

How to Produce Excellent Notes and Use Them to Prepare for Exams

One attends college to learn, not to take tests. But anxiety about tests or difficulty with tests can create problems that interfere with learning. Do you get nervous before tests? How do you know when you are prepared for an exam? This handout provides a suggested technique for preparing for exams. My intent is that this advice leads to improved understanding and reduced anxiety.

If you can provide a complete explanation of a topic to a classmate or friend, without reference to your notes or readings, then you will also be able to answer questions regarding that topic on an exam. If you cannot explain a topic to a friend, then you will not be able to provide strong answers to questions about that topic on an exam.

This system is based upon (i) realizing that instructors tend to focus both their lectures and their exams on the material that they deem most important, (ii) creating a fantastic set of lecture notes, and (iii) studying those notes effectively and efficiently.

I have reviewed notes of many Bio 115 students and often found them to be nearly useless. I have not kept any notes from my first college biology class, but I bet they were similar. Obviously, many students are able to be very successful in high school without taking good notes. I am convinced that learning to produce excellent notes is a key step in developing the skills and study habits that facilitate success in college level work. Excellent notes will not just help in this class, but in all classes.

This document describes a procedure for producing great notes and studying them effectively. No student has told me they truly applied this system and it did not work for them, but most students are not willing to make the effort necessary to follow this procedure.

A step-by-step procedure for producing excellent notes

1. Write down essentially everything during class. This is hard work. Your hand will ache. Do not try to figure out what is “important” during class. Assume the instructor is arrogant enough to think that everything s/he says is important. If something goes by too fast, raise your hand and ask for the material to be repeated. Leave *lots* of space on the pages so you can add more material later. If people nearby distract you sit somewhere else in the future.
2. After class get together with 1-3 others to review your notes. Your notes will not be identical but they will probably complement each other. Supplement your notes with the additional information from your peers. (If others in the group will not focus on the task at hand find someone else to work with in the future.)

While you are still working together determine whether you have a list of unconnected items or a story. If the notes read like a list of items, then you may be missing the big picture. Work together to identify the main points, how the main points are related to each other, and how they relate to your notes from previous class sessions. Add these explanations to your notes if they aren’t already included.

Identify any concepts, examples, etc. that the group does not understand. Use the text as a reference to attempt to learn more about those topics. If the text does not clarify the issue, see the instructor for clarification. Don’t be bashful about seeing the instructor for clarifications.

Add all of the new material to the spaces you left in your original notes.

3. Now copy your notes into another notebook. I like the kind with a glued binding because they are thin and thus they don't look overwhelming to study.

Leave several blank pages at the beginning of your copy. An outline will go here (see below). For now, just write "Outline" at the top of the first page.

Do not copy anything you do not understand. Study the book, ask your friends, or ask the instructor for clarification. (Treat the book as a resource, but don't try to copy everything from the book into the notes. That wouldn't be feasible. Think hard about what information is really important and what is supplemental or less critical.)

Do not copy blindly; that would just waste time. Write neatly and in complete sentences. Supplement your explanations with sketches or drawings or references to particular figures in your readings.

One could use a computer rather than writing by hand, but a computer is not well suited to incorporating graphs, diagrams, etc. during class, and in my opinion one can absentmindedly type, but one is less likely to be absentminded when writing.

4. When you have finished copying a day's notes, add a detailed outline of the material to the outline at the beginning of the notebook.

Complete steps 1-4 before the next class session.

As you might imagine, it takes a lot of time to make a good copy of your notes. The only way to do this effectively is to keep up every day. If you put off copying notes until just before an exam, you will be forced to copy as fast as you can, you won't have time to figure out material you don't immediately understand, and you will get little out of the process. My recommendation is that you not use this system unless you keep up day-by-day or nearly day-by-day.

Besides resulting in great notes, this procedure also ensures that you study the material shortly after each lecture, and that you understand one lecture before arriving at the next lecture. This is much more effective than putting notes aside and waiting to study them until a few days before an exam.

