PHYS112 Introductory Physics II - Spring 2014
Wesleyan University

11 - 11:50am, Monday, Wednesday, & Friday, SCIE 150
Course Instructor: Merideth Frey

Contact Information:

E-mail: mafrey@wesleyan.edu
Office: SCIE 213
Office Hours: Thursday & Friday 2 - 4pm or email mafrey@wesleyan.edu to make an appointment at another time

Textbook and Clickers:

Physics: *Principles with Applications*, 7th Edition
Douglas C. Giancoli

You will be expected to bring a registered clicker for each class. You can purchase a clicker ($50, charged to your student account) through the Cardinal Technology Center located in the Usdan Student Center. Clickers can be sold back to the Technology Center at any time for a $20 credit back to your student account (no cash transactions). See [http://www.wesleyan.edu/its/services/teaching/clickers1/forstudents.html](http://www.wesleyan.edu/its/services/teaching/clickers1/forstudents.html) for how to register your clicker for the course on Moodle.

Course:

This course is aimed at students who have little or no preparation in physics or calculus. We will be applying an active learning style which emphasizes reasoning and fundamental understanding over formula memorization and mindless problem solving. The goal of this course is to teach you how to think like a physicist, to solve problems by posing relevant questions and applying the proper physical principles to answer those questions. This class will train you in the type of critical thinking applicable not just to science in general but many other professional fields, while giving you a deeper and richer understanding of the physical world.

We will be covering a large variety of topics, from electromagnetism to waves and optics. If you ever feel you are struggling in the course, *please come to talk to me as soon as possible*. There are many resources that we can explore to help you get the most out of the course, but these resources will not be useful if you have already fallen far behind.
Instructional Style

Education research has found that traditional lecture modes of teaching are not as effective as more active modes of teaching where students themselves engage with the material. (This may not come as much of a surprise to people who have had to sit in long lecture classes...) The use of clickers has been studied and shown to have positive effects on learning when combined with peer discussion, particularly in large classrooms.

In this course, we are going to be using clickers in every lecture to assess your knowledge of the physics concepts discussed. You will also be asked to explain to others the reasoning behind your answers and discuss in groups possible solutions to problems. Of course no punishment will be given if you are wrong, the whole point is to learn from your mistakes and to understand what misconceptions you may have had initially.

You will need to come to each lecture fully prepared and be ready to engage yourself with the material and learn!

Piazza

To aid your out-of-class work, this course will be using Piazza (click here to access). This is a forum where you can ask questions and reply to other students’ questions. The instructor and course assistants can endorse your answers or write responses themselves. Please use Piazza in lieu of sending emails of questions to the course instructors. Most likely, other students have the same question, so now everyone can benefit from the answer!

Weekly Help Sessions

There will be staffed weekly homework help sessions Thursdays from 7pm - 11pm and Sundays from 5pm - 11pm in the physics help room (SCIE 217). Please make use of these help sessions to answer any questions you may have about the homework and to discuss the course topics with others in your class.

Grade Distribution:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Reading Quizzes</td>
<td>10%</td>
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<tr>
<td>Weekly Problem Sets</td>
<td>20%</td>
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<tr>
<td>Exam 1</td>
<td>20%</td>
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<td>Exam 2</td>
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<td>Exam 3</td>
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<tr>
<td>Participation</td>
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Reading Quizzes:

For each lecture there will be assigned reading from the textbook and/or online videos to watch. In order to assess your understanding of the assigned reading, there will be a short online quiz on the reading accessible 24 hours before the next lecture and due at 10:30am the morning of lecture. You take the quiz an unlimited number of times, but your score will be docked by 33% for each try on an incorrect question. The quizzes should be thought of as a good assessment of your own understanding of different topics, and you are advised to use them to determine topics that you may want to work on.

Participating in periodic surveys throughout the course will earn you extra credit for the reading quiz portion of your grade.

Weekly Problem Sets:

There will be weekly problem sets due Monday at the beginning of lecture. These assignments are designed to assess your basic understanding of each topic and to enhance your problem-solving skills. You are encouraged to attend the weekly help sessions, work in groups and discuss the problems with your classmates. However, be sure that you have a full understanding of the solutions and the steps to get there, and write out the solutions yourself. Copying of another person’s work will not be tolerated and is considered a violation of Wesleyan’s Honor Code.

There will be occasional optional homework problems that can contribute extra credit points toward the problem set portion of your grade.

Late homework will not be accepted, unless you have an email from a Dean or a signed medical doctor’s excuse.

Exams:

There will be three closed-book examinations throughout the semester. They will not be cumulative and are meant to help you review the material you learned recently in the preceding weeks. However, physics naturally builds upon itself, so you will also ways be expected to recall basic physics concepts. These exams will include conceptual questions (similar to those given in lecture) as well as word problems (similar to the homework problems).

If you will miss an exam (see Moodle course website for the scheduled exam dates), than please contact me immediately via email or attending one of my scheduled office hours. I do not schedule make-up exams except with a signed medical doctor’s excuse or an email from a Dean. If you feel you have a really good reason for missing the exam, be sure to come talk to me.

After each exam, you will have the opportunity to earn extra credit points for writing a short (less than 1 page) reflection on the midterm and what you have learned as a result.
Participation:

This course will be taught with a focus on interactive learning and student engagement in the classroom. As such, student attendance and participation is required. Participation is based off of class attendance measured using clicker responses. If there is a medical, family, or other emergency that causes you to miss the class, please e-mail me to get excused.

You can earn extra credit points towards your participation grade by volunteering to be an in-class helper or being an active contributor to Piazza (particularly answering other students’ questions).

My Extra Credit Policy:

You cannot earn more than 100% for any portion of your grade due to extra credit. You may find doing the extra credit assignments is beneficial to your learning even if you have already earned the maximum grade possible for a given section.

Classroom Environment:

I strive to make the classroom an open environment where everyone is mutually respected no matter what race, sex, age, disability, religion, sexual orientation, or national origin. If you feel this goal is not being met or you have any suggestions as to how to create a more positive and open environment in this classroom, please do not hesitate to contact me (mafrey@wesleyan.edu) or leave anonymous feedback on the course website.

Students with Disabilities:

Wesleyan University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the ADA Amendments Act of 2008, and provide documentation of the disability. Since accommodations may require early planning and generally are not provided retroactively, please contact Disability Resources as soon as possible.

If you believe that you need accommodations for a disability, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call 860-685-2332 for an appointment to discuss your needs and the process for requesting accommodations.