

How to Succeed in Physics 101 (or any other science course)

Studies show that students learn more when they have some understanding of how the brain learns. Repetition in a variety of forms is critical. The more the brain experiences something, the more important it thinks it is. This is the logic behind my multiple types of assignments and why we sometimes go over important clicker problems several times.

1. Attend class every day. If you must miss class and review the lectures online.
2. Read your text **BEFORE** coming to class. Allow 3 pages/hour to really understand what is being said. Read with a pencil – do sample problems, summarize sections, etc.
3. Do your homework regularly and as soon as possible. You must practice daily in order to allow your mind time to absorb and organize the physics we are studying.
4. Collaborate but don't hide behind others. While studying in groups is encouraged, make sure to spend time on your own writing your homework/labs in your own words.
5. Ask for help as soon as you need it. Do not wait until you are really behind or confused. Feel free to drop by during office hours or email me with your questions.
6. If you have a personal/family emergency that is affecting your ability to work in or attend the class, please contact the Office of Student Life.
7. If you seriously try on all of your homeworks, labs, projects and tests, then it is not possible to fail this class! Though, you should not expect earning an A to be easy.

How to Succeed on Physics 101 Tests

My raw test averages (but not final class grades) have a tendency to be a little lower than most professors. I've provided some tips on how to effectively study for these tests and become a good problem solver. **If** the class average is < 75 , I will curve the test.

1. Do and redo the homework. This is the bare minimum for passing the test.
2. Practice taking the exam example (on website) and practice tests (on WebAssign).
3. Practice the conceptual questions at the end of the chapters and discussed in class. Roughly **fifty percent** of the exam (~10 questions, 5 points each) will be based on conceptual multiple choice questions! These questions make up such a large portion of the tests because I believe it is more important that you understand the physics, than be able to figure out an exact number. Remember, formulas are still useful.
4. Know the format. There will be 20 multiple choice questions on each midterm. Several of these questions will come from prior MCAT questions for two reasons: a) about half of this class goes on to take the MCAT and this is good practice and b) these are well tested questions that have been shown to be good indicators of learning.
5. Don't waste time memorizing. Important formulas and constants will be on the test. If you believe that I've forgotten to include an important formula or constant, raise your hand and I will provide it for the entire class if I agree you need it.
6. Draw pictures to describe the problem and list what you know. Pictures often help you think about how to solve problems.
7. Try not to worry! I may curve the test. Depending on the test grade distribution, I typically use two different kinds of curves, sometimes on the same test. There is the flat curve (e.g. +5 points) or the weighted curve, which helps the lowest grades the most. I base my decision for what curve to use on statistical analysis of the grades.