Using your notes to study for an exam

Now that you have created a legible, thorough, priceless set of notes, study them as follows. Before reading the notes on a particular subject look at the corresponding entries in the outline and ask yourself, "What do I know about this topic?" Think through what you know (without looking at your notes). Take time to describe the material as thoroughly as you can – to yourself or to someone else. Then read your notes and compare the notes to what you remembered. This process makes poor understanding painfully clear. In my case at least, once I realized that I did not understand a particular topic I was stimulated to avoid distractions¹ and focus upon the topics that I did not yet understand. Likewise, I could give less attention to topics I already understood well.

¹Regardless of the school, students routinely complain, "The library is just a social center. I can't get anything done there." If this has been your experience, then I suggest you try

I knew I was well prepared for any test when I could explain all of the material in my notes to myself or, better yet, a friend just by reference to the outline in the front of my precious copy. With this system I could predict my exam grade before seeing the exam.

A warning

Perhaps you are wondering, “If this system is so great, why should I read the book?” The above procedure is an effective way to learn lecture material, but it is of little help for material that is not covered during lecture.

There are several reasons to do the assigned readings and pay attention to material that does not make it into lectures.

1. Some topics, maybe even most topics, may be difficult to understand on the basis of the lecture alone. The lecturer will not usually have time to go into as much detail as the text, or the lecturer may give a poor explanation.
2. Your real objective is not a good grade, but understanding. Because of time constraints lots and lots of fascinating, important material will not make it into lectures. The assigned readings are your opportunity to learn some of this other material.
3. Some exam questions will almost certainly refer to ideas or information that were covered in the readings but were not covered in the lectures.
4. The folks who write standardized tests (e.g., GRE, MCAT) will not hear the same lectures as you. Their questions will more closely reflect the topics of the most popular texts.
5. The instructors who teach upper level courses will not hear the lectures you hear. They may assume that you are familiar with all of the material in a typical reading list for such a course.

Additional assistance with study techniques and exam preparation is available from the staff of the Academic Skills Center in Abell Library (x2454).

The next page shows the checklist your classmates will use to grade your notes.

finding a location in the library, or elsewhere, where you will not see others as they pass by, and therefore will not be as prone to be distracted by them. If people still approach you, tell them you are studying and don't have time to talk. It is up to you to create a situation where you will not be distracted.

Before you assign a grade to a particular set of notes, review all four sets that your group has to grade and try to rank order them. You may find that grading requires a bit of judgment and that seeing the range of quality is necessary to calibrate your assessment of particular items in the following list.

Place a letter (a, then b, then c, etc.) in the box at the left end of every item for which you deduct points. Place the same letter in the margin of the notes where the item applies so that the owner of the notes can understand why points were deducted.

When you have evaluated each item, tally the deduction, plus any credit for having supplemented the notes from the textbook (next to last row), and sum up the total grade.

| Check those that apply | Points | Item |
|------------------------|--------|--|
| | -1 | 1. Outline missing |
| | -1 | 2. Outline not sufficiently detailed to use as an effective study guide. |
| | -1 | 3. Outline does not correspond to topics actually covered. |
| | -5 | 4. Notes superficial. Key topics, concepts or terms missing (as if the student only took notes during part of the class session), relevance of points routinely unclear, or notes disjointed – relationships between items not apparent. |
| | -1 | 5. Key term not defined. |
| | -1 | 6. Key term not accurately defined. |
| | -2 | 7. Key concept or relationship not explained. |
| | -1 | 8. Key concepts or relationship not adequately explained (cannot be understood from the notes alone) |
| | -2 | 9. Examples omitted. |
| | -1 | 10. Examples mentioned but not explained. |
| | -1 | 11. Relevance of item unclear from notes (cannot be understood from notes alone) |
| | -1 | 12. Meaning of any material unclear |
| | -1 | 13. Apparent confusion/misunderstanding (e.g. explanation is wrong or does not make sense) |
| | -1 | 15. Lack of headings and subheadings to emphasize shifts in topics |
| | | Total deduction (=sum of points for items checked) |
| | +3 | 14. Obvious or apparent use of book to supplement notes |
| | | Grade (20 – total deduction + credit for use of book if applicable) |