Tips for Success from Former Students
[Updated 02/05/2016]

Below are some solicited words of advice from real students who took this course (or equivalent, elsewhere) in the past.

“My advice would be to try office hours over the tutoring center if possible. It can seem more intimidating going to the professor directly but it is much more beneficial in my experience.”
(anonymous, UMD, Fall 2015)

“My advice [...] is to read the textbook and do example problems, go to the tutoring center and office hours, go to [help] sessions for help, watch Youtube videos if you do not understand the material, review your exams and learn from errors.”
(anonymous, UMD, Fall 2015)

“My advice [...] is to focus on the in-class material, and be sure that you understand every example the instructor gave. Personally, the in-class time was the crucial time as I did not have much time out of classroom for this course. Also, make a summary of your notes (with the help of the notes posted online) for each chapter. In addition, finding a study-buddy to discuss problems and explain concepts with each other may also be beneficial for learning.”
(anonymous, UMD, Fall 2015)

“The best advice I received actually came from you, about how conquering [General] physics (or any challenge really) is by thinking of it as a mountain. You cant sprint to the top, or think you can wait until the last week to try and climb it all. It takes time and patience, but if you stick with it you can start slowly climbing to the top. It stuck with me, so maybe it will stick with some of your new students too!”
(Dylan Corbin, physics major, RIT, anticipated graduating class of 2018)

“1. Take thorough notes, and reread your notes from the week before Friday. This gives you the opportunity to to figure out exactly what it is you don't understand so you can try to get it sorted out before it becomes a much larger problem.

2. Before approaching any problem, try to think and ask yourself what exactly the problem's goal is. During this thought, stay away from using numbers and just think about the problem in words.

3. After thinking about the problem but before attacking it, write down what it is you know and what it is you want to know. Then try to find a way to link the two.”
(Zach Assenmacher, physics major, RIT, anticipated graduating class of 2018)
“My advice:

1. Find a friend(s) to work with. Sure, it is possible to do fine alone, but it is surprisingly helpful to have someone to bounce ideas back and forth with, to explain things to and to have things explained to, to slap you when you make an obvious mistake, and add to the fun of the physics.

2. Some people come into college with notions that smart people never need to ask for help/ask questions. Stamp out those ideas as quickly and as violently as you can, you will have a much better experience.

3. Any notion of chapters or sections in physics is a malicious lie propagated by textbook companies. Okay, they are good for telling you where things are in the book, but just because the class has moved past that material does not mean you can forget about it until the week before the final. Material from each week will come up in each following week, and for the rest of your life if you go into physics or most engineering disciplines.

4. Memorizing steps for doing certain problem types is no substitute for understanding what the concepts and formulas mean. You can memorize 10,000 variations of a problem, and on the exam it will be number 10,001. Know why a problem must be done in a certain way and not some other way, while being aware that there are almost certainly other ways to go about it.”

(Leo Sutter, physics major, RIT, anticipated graduating class of 2018)
“My advice...

1. Read the textbook. It's tedious and a little difficult, but that gives great insight into good example problems to practice with. Also, a different explanation of a concept can make all the difference in your own level of understanding.

2. Solve practice problems. Solve more practice problems than you think are necessary. Even after you think you've fully grasped and mastered a particular type of problem, try a few more to reinforce the process. This way, no matter what problem is set before you on an exam, you're ready.

3. Get help early, whether it's from the professor directly, from a TA, or from a fellow student in the class. Talking a problem out can help you see where you might be faltering. If you keep obsessing over a problem and never talk about it, you'll have a much more difficult time getting yourself out of the metaphorical rut you are stuck in.

4. Start your homework early. The earlier you start, the sooner you'll figure out which problems are more challenging and which ones are easier. Once you know which ones you're having trouble with, you can get help from the professor, TA, or a fellow student. If you don't know what you're stuck on, it's very difficult to ask for help.

5. Take the full amount of time given in an exam, especially if it proves to be necessary. Don't rush through the test. Take a deep breath, calm down, and approach things one question at a time. If you get stuck, move on to the next problem and come back. After you finish the exam, go through it at least once, but preferably two or three times, to ensure that you haven't missed any little errors that may be eluding you. It's always better to be the last person finished, having done the best you are capable of, than the first person, having made many silly mistakes that you should have or could have caught had you slowed down a little.”

(Caroline Cameron, chemical engineering major, RIT, anticipated graduating class of 2017)
“As for general advice, reading the book comes up as number one for me, because it's something that I didn't do often but when I did, it helped make things a lot more clear. As well, coming to talk through things with you at your office was by far one of the best ways for me to sort out my confusion throughout the semester. I feel that a lot of students don't take advantage of their professors office hours and insight, and I think they suffer because of it. Lastly, when it comes to studying for exams, the best strategy I found was to simply redo all the homework problems and make sure I understood the solutions at every step (this also assumes that you complete all of the homework assignments by their due date, which never seemed optional to me). All of this together is almost a guarantee for an A.”

