Math prerequisite: first-semester calculus (221 or equivalent), algebra and trigonometry.

Materials:
- Text: *Physics for Scientists and Engineers, 2nd Edition* by Randall Knight
- Website: [masteringphysics.com](http://masteringphysics.com) – homework, tutorials and interactive applets
- Lab Manual: *Physics 201 and 207 Lab Manual* by Rollefson, Richards, Winokur
- Lab Notebook: spiral or hard-bound graph-paper notebook (not loose sheets!)
- Basic scientific calculator with trig, exponential and logarithmic functions

Lectures: 12:05 TR(F) in 2103 Chamberlin Hall

Course material is covered in the Tuesday/Thursday lectures. Honors students are required to attend the Friday lectures, and everyone is encouraged to attend, where we'll hear about current research from guest lecturers and do some projects.

Read the chapter before the lecture! I know you hear that all the time, but it has a powerful effect on your absorption of physics concepts, which come at a rapid rate in this class. I don't think about physics exactly the same way Knight does, and it benefits you to see his take on things before you see my take on them. Hopefully you'll come to lecture with some questions in mind! Asking questions in lecture is GOOD.

Lecture attendance is critical. I write exams off of my lecture notes, with input from homework, and I emphasize things differently from the book. I scan and upload my notes to the course website after lecture.

Labs: 4310 Chamberlin Hall

The purpose of the labs is to give you some exposure to experimental physics in a controlled setting, and to give you some skills writing down observations in an organized manner. The lab topic will sometimes precede coverage of the topic in lecture. That's fine, because in the real world, we don't get a lecture before we carry out an experiment. It's good to see stuff happen without knowing 'why' – that's a huge part of physics. There is no 'success' or 'failure' in a lab – it's all about recording your observations, comparing with the physics you know, and being an objective scientist. Physics is science, so it's in the lab, not lecture, where it actually happens.

Read the introductory text in the lab manual (pages 5-15) before your first lab. Leave your lab notebook with your TA at the end of each lab for grading. There is no lab-related work outside of the lab period. The lab manual is also online at [badger.physics.wisc.edu](http://badger.physics.wisc.edu).

There are two make-up lab weeks scheduled for people with a valid excuse (like, "I played basketball at Penn State that week"). If you have a conflict, you can go to a different lab section if both TAs agree. Be sure to get your lab notebook to your own TA afterward so it can be graded along with the rest.

Labs are graded, and you cannot miss them. Each missed lab will lower your final grade by a step. Labs contribute 20% of your grade and they matter. Show up, and have fun!

Discussion Sections

Discussions are the place to clarify ideas, ask questions, and work on problems together. You may ask about
the homework before it is due, but your TA won't do your homework for you. If you have an issue with your
discussion section or lab, don't hesitate to talk to me about it. Discussions and labs are for your benefit.

Homework

Homework problems are assigned each week and are due the following Monday at 11pm. **Late homework is not accepted.** Complete the homework online at masteringphysics.com. If you bought a new book, it includes an access code; if not, you'll have to purchase access (sorry about that). Register using your campus ID, your Mastering Physics access code and the course ID: PHYSICS207S2012.

You are strongly encouraged to work on homework with other students, but be sure you understand the answers that you provide. My solutions will be uploaded to the course website on Tuesday mornings.

Exams

There are four equally-weighted exams, two of which are given on Wednesday evenings:

- **Exam 1 Chapters 1-8** Wednesday, February 29, 7:15-8:45pm
- **Exam 2 Chapters 9-15** Wednesday, April 18, 7:15-8:45pm

If you have a legit conflict with one of these exams, we will schedule an earlier time slot for you to take it.

The remaining two are given during the final exam period, **Friday, May 18, 7:45-9:45**

- **Exam 3 Chapters 16-21**
- **Exam 4 Cumulative**

You'll be given both exams at the start so you can divide your time between them as you see fit.

Exams are closed everything, other than a calculator and writing implement. I will include a formula and constants sheet with the exam, which you'll receive ahead of time along with a practice test.

Grading

Your grade for the course is calculated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 3</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 4</td>
<td>15%</td>
</tr>
<tr>
<td>Labs</td>
<td>20%</td>
</tr>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Discussion</td>
<td>5%</td>
</tr>
</tbody>
</table>

You will receive a letter grade on each component using the standard A, AB, B, BC, C, D, F. Your final grade will be computed from the weighted average. Every student's grade will be discussed with their TA before finalizing it, and this can have an effect on people that are very close to a grade boundary. Although I stick fairly closely to the L&S standard of 50% of students receiving a grade of B or better, I know that classes do vary, and if you impress me with good lecture participation and interest as a whole, I'll be more inclined to be generous with grading, since I'll be convinced that you're smarter than average UW students.