Physics 275 Syllabus – Spring 2011
Professors George Goldenbaum and Douglas Hamilton

What the course is about:
Physics 275 is the second course in the introductory lab course sequence Physics 174-275-276. The course is intended mainly for physics students, but other science and engineering students who have a desire for a more rigorous introduction to experimental science can also enroll. Experiments are mainly chosen in the general area of mechanics. A major component of the course is to understand the theory and applications of error analysis at an introductory level. The lab meets for four hours each week in Room 3203 of the Physics Building.

Web Site: To get the latest information on Physics 275, check the web site at:
http://www.physics.umd.edu/courses/Phys275/index.html
or on Blackboard at https://elms.umd.edu/.

*** Prerequisites:** The prerequisites for the course are Physics 174 and Physics 171 (or 161).

***Meeting CORE requirements**: Please note that you must be simultaneously enrolled in Physics 272 in order to receive credit for a CORE physical sciences laboratory course.

Lab sections: There are four lab sections:

Lab section	Day	Time	Instructor	TA
0101	Monday	1-4:50 PM	Goldenbaum	Michael Schauber
0301	Tuesday	2-5:50 PM	Hamilton	Steven Cowen
0201	Wednesday	2-5:50 PM	Goldenbaum	Michael Schauber
0401	Thursday	2-5:50 PM	Hamilton	Steven Cowen

Instructors:

Prof. George Goldenbaum, ggoldenb33@verizon.net
Office: Physics 0106, phone: 301-467-8391
*** Office Hours:** You may stop by my office at any time. If you can't find me, please make an appointment by phone or e-mail.

Prof. Douglas Hamilton, dch@umd.edu
Office: 3201 Computer & Space Sciences Building, phone: 301-405-6207

*** Office Hours:** You may stop by my office at any time. If you can't find me, please make an appointment by phone or e-mail.

Teaching Assistants:

Michael Schauber (mjarret@umd.edu)
Office : PHY 3101

Steven Cowen (scowen@umd.edu)
Office: PHY 0220

*** Arriving late to class:**
Classes at Maryland begin right on the hour. It is important that you arrive on time so that you can get instructions for the lab and have time to finish. If you arrive more than 10 minutes late, you may not be allowed into the lab and will have to make it up during another section.

*** Making Up Missed Labs:**
You should make every effort not to miss your regularly scheduled lab. If you miss your regular lab section, you should make that lab up by going to another section that week or by scheduling a makeup lab with the instructors **before your next lab**.

*** Texts**

- "A Practical Guide to Data Analysis for Physical Science Students" by Lyons
- "Physics 275 Lab Manual" – Latest edition

*** Grading:**

50% Spreadsheet Lab Report & Homework
25% Midterm
25% Final

***Homework** is assigned at the end of each Lab. You will turn your homework and any revisions to your lab by uploading your modified Excel spreadsheet file to Blackboard. You can turn in your report and homework anytime during the week, but by no later than the first Sunday after the lab. Corrected homework should be available the following week. **No credit will be given for late homework unless you are seriously ill and provide a written note from your physician.**

*** General Comments on the Lab report and Homework:**
Finishing all the lab reports and homework sets is very important. If you can't completely finish a lab and homework set, it is still important to turn in what you do have. When you are working on your report or homework, feel free to discuss among yourselves to try to figure out what is going on. By all means get together in small groups and discuss. However, do not use these discussions as an excuse to copy someone else's report or homework solution, or let someone else copy yours. That is cheating, and is strictly forbidden. It is also very self-defeating since the other part of your grade will come from tests. The right way to proceed is to first work through the report and problems by yourself and arrive at a definite answer. With this preparation, you can then discuss intelligently with your colleagues and see if you have missed something essential. Of course, you can always ask one of your instructors. **One final thing**, if you miss something fundamental in a lab or test, you will probably be assigned extra problems to solve until you master the concept.

* **In case of Bad weather:** Winter in the Washington Metro area can bring large snowstorms that make travel dangerous. If the University is closed during a scheduled

lab, class will be cancelled, and we will most likely reschedule the lab either for the following week or later in the semester. Closing is announced over local radio and TV as well as on the University's homepage. We will send an email concerning makeup dates when the University is closed.

Important Dates (preliminary)

Week of	Experiment
Jan. 24	Experiment 1 - *Introduction and Review*
Jan. 31	Experiment 2 - *Dice*
Feb. 7	Experiment 3 - *Decay*
Feb. 14	Experiment 4 - *Position, Velocity and Acceleration*
Feb. 21	Experiment 5 - *Free fall of a mass*
Feb 28	Makeup lab
Mar. 7	Experiment 6 –-*Review*
Mar. 14	**First Practical Exam**
Mar. 21	Spring Break
Mar. 28	Experiment 7- *Standing Waves*
Apr. 4	Experiment 8 - *Mass and Spring Oscillator*
Apr. 11	Experiment 10 - *Measuring g with a pendulum*
Apr. 18	Makeup Lab
Apr. 25	Experiment 11 – *Review*
May 2	**Second Practical Exam**