

How to Succeed in Your Astronomy Course

(From The Cosmic Perspective 3rd Edition by Bennett, Donahue, Schneider and Voit)

Using This Book

Each chapter in the book is designed to make it easy for you to study effectively and efficiently. To get the most out of each chapter, you might wish to use the following study plan:

- ✓ Begin by reading the Learning Goals to make sure you know what you will be learning about in each chapter.
- ✓ Before reading in depth, start by skimming the chapter, focusing only on the illustrations. Study each illustration and read the captions so that you will get an overview of the key chapter concepts.
- ✓ Next, read the chapter narrative. Try to answer the Think About It questions as you go along, but you may save the other boxed features (Common Misconceptions, Special Topics, Mathematical Insights) to read later.
- ✓ After reading the chapter once, go back through and read the boxed material. Also look for the tutorial icons that tell you when there is a relevant Web-based tutorial on the Astronomy Place (www.astronomyplace.com). If you are having difficulty with a concept, be sure you try the tutorial.
- ✓ Study the chapter's Summary of Key Concepts by first trying to answer the Learning Goals questions for yourself, then checking your understanding against the answers given in the summary.
- ✓ Check your understanding by trying the online quizzes at www.astronomyplace.com. Do the basic quiz first. Once you clear up any difficulties you have with the basic quiz, try the conceptual quiz.

If Your Course Is:	Time for Reading the Assigned Text (per week)	Time for Homework Assignments (per week)	Time for Review and Test Preparation (average per week)	Total Study Time (per week)
3 credits	2 to 4 hours	2 to 3 hours	2 hours	6 to 9 hours
4 credits	3 to 5 hours	2 to 4 hours	3 hours	8 to 12 hours
5 credits	3 to 5 hours	3 to 6 hours	4 hours	10 to 15 hours

The Key to Success: Study Time

The single most important key to success in any college course is to spend enough time studying. A general rule of thumb for college classes is that you should expect to study about 2 to 3 hours per week outside of class for each unit of credit. For example, based on this rule of thumb, a student taking 15 credit hours should expect to spend 30 to 45 hours each week studying outside of class. Combined with time in class, this works out to a total of 45 to 60 hours spent on academic work—not much more than the time a typical job requires, and you get to choose your own hours. Of course, if you are working while you attend school, you will need to budget your time carefully. As a rough guideline, your studying time in astronomy might be divided as shown in the table at the top of p. xxvii. If you find that you are spending fewer hours than these guidelines suggest, you can probably improve your grade by studying more. If you are spending more hours than these guidelines suggest, you may be studying inefficiently; in that case, you should talk to your instructor about how to study more effectively.

General Strategies for Studying

- ✓ Don't miss class. Listening to lectures and participating in discussions is much more effective than reading someone else's notes. Active participation will help you retain what you are learning.
- ✓ As you read, make notes to remind yourself of ideas you'll want to review in more detail later. The best way to do this is to make notes in the margins of the book. If you want to mark text for later review, don't highlight—underline! Using a pen or pencil to underline material requires greater care than highlighting and therefore helps keep you alert as you study. Be careful to underline selectively—it won't help you later if you've underlined everything.
- ✓ Budget your time effectively. One or 2 hours each day is more effective, and far less painful, than studying all night before homework is due or before exams.
- ✓ If a concept gives you trouble, do additional reading or studying beyond what has been assigned. And if you still have trouble, ask for help: You surely can find friends, colleagues, or teachers who will be glad to help you learn.
- ✓ Working together with friends can be valuable in helping you understand difficult concepts. However, be sure that you learn with your friends and do not become dependent on them.
- ✓ Be sure that any work you turn in is of collegiate quality: neat and easy to read, well organized and demonstrating mastery of the subject matter. Although it takes extra effort to make your work look this good, the effort will help you solidify your learning and is also good practice for the expectations that future professors and employers will have.

Preparing for Exams

- ✓ Study the review questions, and rework problems and other assignments; try additional questions to be sure you understand the concepts. Study your performance on assignments, quizzes, or exams from earlier in the term.
- ✓ Study the relevant online tutorials and chapter quizzes available at www.astronomyplace.com.
- ✓ Study your notes from lectures and discussions. Pay attention to what your instructor expects you to know for an exam.
- ✓ Reread the relevant sections in the textbook, paying special attention to notes you have made on the pages.
- ✓ Study individually before joining a study group with friends. Study groups are effective only if every individual comes prepared to contribute.
- ✓ Don't stay up too late before an exam. Don't eat a big meal within an hour of the exam (thinking is more difficult when blood is being diverted to the digestive system).
- ✓ Try to relax before and during the exam. If you have studied effectively, you are capable of doing well. Staying relaxed will help you think clearly.