PHYS111 Introductory Physics I - Fall 2013
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, please email to make an appointment

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 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.

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.

Along with clickers, there will be small group activities to analyze lecture demonstrations, work out problems, and perform small experiments at your desk. 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, teaching assistants, 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.

**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, or to discuss the homework with others in your class.

**Grade Distribution:**

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<th>Percentage</th>
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<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>Midterm 1</td>
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<td>Midterm 2</td>
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<td>Midterm 3</td>
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<td>Participation</td>
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**Reading Quizzes:**

For each lecture there will be assigned reading from the textbook 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 10am the morning
of lecture. If you have completed the pre-class assignment, this quiz should take less than 10 minutes. The point of these quizzes are to give me a quick background into what topics the class finds to be the most challenging, and I will adjust the lecture accordingly. The quizzes should also 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.

**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.

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

**Midterms:**

There will be three midterm 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, such as Newton’s laws, conservation laws, etc. These exams will include conceptual questions (similar to those given in lecture) as well as word problems (similar to the homework problems). After each midterm, you will have the opportunity to earn extra credit points for writing a short (less than 1 page) explanation of the mistakes you made 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 contributing to the course grade and is mainly based off of class attendance, clicker responses, and helping in class with demonstrations, etc. Of course, if there is a medical, family, or other emergency that causes you to miss the class, please e-mail me about being excused.

**My A+ Policy:**

I want an A+ in this course signify something special. In order to earn an A+ in this course, a student must earn an A+ on 2 out of the 3 exams and at least a 90% on every other category in the course.
**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:**

It is the policy of Wesleyan University to provide reasonable accommodations to students with documented disabilities. Students are responsible for registering with Disabilities Services, in addition to making requests known to me in a timely manner. If you require any accommodations in this class, please make an appointment with me as soon as possible. The procedures for registering with Disability Services can be found at: