PHYSICS 221, Section 75 – Fall 2015

Fundamentals of Physics I

Instructor: Dr. Swagato Banerjee  
Office: Natural Science 210  
Email: swagato.banerjee@louisville.edu

Section 75: 5:30 – 6:45 TTh (NS128)  
Phone: 502-852-0915

Required Text: College Physics, 10e, by Serway & Vuille.

Tentative Office Hours: M 5:00 - 6:30 W 5:00 – 6:30, or by appointment

Office hours this semester will be held in NS 210

Course:

• This course is the first semester of the introductory physics sequence without calculus. This course will focus on the basic concepts and methods of physics as applied in the study of mechanics, thermodynamics, and mechanical waves. The pace of the course will be intense, as we will cover Parts 1, 2, and 3 (chapters 1 – 14) in the textbook (though we will omit some material as needed due to time constraints).
• PHYS 221 is a math-intensive course. As such, it is expected that you will be comfortable with simple algebra, trigonometry, and geometry. Calculus will not be required for this course.
• This is a three credit-hour course. There are two 75-minute lectures each week. You are expected to attend all lecture classes and engage the material while you are there. Merely being in the classroom is not enough to learn the material.
• There will be pre-lecture reading assignments for you to complete prior to every class. There will be an assigned reading [and occasionally pre-lecture video] from the book that you will need to have completed before coming to class. There are two reasons for the pre-lecture assignments: 1) You will get much more out of lecture if you have some mental framework within which to put the material we will be covering, and 2) the material in the pre-lecture assignments is basic enough that you should be able to gain a satisfactory understanding off it before coming to class. Rather than spending time in class covering these basic concepts, this will allow us to spend more time in class utilizing them in conceptual examples and working problems.
• It is critically important that you realize that we will not spend time in class covering the material of the pre-lecture assignments. Failure to complete the pre-lecture assignments will result in your being lost in class, as I will assume that you already know basic ideas during class discussions.

Important Dates:

• Friday, August 28 – Final date for adding or dropping a course without receiving a grade of "W"
• Monday, September 7 – No office hour – Labor Day holiday
• Monday & Tuesday, October 5 & 6 – No class / office hour – Mid-term break
• Monday, October 26 – Final date for withdrawing from a course
• Sunday, November 1 – Daylight Saving time ends [clocks fall back 1 hour]
• Wednesday, November 11 – No office hour – Veterans Day
• Wednesday, November 25 – Sunday, November 29 – No class / office hour – Thanksgiving break

Classroom Policies:

• Calculators are NOT allowed in class.
• Unless you have an accommodation from the Disability Office, electronic devices (computers, cell phones, iPads, iPods, etc) will not be allowed in class. Cell phones should be turned off or set to vibrate and kept in your bag/pocket/purse. If I catch you using an electronic device, you will be asked to leave class.
• Check your university e-mail account daily. It is the way that I will communicate with you outside of class.
• One of the skills you will be expected to exhibit is an ability to communicate your thinking in writing up the solution to a physics problem. Students will be expected to:
  1. Identify the general principle involved in a problem either by words or by equation.
  2. Provides sufficient mathematical detail.
  3. Includes units in the final answer.
  4. Includes comments relevant to demonstrate your thinking when appropriate.
Group Work:

- **Group work will be worth 3 points in total.**
- During 3 special class dedicated for “group work”, there will be small assignments for you to work on with other students in the class. The dates will be announced prior to the “group work” class.
- First group work will be on Thursday 27 August, 2015.
- The goal is to discuss amongst sub-groups and mutually agree upon a method for solving problems within each group.
- For each group work assignment, I will randomly call for the work from (at least) one of the groups in the room and ask the group to share their solution with the rest of the class. We will use the work of your group as the basis for discussing the solution to the assignment. **At the end of class**, all remaining groups will be expected to turn in their work for the assignment as you leave.
- Most group work assignments will be graded on a [1, 0.5, 0] scale (full credit, partial credit, no credit). Your overall group work grade will be based on the number of points your group earned out of the total number of possible points you could have earned.

