Introductory Physics Lab - PHYS 215L

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(843) 661-1445
M 1:30 - 4:30 PM MSB 119
Office Hours: WF 3:00 - 4:00 PM in LSF L103I or by appointment
Textbook **(required)**: PHYS 215L Lab Manual Fall 2019 (version 9.0)

Learning Goals:

By the end of this course, the student will
- Be comfortable recording data and observations from simple experiments
- Obtain a greater appreciation for the connection between classwork and reality
- Be able to express and discuss the results of an experiment in a clear manner that allows for the student's work to be reproduced by others

Schedule of Labs (subject to change)

Week of August 26:	Pendulum Periods
Week of September 9:	Position, Velocity, and Acceleration
Week of September 16:	Acceleration due to Gravity
Week of September 23:	Vector Addition
Week of September 30:	Projectile Motion
Week of October 14:	Newton's Second Law of Motion
Week of October 21:	Circular Motion: Centripetal and Centrifugal Forces
Week of October 28:	Work and Simple Machines
Week of November 4:	Elastic and Inelastic Collisions
Week of November 11:	Simple Harmonic Motion
Week of November 18:	Standing Waves

Grading

Each lab report will be weighted equally in determining the final grade, and I will drop your lowest lab. There is no final exam. **Lab reports are due at the *beginning* of the following lab session. Late reports will be penalized 20% of the maximum score.** Your score will be determined using the attached rubric. Your report and results should reflect that all reasonable care was taken to perform the experiment correctly, but **the grade does not depend on getting a perfect result.** Note I will not accept lab reports for sessions that you did not attend. If you know that you will miss a lab session, you should make arrangements to attend one of the other sessions that week (contact both me and the lab instructor for the desired session).

	Poor	Adequate	Exceptional
Completion of lab	Student attempted only a small portion of the lab. **(0 - 10 pts)**	Student did not fully complete the lab activity. **(11 - 20 pts)**	Student completed the lab activity. **(21 - 25 pts)**
Results	Results show little evidence of effort or carefulness. Units are not used or are used incorrectly. **(0 - 5 pts)**	Some results are outside acceptable uncertainty/error bounds. Some units may be missing. **(6 - 15 pts)**	Results are reasonable and contain appropriate units. Some errors may be present. **(16 - 20 pts)**
Analysis	Analysis is incorrect and shows little understanding of the physical principles. **(0 - 10 pts)**	Analysis varies in correctness and/or completeness. **(11 - 20 pts)**	Analysis is correct and expressed coherently. Some errors may be present. **(21 - 25 pts)**
Calculations	No calculations are shown or they are incorrect. **(0 - 4 pts)**	Calculations lack units and/or contain multiple errors. **(5 - 8 pts)**	All calculations are performed correctly and contain the proper units. **(9 - 10 pts)**
Conclusion	Conclusion is missing or contains no meaningful discussion. **(0 - 5 pts)**	Conclusion contains significant errors in discussion of results and sources of uncertainty. **(6 - 15 pts)**	Conclusion gives reasonable interpretation of results and contains valid sources of uncertainty. **(16 - 20 pts)**

Academic Integrity

The labs are completed as a group, but each lab report must be the sole product of each student's brain and effort (in other words, all cheating or plagiarism will be reported and handled as detailed in the Student Handbook). There will of course be significant similarity in the reports within a group, but each student should use their own words. For my part, I will not discriminate against any student for any reason and will make any reasonable accommodations necessary to meet a student's needs. No discriminatory or hostile behavior toward fellow students will be tolerated. If you experience or witness discriminatory, abusive, or other unwanted behavior, you should contact me, the Title IX Coordinator, and/or campus police, as appropriate.