

## Bi 253, Principles of Biology

### How to Do Well on the Lecture Exams

Revised Spring 2007

Here are some hints for doing well on lecture exams.

The questions will all be multiple choice or true/false where you fill in Scantron blanks. Some students are very good at this sort of test format, and others are not. Over many years of hearing students tell me they are 'A' students but getting 20% on the Bi253 exams, I have found some common mistake patterns.

- (1) Read each question completely and *then think about what the question asks*. A very common mistake is to scan the question for key words, then pick the answer that has the most in common with the key words you found. Here is an example:

Why do vertebrate herbivores have larger molars than carnivores?

- a) Herbivores tend to have large mouths and jaws.
- b) Molars are adapted to grind up plant material.
- c) Carnivores do not depend as much on molars given their diet.
- d) Herbivores and rapacious and must absurrate their radulas.

Many students will jump to answer (b) because of quickly reading ...herbivores....molars... and then think, OK molars for plant material... done!

Well, the question asked "Why do herbivores..." and the correct answer is (c) ... because of diet.

- (2) This sample question brings up another issue. Answer (d) is bogus – I made up the word absurrate, and radulas don't have anything to do with vertebrates. Some students feel offended that this is a "trick" answer. Please get over it. Students often choose (d) because they assume they have missed some critical term in lecture, so they pick the answer that in fact they are least sure about! These are not "trick" answers, rather they are to give you the rope necessary.... Well you get it.

- (3) Pace yourself so that you don't spend a lot of time hung up on one question. This can result in having to rush to finish at the end of the exam. If you are unsure after one minute of thought, narrow your choices as much as possible and mark those answers on your exam sheet (not the Scantron). Go on with the exam, and come back to that question later.
- (4) Indeed, the idea of narrowing choices is a very good strategy. Eliminate the known wrong answers, and spend most of your time deliberating amongst a smaller set of possibilities.
- (5) Most importantly, when you study always ask yourself – why is this material being presented? That is, there must be some point here I am supposed to learn. This is much better than just memorizing facts. For example, in the section on endocrinology we will learn the names of a number of hormones. Spending a lot of study time memorizing those names is much less effective than spending just a little time wondering why we went over a specific set of all the possible hormones. Could it be that they represent some general principles? What principles? Oh, what do you know, one is an example of a steroid hormone and another an example of a peptide hormone. Then, and this is critical, you should think again – hmm, are most hormones steroids or peptides? Are the peptides all very similar? I am much more likely to ask the question...

Almost all hormones are peptides, and just one or two are steroids.

- a) T
- b) F

... than the question...

Which of the following is not a hormone?

- a) testosterone
- b) indibulum
- c) estradiol 17B
- d) epinephrine
- e) cortisol

By the way, the correct answer to the true/false question is (b), there are plenty more than one or two steroid hormones. For question two the correct answer is also (b), and I made up that word (indibulum) too! Now I am not saying that I would never ask a question like "Which of the following is not a hormone?", just

that the first question is more likely and if you don't *think* about the material when you study for the exam, you will get dinged.

(6) Learning is a process, and it can only go on at a maximum rate. Your job as a student is to know the rate best for you. Some folks can cram a ton of material at the last minute, others take more time. We will be going through about 40 pages of text per week. This is not so much, as long as you don't fall behind. Reading or even scanning the material before lecture can be a huge help. When I am talking about a topic, and what I am saying you recall reading in the text, then you know it is not essential to write that down. This gives you breathing time to write down just the extra stuff. You only need to take notes on the additional material or additional explanation of the same material. Also, writing down important information (not just every word like a court stenographer!) is a very good way to *learn*.