EEB 2208: Study Guide

Below are some guidelines on what to think about while studying for the mid-term and final exams. These are intended as guidelines on how to think about the course material as you study. By this stage of your academic career I expect you to take responsibility for organizing your studying and you should not consider this to be a complete list of the things you need to consider. All of the material in the class is important, and I do not intend to identify what will be on the exam. The guide does, however, identify general principles that the course is designed to teach you and the exam will be designed to test your understanding of those principles.

Going into the exams you should be able to (in no particular order):

Extract the most important information on a topic. Both the discussion papers and poster project are designed to train you to identify and extract key results from a complex body of scientific information – in other words to determine what the "bottom line" is. I expect you to be able to apply those skills to my lecture materials as well. Ways to do this are to look at the things I spend a lot of time on in class and/or in my notes, issues that I mentioned repeatedly, or things where I said something like "this is important for you to understand" (☺). Developing concept maps for each section of the course is a good approach to making these connections.

Interpreting graphs. The ability to interpret graphical representations of data is a very basic skill in science. I do not expect you to remember every graph I have presented in class, though those that deal with conceptual issues and that I spent a lot of time on in class are things that you should know. But, I do expect that, if I give you a graph and its legend (whether you have seen it before or not), you should be able to determine what it shows (and what it does not).

Know basic factual information about all aspects of the topic. As discussed in lectures, to pass the class I do not expect you to memorize all the specific details of every example I've given. This level of knowledge is important if you want to get a top grade (i.e., based on the university's guidelines an A should be awarded only to those who are excelling at the subject, and I only give out As to people who meet that standard). To pass the class with a lower grade, I do still expect students to demonstrate a general working knowledge of all topics discussed, which means having a reasonable knowledge of factual information. For example, I would expect you to know that the number of species on Earth is probably somewhere in the order of 5-10 million (and perhaps higher, depending on how good our understanding of really small organisms is). I would not, however, expect you to know exactly how many.

Know examples for major concepts. I do not expect you to memorize/remember every single example I give you over the course of the semester. But, I do expect you to know examples that I've talked about at length, and that you will know at least a couple of examples for every major concept I have discussed. These do not necessarily have to be examples I have mentioned in class. They can also come from the textbook, the *Conservation in the News* articles I have been posting on Twitter (at #eeb2208), the poster session, or from your general knowledge; as long as I can verify that they are correct you will get points. Also, when I ask for a <u>specific</u> example then I really mean that it should be specific (i.e., use the species' name). Answers like "that bird with the green head" or "fish" are not specific enough.

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Apply concepts to new situations. Given that once you leave college you will be required to apply what you have learned here to new situations, I expect you to be able to take the concepts I cover and apply them to species, ecosystems, etc., that I have not talked about. [I realize that many people in the class will never work in conservation biology – my intent though is to test your general ability to apply learned knowledge (regardless of the field) to novel situations – something that most jobs involve.] Hence, if I ask you about a situation that sounds unfamiliar, even though you have been coming to class and studying the notes and text book, then it probably really is unfamiliar. In such situations, I will be looking for you to apply the knowledge you have learned in other contexts to the new situation described. This is what we have been doing in the discussion sessions, and at other times when I've asked you to draw on information from earlier lectures to explain something I am talking about, so there has been a lot of opportunity to practice. The ability to make connections between different parts of the material and then use it in new situations is one thing that tends to distinguish C/low B grades (i.e., "average/good", based on UConn definitions) from high B or A grades ("very good/excellent").

Connect material from class to real-world situations. Knowing theory is one thing, but if you cannot put it into practice it does little good. Throughout the second half of the course we will talk repeatedly about how to use the science of conservation biology to make practical conservation decisions. Consequently, I would expect you to be able to answer questions that relate to the actual application of concepts such as PVA, conservation genetics, reserve design, estimating extinction rates, etc., etc., to specific conservation problems. I might, therefore, describe a real world situation that we have not discussed in class and ask you to answer questions that require use of the knowledge I have covered in lectures.

Understand uncertainty. This issue will be a theme from the very beginning of the course (which, in and of itself tells you that I think it is important). I expect you to understand when there is uncertainty about things that I have talked about. Just as importantly, I expect you to be able to distinguish between situations where that uncertainty matters (e.g., because it leads one to the wrong conclusion or to poor decision-making) and when it does not matter (e.g., because conclusions would not change if there was less uncertainty).

As I noted above, this is not an exhaustive list of things that I think are important, but it identifies many of the broad themes that are at the forefront of my mind when I write exams. Hopefully, these notes are helpful when you study. As mentioned in class I will happily answer questions or meet with you before the exam. I will also hold an all-day on-line review session in the week before each exam (dates will be given nearer the time). For the review session I will stay on huskyct for most of the day and will answer any questions that are posted as they come in. Doing the review this way means that many more people can be involved and that there is a written record of my comments for people who missed part of the discussion to look at later on.

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