

Biology 106: Principles of Biology I

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Course Prep Guide

Tips for Success in Biology

The following information will help you to do well in the undergraduate biology series. While each student has different study habits and varying degrees of success, this should be of some assistance.

- 1) Review lecture notes *daily*. Waiting until the night before to study for a quiz or exam may insure frustration (don't cram).
- 2) Unless otherwise directed, use your text as a reference to clarify topics discussed in lecture. Trying to read the chapters for complete comprehension, while admirable, may lead to confusion. There is much more detail in the text, than is covered in lecture. Review the information to gain more insight about particular lecture topics.
- 3) Emphasize the key concepts and ideas. Most of the questions on the quiz or midterm are designed to determine what you understand. Some questions may require knowledge of very specific details (e.g. what are tonoplasts, and where are they found?). Know and understand the major principles as discussed in lecture.
- 4) Attend lecture regularly. I cover the points I consider to be most important during lecture, and a majority of questions are directly related to the topics covered in lecture. Missing lecture only hinders your progress.
- 5) You should be enrolled in a lab section, so attend your labs (don't blow them off). Plan on being an *active* participant in lab. Not participating, copying lab activity sheets, and leaving lab sessions early will only hinder your progress. Many students don't realize that the lab is an integral part of this course. If you do not regularly attend lab, you run the risk of failing the lab and the class.
- 6) Show up to class prepared. Scan (preview) the reading to get an idea of what going to be covered.
- 7) If something is not clear, then *ask questions*. There are only a few questions that really irritate me (I will let you know what those are, should they come up). If you are lost or don't understand a topic *ask*. If you don't ask, I will assume you know. If I assume you know, it will be asked on the quiz or midterm. You have a variety of ways to get in touch with me, including e-mail. Your lab is a good place to discuss lecture topics. Your lab instructor is very familiar with the material and will be able to clarify confusing topics.
- 8) Investigators from all branches of science collaborate. It is a good idea to form study groups to discuss lecture topics. If you can explain a topic (Like meiosis) to a colleague, you will have a very clear understanding of that topic. A good way to establish a study group is with your colleagues in lab.

9) A failing grade is not what most students anticipate receiving at the beginning of the term. Sometimes, extra help outside the class or a tutor may be in order. There are many folks on campus that can help you with this topics (or many others in science and math). Graduate students may provide tutoring at a nominal fee.

10) Understand that this is an introductory course. We will cover a tremendous amount of information over the next few weeks. Some of the topics are not directly related, which makes things more difficult. In fact, this course will be more difficult and challenging because of this. Again, be sure you understand the major topics and key concepts.

11) While it is very early in the term and difficult to anticipate problems, *never* wait to the last minute to discuss the problem. “Stuff” happens, but not communicating with me or your lab instructors, will make matters worse. In short, don’t assume we will know all the facts, and have documents (doctor or employer letter, etc.) to validate your reasons. ***Remember, there are no rescheduled or make-up exams.*** There are no “victims” in any of my classes (you accept responsibility for your grades by registering for this class). There will be little sympathy if an assignment is turned in late be cause your computer, flash drive, printer, crashed, or your dog, cat, little sister/brother ate your homework, etc. Remember, the grade I report os the grade you’ve earned.

Keep this document with your syllabus and refer to it often.

NOTES

Sample Questions

The following are the types of questions you will see on the quiz and midterm.

A) The synthesis of proteins and the duplication occurs during:

a) cell cycle; b) G1; c) G2; d) S-phase; e) mitosis;

ab) MARK A & B on the scantron...all of these;

ac) MARK A & C on the scantron...none of these

B) Membrane bound organelles, compartmentalization, and a true nucleus are characteristics of:

a) prokaryotic organisms; b) eukaryotic organisms; c) bacteria; d) fungi; e) B & E only

C) The bond that results from the unequal sharing of electrons is:

a)polar covalent; b) nonpolar covalent; c) ionic; d) hydrogen; e) any of these would be correct

D) All of the following are an important characteristic of living things, except:

a) growth; b) development; c) metabolism; d) reproduction; e) all of these are important

E) Cholesterol, a steroid, is an example of:

a) a carbohydrate; b) a lipid; c) a protein; d) a nucleic acid;

e) all of these; ab) MARK A & B on the scantron...none of these

F) Water is a "heat sink", due to its:

a) high heat of capacity; b) high boiling point; c) high surface tension;

d)high heat of vaporization; e) any of these is correct

You will find questions like this on the quiz and midterm. If you can answer these and handle all of the terms and concepts on the study guide (which will be distributed soon), you will do well. If things aren't clear, again please ask.