

Physics 232 – 002, 004, 005 Lab Phys/Biophysics I

Spring 2009, T 2:20-4:20, W 3-5, R 3:55-5:55, TCCW205

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Office hours: W 10:00 – 11:45, R 2:50 – 3:45 or by appointment

Course website: <http://www.physics.wku.edu/~thlee/phys232>

Course description: This is a general education science lab with a lecture. Required for students enrolled in PHYS 231. Students perform physics experiments on mechanics, fluids, sound, heat and thermodynamics.

Textbook: bioPHYSICS 232 lab manual and Giancoli's book (used in PHYS 231)

Course Outline:

1/27-29	Introduction
2/3-5	Measurements & Uncertainties
2/10-12	Free Fall
2/17-19	Projectile Motion
2/24-26	Vectors
3/3-5	Atwood's Machine
3/10-12	Spring Break
3/17-19	Tension & Circular Motion
3/24-26	Conservation of Momentum
3/31-4/2	Sedimentation & Centrifugation
4/7-9	Rotational Equilibrium
4/14-16	Archimedes' Principle
4/21-23	Springs
4/28-30	Simple Pendulum
5/5-7	Lab Final

Reading: You are responsible for reading each laboratory exercise before the laboratory session. Many experiments we will do are quite detailed, and it is critical that you not waste time in the laboratory on reading that can be done outside in advance, or you may not finish within the required time. Laboratories cannot run over schedule because the room is needed by other groups.

Laboratory Reports: For each experiment you will submit a laboratory report. Laboratory reports are to be turned in at the beginning of the lab period, one week following the completion of the experiment. Laboratory reports must be neat, concise and yet complete. The formal report should be prepared using a computer word processor. The report should consist the following as listed in the lab manual:

1. Abstract
2. Theory or Introduction
3. Materials and Methods
4. Results
5. Discussion
6. Questions

Please refer to the lab manual for what you should include in each section. All data tables should be placed at the end of the report followed by graphs. Each table should have a clear title and column headings with proper variable labels and units. Each graph should have a clear title, axis labels with proper quantities and units, and visible data points and lines for any linear fits to data. For a concise report, you should aim for a written component (from Theory to Questions) of 2 – 3 pages.

Note on Collaboration: During the laboratory period, while you are collecting data, you can work with lab partner(s). Obviously, you and your partner(s) will have the same data. However, each of you must submit a laboratory report that is demonstrably your own work. Be sure that each section in your report is clearly in your own words.

Grading: A: ≥ 90 ; B: 80 – 89; C: 70 – 79; D: 60 – 69; F: < 60

The overall final grade will be determined from Lab Final (20%) and Laboratory Reports (80%). The Laboratory Report Grade will be the average of all individual laboratory report grades rounded to the nearest whole number.

Attendance: Your regular attendance is expected. If you miss a lab, you will receive zero credit for that week's lab. Make-up laboratory experiments will not be allowed unless documentation is provided and arranged with the instructor prior to the lab.

Classroom Policy:

- Food and drinks are NOT allowed in the classroom.
- Cell phones, pagers, and similar devices must be turned off and stored away during class time.
- Laboratory computers are for lab-related activities ONLY!
 - Do not install or modify any software on the lab computers.
 - Do not use the computers to check email during class time.
 - Do not use the computers to instant message or chat with anyone ever.
 - Do not browse the internet during class time unless it is part of a class activity.

Disabilities: In compliance with university policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Office for Student Disability Services in Downing University Center, A-200. The phone number is 270-745-5004. Please do not request accommodations directly from the instructor without a letter of accommodation from the Office for Student Disability Services.