(Anthony Reiter, physics major, RIT, anticipated graduating class of 2017)

“My advice to beginning physics students would be to give yourself a fresh start for each chapter or topic covered in class. It can be really frustrating if there is a section that is giving you a lot of trouble, but don't give up on the whole class because of it! Even though all of the topics are inter-related, some concepts will be easier to grasp than others, so just remember that just because something didn't click for you in one chapter doesn't mean that you won't be able to understand anything in the next. Also, do as much of the homework as you possibly can! The practice really helps, and it makes you more familiar with your class notes so that when you study for exams it's easier to remember what equations you use for what types of problems, which is really all physics came down to for me.”

(Elizabeth May, biochemistry major, RIT, anticipated graduating class of 2016)

“My advice to students is

1. Keep all the notes together. I had one of those composition notebooks (but I know others have used sketch books) and it lasted me both semesters (UP1 and 2). It totally helps to have class examples and the derivations of equations when looking back doing homework. Also good to always keep the information integrated between derivation and application.

2. Actually do the Mastering online assignments as well as the extra problems. The latter especially are really nice to do in a group as review.

3. Go over the section of notes before each quiz/test and (basically) rewrite all the important notes in a condensed form. That way its not as overwhelming and you don't forget any thing in between. (especially if you keep good notes and do the first suggestion). Star things you know you have a hard time with and ask about those if there is conceptual confusion.

4. GO TO TA/OFFICE HOURS. Be it the prof, TA, or someone at a tutoring center, they can pose different strategies for comprehension and help untangle any mathematical or conceptual blocks. They also have those jobs because they love math and physics and are really amazing and helpful people.”

(Sarah Kearns, biochemistry major, RIT, anticipated graduating class of 2016)

“I had a three-step study method. I first made review sheets for myself. I went through all my notes and wrote important things to remember, all in one spot. I then re-did all (or most, depending on time) of the problems we had done. After that, I'd gather all of my questions, and go ask [Dr. West] for help!”

(Elizabeth Bondi, computer science major, RIT, anticipated graduating class of 2016)
“My advice: Never, never give up. Physics problems are challenging, but the joy that is wrapped up in the 'Eureka' moment is so wonderful and amazing, that it makes the hard work worth it. Physics problems are tough […] but that doesn't make them impossible. Play with the ideas. Get some blocks and slide them down inclined planes, throw something across the room, feel the friction as you shuffle your feet along the ground, and most importantly, have fun. You're thinking about how everything works, and it should be fun!! Go play.”

(Ryan Scott, physics major, RIT, anticipated graduating class of 2016)

“My main advice is the students need to be self-motivated and dedicated. They cannot expect to do well by cramming before a test, waiting until the last minute to do homework, and only going to your office hours right before an exam. Success requires constant attention to the learning process and organization is key. When I was in [Dr. West's General Physics II] class, I spent at least 2 hours a day surrounded by physics outside of the classroom but often it was more than that. The tutoring center, […] office hours, study groups, and individual studying all played a role in my eventual success. No question or topic is too small to address. They need to plan to go to the study center and […] office hours regularly even if its to stop by and clarify one topic. They need to prepare before going to a tutor or [office hours] as well. […]

To study, I liked doing problems from the book that had answers in the back so I could check my answer. The problems you made up in office hours or took from the book helped greatly too. Students can expect exams to test them on material addressed in lecture and homework but not the exact problems that were gone over from lecture or the homework. I found that the problems from the homework that the class as a whole did not do well on in the homework, were ones to show up on the test. Students need to study these problems not hope to not see it again. The problems on the tests that I struggled with the most, I found to be repeated on the final so studying tests for concepts not exact problems is a good strategy too. In fact, it was the difficult concepts that were repeated not the problems themselves. Each test problem was selected due to the concept it addressed. Those that you repeated a lot were very important such as when is energy or momentum conserved.

Study groups are good but keep them to a few people. They should be made of people that can help the individual student and also people the student can help. Teaching the material is the best way to solidify it in our brains and also let us know how well we know something.

Lastly, my final and maybe most important advice is to not give up. Even if the semester does not start off to well, hard-work pays off. I wasn't doing so well in [General Physics I] […] and I was near giving up, but I started attending […] office hours and slowly started catching up. This led me to pass the class.”

(Samantha Abraham, chemical engineering major, RIT, class of 2015)