

How to Study for Our Mastery-Based Physics Course

The basic study plan is described in the Student Preface in the text, p. xviii – xix. Read this first.

For further detail, below are repeated the three previous study practice descriptions I have distributed to you.

From September 2 (Quiz 2 Communication Sheet)

Advice for Improvement

Students should:

1. Make flash cards with thorough definitions for all technical terms, then rehearse these until the definitions are well memorized. Any time a quiz asks about terms such as theory, science, fact, truth, and so on, you should quote the definition or description from the text. The descriptions and definitions in the text are carefully worded. Avoid making up your own definitions during the quiz. Such responses tend to lack the accuracy, detail and clarity of the definitions written in the text. □
2. Write detailed responses to quiz questions. Remember that a merely “adequate” response receives a score of 7/10 or 15/20. Higher scores are given when your responses go beyond adequate to excellence. □
3. Study the Objectives List at the beginning of each chapter. Make sure you can address each item effectively before the quiz. □
4. Use each quiz as a study tool for future quizzes. All quizzes are cumulative and contain questions or computations from past material. Questions on quizzes are often repeated on later quizzes. □
5. Beginning this Friday, September 2, students will receive a Weekly Review Guide. Students should carefully work through each item on the review guide during the week. This practice is essential for keeping old material fresh, and thus being prepared for questions on the quizzes. □
6. These study practices and others are all described in detail in the Solid Study Strategy box on pages xiii-xix in the text. Review this strategy and make use of the many practices described there.

From September 14 (Physics Update No. 2)

Here is some more advice for further improvement:

1. Some students need to work on their writing. If this is you, I recommend writing out new responses to quiz questions where you lost a lot of points. Bring them in and we can discuss them. □
2. When discussing theories: Theories don't "use" facts. Theories aren't "made up" of facts. Theories aren't "groups of facts." Theories aren't "collections of facts." A theory is a model that explains and accounts for certain facts. A theory is much more than just the facts it explains. □
3. Generally speaking, giving examples on verbal questions doesn't help. It is a better use of your time to stick to a straight answer to the question. Skip the examples unless an example is requested in the question. □
4. Proofread your written responses to make sure your English makes sense. □
5. Your answers are to be in complete sentences. □
6. When discussing accuracy and precision, note that these two terms are about measurements. Refer to measurements, not to "somethings," "experiments," etc. □
7. There are a few students who have not yet gained proficiency in unit conversions and motion calculations. These calculations will be on every quiz for the rest of the year, so to earn a passing grade in the class it is essential that you come in regularly for tutoring. I recommend coming in twice per week before or after school until you have these skills down.

From September 16 (Weekly Review Guide 3):

This course is intentionally designed to produce mastery of subject content. If you study correctly, you will, in fact, learn and master course content, retain it for a long time, and earn a strong grade in the course. Content on every weekly quiz addresses material covered back to the beginning of the course. Questions on quizzes appear over and over at random times during the year. To be successful, students must LEARN and MASTER new material on a weekly basis. Students must also RETAIN old material to be prepared for review questions. Studying for long-term retention requires the following:

1. Keep up with weekly review activities. Don't just look over this review guide. Do what it says.
2. Work all the review problems at the bottom of the review guide.
3. Use every quiz as a study tool for future quizzes. Go over all your quizzes regularly. Be able to address every question and work every problem.
4. Practice your flash cards over and over until you have them down pat. Then practice them often after that. Your goal must be total mastery and long-term retention.