

PHYS 1600 - Engineering Physics I

INSTRUCTOR	Turker Topcu	
CONTACT INFORMATION	115 Allison Laboratory Department of Physics Auburn University Auburn, Alabama, 36849-5311	Phone: +1 (334) 844-4236 E-mail: topcut1@auburn.edu
WEB ADDRESS	http://www.auburn.edu/~topcut1/phys1600.htm Most of the class information will be posted through this web page, such as announcements, material, schedule, etc. The grade info will be posted on Blackboard system as they become available during the semester. <i>You are responsible for this information.</i>	
OFFICE HOURS	Tue and Wed between 2:00-4:00 pm and anytime when I am not occupied with research.	
TEXT	PHYSICS for Scientists and Engineers: a strategic approach by R. D. Knight, 2nd edition	
PREREQUISITES	This is the first of two courses designed for Engineering students and it is calculus based. I expect that you are familiar with certain mathematical ideas and tools, such as basic calculus, trigonometry, linear systems of equations, derivatives, integrals, etc., in order to be able to follow the course.	
CLASSES	We will meet in Parker 249 at 11:00 am on Mon, Wed and Fri for 50 min. lectures.	
ATTENDANCE	Mandatory for the 1st day of class. If you don't show up at the first class meeting, <i>you will be dropped from this course</i> to make up room for the people on the waiting list for this course.	
HOMEWORK	There will be homework problems assigned on every Wednesday and you will have one week to complete them. The problems will be on <i>MasteringPhysics</i> web site, which you will have to sign in to complete the assignment. You will need to set up an account on this web site and enroll into the course, whose course ID is TOPCUPHYS1600 . The homework problems will be mostly from the text book and I strongly suggest you work these problems on your own, without help from friends or solutions manuals. Homeworks will make up 5% of the final grade.	
READING	It is important that you spend enough time reading the material covered during the week from the textbook. This will reinforce the ideas introduced in the class and help you develop a better understanding of the subject. <i>You are responsible for reading and understanding the lab manual before coming to labs</i> to avoid meandering around trying to figure out what it is you should be doing.	
LAB WORK AND RECITATION	The labs are on Mon and Tue, depending on your section. You will come to lab once a week for 2 hrs and 50 mins. The first 50 mins will be review of the subject matter followed by a weekly quiz and problem solving/recitation. Remainder of the time will be used to perform the weekly assigned experiment and the activity. There are no lab manuals in print so you will have to go to the Physics Dept. web page to print the instruction sheet for all the experiments and the activities <i>before coming to the lab</i> . A missed lab/recitation without a valid excuse will count as 0 points. If you miss a lab for a valid reason, you must contact me within 2 days and submit your excuse within 1 week to have it marked as a valid absence. It must be possible for me to check the legible signatures, phone numbers, etc.	
TESTS	There will be three midterms and one comprehensive final exam. There will be no make up test for missed tests. If you miss a midterm, I will take your final exam grade and multiply it with the ratio of the class average for the midterms to the class average of the final: missed midterm=(avg midterm)×(final/avg final). If you miss more than one midterm, and have valid documentation for both missed tests, only then a makeup test will be arranged. There will be also quizzes in the first half hour of every lab meeting made up from problems similar to previously assigned homework problems. Break down of the final grade will be as follows: 50% midterms, 25% final, 5% homework, 10% lab, and 10% weekly quizzes. Grade pointing scheme is as follows: A 90-100, B 80-89, C 70-79, D 60-69, F < 60	

ACADEMIC
HONESTY

The Student Academic Honesty Code is printed in the Tiger Club and it is expected that you are familiar with and will abide by this code. If you are caught cheating in an exam, or assisting someone to cheat, you will be given a zero grade for that exam, and reported to the academic honesty committee, where further action may be taken.

TROUBLE WITH
THE CLASS

If you are having trouble with this class, you should see me before the final. Unless there was a mistake in grading, there is nothing you can do for your grade after the final.

You can come to me if you are having trouble dealing with your lab instructor and I can act as mediator or determine the appropriate action.

If you are having trouble with my style in class, tests, etc., come see me.

CHANGES TO THE
SYLLABUS

The instructor reserves the right to change any of the policies, statements, or rules given in the syllabus. If any changes are made, the students will be informed.

SCHEDULE

I will try to stick to the schedule below as closely as I can. There will be no labs the first week, and the week starting with the Labor Day.

Week of	Chapter	Activity/Lab
Aug. 15	Ch. 1 - Concepts of motion	
Aug. 22	Ch. 2 - Kinematics in 1D	Math Quiz & Vector addition activity
Aug. 29	Ch. 4 - Kinematics in 2D	1D motion using inclined plane activity
Sep. 5	Ch. 5 - Newton's Laws and concept of force	
Sep. 12	Ch. 6 - Newton's 2nd law (1D motion)	4M - Newton's second law
Sep. 19	Ch. 7 - Newton's 3rd law	Recitation & Inclined plane activity
Sep. 26	Ch. 8 - Newton's 2nd law (2D motion)	10M - Central force
Oct. 3	Ch. 9 - Impulse and momentum	6M - Inelastic collisions
Oct. 10	Ch. 10 - Energy	Recitation
Oct. 17	Ch. 11 - Work	5M - Work-energy theorem
Oct. 24	Ch. 12 - Rotation of a rigid body	8M - Rotational dynamics
Oct. 31	Ch. 13 - Newton's theory of Gravity	Recitation
Nov. 7	Ch. 14 - Oscillations	9M - Simple harmonic motion
Nov. 14	Ch. 20 - Traveling waves and wave motion	1W - Resonant modes of stretched wire
Nov. 21	Thanksgiving	
Nov. 28		Comprehensive recitation
Dec. 5	Finals	