Physics 103M
Engineering Physics Laboratory I
Mechanics

General Information

Class Time:	T or Th 10-12
Room:	RLM 8.316
Unique #:	94115
Course Website:	http://www.ph.utexas.edu/ phy103m/

TA:	Matt Thrasher
Office:	RLM 9.222
Office Hours:	F 11-1
Mailbox:	RLM 14.216
E-mail:	thrasher@physics.utexas.edu
My Website:	https://webspace.utexas.edu/met385/main.html

Materials

- Physics 103M Lab Manual available from CoOp
- 3.5 inch floppy disk
- metric ruler

Schedule

Date	Lab	Topic
9/10	Introduction	Computer Tutorial
9/17	Lab 1	Random Motions
9/24	Lab 2	Uniformly Accelerated Motion
10/1	Lab 3	Force and Potential Energy
10/8	Lab 4	Collisions in One Dimension
10/15	Lab 4 (cont.)	
10/22	Lab 5	Motion Under a Central Force
10/29	Lab 6	A Mechanical Oscillator
11/5	Lab 6 (cont.)	
11/12	Lab 7	Bernoulli's Principle
11/19	Lab 8	Standing Waves on a String
12/3	Makeup	Makeup Missed Labs

Grades

Your grade in this lab will be based on your lab reports, homework and possibly quizzes. Lab reports count as 85% of your grade, homework and quizzes as 15%. Your lowest homework grade will be dropped. No lab report grades will be dropped. You must turn in a lab report for all eight labs if you expect to do well in this course. Please note that I will grade strictly. Lab reports are due one week from the day you do the experiment. They may be handed in during lab or to my mailbox by 12pm. I will accept late lab reports up to one week after they are due, but a substantial 25% penalty will be applied. After one week from the due date I will no longer accept any lab reports. Please talk to me beforehand if you know you will have trouble turning in a lab report on time. At my discretion, extensions (without penalty) maybe be granted for events on par with medical emergencies and deaths in the family.

Attendance

You are required to attend every lab since you must do a lab report for each experiment. However, if you have a legitimate excuse for missing a lab, you may make it up at the end of the semester. One extra lab

period on 12/3 is scheduled for makeup labs. But beware that only one setup will be available for each experiment, and that more than a few students cannot work at the same station. Only students with a legitimate excuse for missing one lab will be assured a chance to make it up. Only one lab can be made up. Multiple absences from lab will dramatically lower your grade and will be frowned upon.

Leaving the Lab

When you are finished taking data and making your graphs, you don't have to stay in lab. Before you leave you must do three things. First, you must have me approve and sign your graphs. Don't be surprised if something must be redone. Graphs turned in without this verification will be sharply penalized. Next, you must clean up the area you worked in. Lastly, you should return the equipment (if any) checked out to you. Note that there is a computer lab in RLM 7.306 with the software used in class.

Homework and Quizzes

Each week there will be a *short* pre-lab assignment. The homework is due at 10 am one week from when it was assigned. If it becomes evident that students are not prepared for lab, a short quiz will be given at the beginning of class. The quizzes will not be announced and will be weighted the same as homework assignments.

Lab Reports

The lab reports that you hand in should be written according the the guidelines in the first 27 pages of the lab manual. Much of the work we do in this lab will make use of the computers in our lab room. However, you are *not* required to type your reports on a computer. Hand written reports are just as good as typed reports (provided I can read the writing, of course). The following is a list of guideline that you *must* use in writing your lab reports:

1. Data section must present data clearly with units and uncertainties.
2. Graphs must cover a full page, have a title, data should have error bars, and the axes must be labelled (with units).
3. Calculations should be clear - for repetitive calculations you must show at least one example calculation in full.
4. Uncertainties must be included for each calculation.
5. Conclusions should be clear, concise, and well-written. The conclusion should show that you understand the purpose of the experiment and what your results indicate. **The conclusion is the most important part of the lab report.** Read: Spend some time *thinking* about the physics involved and what your results mean tangibly. This effort will be very rewarding!
6. Write your lab partners' names on your lab report.
7. Staple your lab report.

Safety

If done properly, all of these labs are very safe. However, there are a few labs that could be made potentially dangerous if you do not act responsibly. Labs 5 and 6 use high voltage generators which are perfectly safe unless misused. Anyone who acts in a way that is unsafe will fail this course.

Cheating

Cheating is handing in any work that is not your own. You will take data with your lab partners and you may consult your partners about calculations, but all of the work must be done by you. In particular, you must write your own conclusion. You should also not alter your data (there is no need for this). If you are caught cheating you will fail the course and possibly suffer other penalties. There is no justification for cheating in this course!