of Momentum	9
13	TH	06/22	Collisions	9
14	M	06/26	Rotational Motion	10
15	T	06/27	Rotational Dynamics	10
16	W	06/28	Rotational Vectors and Angular Momentum	11
17	TH	06/29	<b>Midterm Exam 2 (Ch. 6-10) ), 10-11:15 am, PAI 3.02</b>	
18	M	07/03	Static Equilibrium	12
	T	07/04	No Class (Independence Day)	
19	W	07/05	Statics of Fluids	15
20	TH	07/06	Fluid Dynamics	15
21	M	07/10	Oscillatory Motion	13
22	T	07/11	More Oscillatory Motion	13
23	W	07/12	Wave Motion	14
24	TH	07/13	More Wave Motion	14
25	M	07/17	Temperature and Heat	16
26	T	07/18	<b>Midterm Exam 3 (Ch. 11-15), 10-11:15 am, WCH 1.120</b>	
27	W	07/19	The Thermal Behavior of Matter	17
28	TH	07/20	Heat, Work, and First Law of Thermodynamics	18
29	M	07/24	More First Law of Thermodynamics	18
30	T	07/25	Second Law of Thermodynamics	19
<b>Final Exam (Ch. 1-19), 7-10 pm, Thursday July 27</b>				