What Do I Need to Do to Make an A?

Students are universally concerned with their grades, which can be very frustrating to a teacher who wants them to ask “How can I learn this material?” rather than “What do I need to do to make an A?” After many years of dealing with the latter question (despite detailed descriptions of our grading systems in the syllabus), we developed the following rubric. Its purpose is to help students who come in and ask what they need to do to get the grade they are seeking. We publish the rubric in the course syllabus, and we also give students measurable course objectives and the study suggestions that follow the rubric. The integrative nature of physiology requires an approach to learning that is often unfamiliar and not obvious to many students. Students regularly enter physiology courses expecting merely to memorize facts to be successful, and we’ve found that this rubric helps them to understand expectations and to adopt more successful learning strategies early in the course.

The rubric is not a grading scheme but serves as a mechanism to communicate our perception of the skills and behaviors we have observed in successful and unsuccessful students. It was designed for our classes and the way we teach, and it will probably need modifications to be applicable to readers’ classes. For example, when C. Gill moved from Texas to Hampshire College, she modified the rubric to accommodate an assessment scheme that uses evaluations rather than grades. Variations of it have now been used successfully in classes that range from lower-division prenursing and allied health students to upper-division premedical students and biology majors.

Feedback from students has indicated that the rubric has been helpful because it allows them to understand what they need to do to be successful. To date, no student has come in and said “You gave me C, but I’m a ‘B’ student by your guidelines.” On the other hand, we’ve had students come in and say, “I don’t understand why I got a C when I worked so hard.” Then the rubric is useful because we can pull it out, get out their tests, and show them exactly how their performance and study strategies match the C criteria more than the B criteria. The rubric and the study techniques also provide students with explicit suggestions for improving their performance.

We present our rubric here in the hope that it may be useful to others. We give permission to copy it but really expect other faculty members to adapt and modify it for their specific courses before use.

What Do I Need to Do to Make an A in This Class?

Based on past experience and student input, the following list describes student knowledge and skills as they relate to final grades in this physiology class.

“A” students. “A” students know most details and understand all basic physiological processes. They have a global understanding of the big picture and can apply what they know to solve problems. They see how the body systems work together, and they can explain the consequences of changing one component in a system. They search for common themes and mechanisms among systems. They read and reread. They attempt problems in class and ask for assistance or work to figure out those they cannot easily solve. They are willing to take chances and be wrong.

“B” students. “B” students know lots of details and most physiological processes. They have good understanding in most areas but often lack practice in problem solving or have gaps in their understanding of processes. They attempt to solve problems in class and try to figure out some (but not all) of the problems they cannot easily solve. They often lack confidence in their problem-solving abilities, and they may be reluctant to be wrong.

“C” students. “C” students are short on details and misunderstand some physiological processes. They usually memorize the material without really understanding it. They lack the ability to create cross-links between related bits of information, and they do not see how information fits into patterns. In one “C” student’s words, “the light bulb hasn’t come on yet.” Consequently, they do not problem solve well. They can name the pieces but not explain how they work. They attempt to solve class problems but give up when they cannot find the answer easily. They usually do not make concept maps or learn reflex pathways.

“D” students. “D” students have incomplete factual knowledge and misunderstand basic physiological processes. They are also usually unwilling to admit this and to ask for help. They miss class or come to class without reading material in advance. They do not attempt to solve problems in class and depend primarily on knowledge they had coming into the course.

Suggested study techniques. The following is a list of study techniques we recommend to students:

1. Read material and learn definitions before class. (Preload your mind.) Use class time to understand complex processes rather than as your first look at the basic facts. Lectures will be a “foreign language” if you do not at least review new terms before class.
2. Attempt problems in class and get assistance where needed. Problems are designed to reveal common difficulties students have. In other words, you are normal if you have some difficulty. Be comfortable asking for help.
3. Study material after class. Make pictures, lists, flow charts, concept maps ... whatever works. Review the reading, class lectures, and problems after class and then bring questions to class the next time.
4. Make connections among material by flipping back and forth between resource materials as you study. Look up material from supplemental sources, especially any information that is background knowledge you need to review. The internet is becoming powerful and more accurate as a source, but limit yourself to reliable sources (such as textbooks, journal articles, etc.).
5. As you do the laboratories, ask yourself how the material relates to what you are learning in class.
6. Ask yourself the global question of “How does this work?” Try explaining information to a friend. If you can explain processes, you have the facts, vocabulary, concepts, and overall understanding.
Dee U. Silverthorn
Integrative Biology
University of Texas at Austin
1 University Station, C0930
Austin, TX 78712
E-mail: silverthorn@mail.utexas.edu
doi:10.1152/advan.90160.2008

Cynthia Gill
School of Natural Sciences
Hampshire College
Amherst, MA 01002