PHYS 2101 Laboratory Syllabus

Spring 2018

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COURSE MATERIAL REQUIRED:

- Scientific Calculator (any kind)
- College ruled paper (about 20 counts for entire semester)
- Pencil to complete lab report, eraser
- A thin binder to keep your lab reports and quizzes. Retain it until your grade has been posted.

COURSE INFORMATION:
Physics 2101 laboratory is a course in experimental physics which must be taken concurrently with the lecture course, PHYS 2101. The laboratories are chosen to coincide with topical coverage in the lecture as much as possible.
This course uses Canvas as a learning management system. Canvas can be accessed at canvas.uncc.edu. You would need to use your UNCC credentials to log in.

COURSE OBJECTIVES:

- To conduct an organized and scientific investigation in order to experimentally verify the theoretical concept introduced in the lecture
- To familiarize students with experimental apparatus and scientific method of data collection and analysis
- To derive conclusions from the results based on your understanding of the relevant physics
- To study and understand introductory physics concepts via computer simulation experiments and exercises

LABORATORY ACTIVITIES:

- 11 in-class laboratory sessions
COURSE GRADING:

In-Class Experiment Lab Reports:

LAB 0 (Zero):
- Introduction to lab, brief discussion on syllabus and make-up labs
- Review of Math Techniques
Lab report grade breakdown for Lab 0 is identical to breakdowns for Lab 1 – Lab 8

LAB 1- LAB 8:
- Problem Solving Session: -------------------------------------- 10 points
  Pre-Lab Preparation: ------------------------------------------ 10 points
- Lab Report:----------------------------------------------------- 80 points
  ➢ 50% points for active participation in lab exercise. Deduction will be made for:
    - Tardiness
    - Not having your own calculator
    - Not having lab manual
    - Answering or making a phone call; and/or texting
    - Performing task unrelated to lab (e.g. surfing web, coursework etc)
  ➢ 50% points for the content of your lab report
    - Lab report completed with pencil
    - Showing calculations
    - Properly drawn graphs and properly filled data tables
    - Analysis
    - Writing proper unit of measurement
    - Problems and Questions

LAB 9:
- Problem Solving Session:-------------------------------------- 10 points
- Pre-Lab Preparation:------------------------------------------ 20 points
- Lab Report:----------------------------------------------------- 70 points
Lab report grade breakdown for Lab 9 is identical to breakdowns for Lab 1 – Lab 8.

LAB 10:
- Review of Numerical problems that would help course final exam

Calculation of Overall Lab Grade:

- Top Eight lab grades out of first Nine labs (Lab 0- Lab 8): ------- 80%
- Lab – 9: ----------------------------------------------- 10%
- Lab 10: ----------------------------------------------- 10%

Total: 100%
LAB ATTENDANCE POLICY/ MAKE-UP LABS:

There are NO Make-up labs.

- If you miss a lab due to reason which classifies as genuine reason for absence as per university policy (http://provost.uncc.edu/policies/classroom-attendance), you should talk with your TA and lab coordinator to find a suitable time to do the make-up lab. All make up labs should be completed before the lab exam.
- If you miss a lab due to reasons beyond your control, it will be upon the discretion of lab instructor whether or not to grant you a make-up lab.

Academic Integrity:

Students have the responsibility to know and observe the requirements of The UNCC Code of Student Academic Integrity (See the UNCC Catalog.). This code forbids cheating, fabrication or falsification of information, multiple submission of academic work, plagiarism, abuse of academic materials, and complicity in academic dishonesty. Any special requirements or permission regarding academic integrity will be stated by the instructor, and are binding on the students. Academic evaluations in this course include a judgment that the student’s work is free from academic dishonesty of any type; and grades in this course therefore should be and will be adversely affected by academic dishonesty. Students who violate the code can be expelled from UNCC. The normal penalty for a first offense is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases the course grade is reduced to F. Copies of the code can be obtained from the Dean of Students Office. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty to the course instructor.

Although the data collection during the lab is a group effort, data analysis and answering the questions related to the obtained data MUST be individual effort. Failure to do so will be treated as a case of academic dishonesty and will be dealt according to the University Policy.

A student can leave early only if he has completed all lab activities. Student leaving lab room early without completing lab activities will receive a grade of zero for that lab.

LABORATORY REPORTS

You will use your lab manual pages to complete the lab reports. Follow the procedure and fill the appropriate tables, draw graphs, do calculations. Once you completed your lab report, print your name, your partner’s name and the date. Tear off the associated pages from your manual and hand them to your instructor. The report will be graded by your instructor and returned back to you at the beginning of the following lab session. Please make sure you picked up your graded lab work every lab session. You should complete the Pre-Lab before coming to the lab and it is due at the beginning of the lab session.
Please retain your graded lab reports at least until the final grade is posted. Make sure you ask for your graded lab report with your TA every lab session and keep it in a binder. In case of any grade disputes at the end of the semester, it will be student's responsibility to furnish the lab report to the TA or lab coordinator.
**PHYS 2101 Laboratory Schedule**  
**Spring 2018**

**Lab Location:** Burson 153

Pre-lab are due at the beginning of each lab.

<table>
<thead>
<tr>
<th>Dates</th>
<th>Lab Activity</th>
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<tbody>
<tr>
<td>Week of Jan 8(^{th}), and 15(^{th})</td>
<td>No labs</td>
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<tr>
<td>Week of Jan 22(^{nd})</td>
<td>Lab 0 (Zero): Introduction and Review of Math Techniques</td>
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<tr>
<td>Week of Jan 29(^{th})</td>
<td>Lab 1: Uncertainty in Measurement</td>
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<tr>
<td>Week of Feb 5(^{th})</td>
<td>Lab 2: Motion of Objects in One Dimension</td>
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<tr>
<td>Week of Feb 12(^{th})</td>
<td>Lab 3: Composition and Resolution of Vectors</td>
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<td>Week of Feb 19(^{th})</td>
<td>Lab 4: Projectile Motion</td>
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<td>Week of Feb 26(^{th})</td>
<td>Lab 5: Newton’s Law</td>
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<tr>
<td>Week of March 5(^{th})</td>
<td><strong>Spring Break, No labs</strong></td>
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<tr>
<td>Week of March 12(^{th})</td>
<td>Lab 6: Friction</td>
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<tr>
<td>Week of March 19(^{th})</td>
<td>Lab 7: Conservation of Energy during Simple Harmonic Motion</td>
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<td>Week of March 26(^{th})</td>
<td>Lab 8: Static Equilibrium</td>
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<td>Week of April 2(^{nd})</td>
<td>Inclement Weather Makeup</td>
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<td>Week of April 9(^{th})</td>
<td>Lab 9: Critical Thinking and Designing an Experiment</td>
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<td>Week of April 16(^{th})</td>
<td>Lab 10: Review of course final exam</td>
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