Homework:

- **Homework will be worth 12 points in total.**
- Homework is due at the start of the class on Tuesdays.
- Homework due dates in September 2015: 1, 8, 15, 22, 29
- Homework due dates in October 2015: 13, 20, 27 [6 October is during Midterm Break]
- Homework due dates in November 2015: 3, 10, 17, 24
- Homework due date in December 2015: 1
- All together there will be 12 sets of homework.
- Each homework set is worth 1 or 0.5 or 0 point [partial credit is at completely up to grader’s discretion].
- Arguing about grader’s discretion can cost -0.5 point (s).
- Late homework set will cost -1 point for the first week.
- Homework will not be accepted if they are more than 1 week late.
- The assignment each week is designed for you to learn how to solve the types of physics problems that you will see on an exam. The assignment will give you the opportunity to assess how comfortable you are with the material prior to the exam. No hints or feedback will be provided. There is no time limit for how long you will have to work on the assignment, but learning to pace yourself will help complete the mid-term and final exams in time.
- It is essential that you solve the homework problems to ensure that you understand the concepts and to strengthen your math skills. **Working on the homework is designed to be where you learn how to work the problems. It is imperative that you figure out FOR YOURSELF how to work the problems.**
- **Complete problem set solutions will not be posted.** It is your responsibility to make sure you find out how to solve the problems on each assignment.

Exams:

- **This course will have four exams during the semester and a final exam. The first four exams will each be worth 15 points. The Final Exam will be worth 25 points.**
- The exams will be given on the following dates during the semester:
  
  Exam 1: 5:30 – 6:45 PM, Thursday, September 17  
  Exam 2: 5:30 – 6:45 PM, Thursday, October 8  
  Exam 3: 5:30 – 6:45 PM, Thursday, October 29  
  Exam 4: 5:30 – 6:45 PM, Thursday, November 19  
  Final Exam: 5:30 PM – 6:45 PM, Thursday, December 3

- Make-up exams will only be given in extreme situations. Whether or not a situation is extreme is left to the discretion of the instructor. In all such cases, written verification will be required.
Grading:

- Group work – 3 pts.
- Homework assignments – 12 pts.
- Four exams – 4 x 15 = 60 pts.
- Final exam – 25 pts.

Your final grade will be based upon the total number of points you receive out of the 100 total points possible.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90</td>
</tr>
<tr>
<td>B</td>
<td>80</td>
</tr>
<tr>
<td>C</td>
<td>70</td>
</tr>
<tr>
<td>D</td>
<td>60</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 60</td>
</tr>
</tbody>
</table>

If the total number of points you receive is greater than the point values listed above, then you are guaranteed the associated letter grade. **In general, there will be no curving of individual exam grades.** It is theoretically possible for everyone in the class to get an A (or an F). Your performance depends only on how you do, not on how everyone else in the class does. In the end, the grade you earn will be based on your performance, not you.

*I will not discuss your grade in this class either through E-mail or over the phone. If you have a question about your grade, come see me in person.*

*If I don’t see you to talk about your grade during the semester, then I don’t want to see you after the semester is over because you are unhappy with your grade.*

******************************************************************************************

**Policy on Instructional Modifications:** Students with disabilities, who need reasonable modifications to complete assignments successfully and otherwise satisfy course criteria, are encouraged to meet with the instructor as early in the course as possible to identify and plan specific accommodations. Students will be asked to supply a letter from the Disability Resource Center to assist in planning modifications.

******************************************************************************************

**Title IX/Clery Act Notification:** Sexual misconduct (including sexual harassment, sexual assault, and any other nonconsensual behavior of a sexual nature) and sex discrimination violate University policies. Students experiencing such behavior may obtain confidential support from the PEACC Program (852-2663), Counseling Center (852-6585), and Campus Health Services (852-6479). To report sexual misconduct or sex discrimination, contact the Dean of Students (852-5787) or University of Louisville Police (852-6111).

Disclosure to University faculty or instructors of sexual misconduct, domestic violence, dating violence, or sex discrimination occurring on campus, in a University-sponsored program, or involving a campus visitor or University student or employee (whether current or former) is not confidential under Title IX. Faculty and instructors must forward such reports, including names and circumstances, to the University’s Title IX officer.

For more information, see the Sexual Misconduct Resource Guide.

******************************************************************************************