

EEB 2208 (Introduction to Conservation Biology)

Homework 4: review class material to date by “mapping” it

This homework is a little different from the previous ones as I decided that it was time for a break from answering exam-type questions and that I would instead give you a chance to review the information we've covered so far.

Why am I doing this? First, because there is a lot of evidence that frequently reviewing notes, and reconstructing them in different formats, can help cement knowledge and enable students to do better in assessments. Nonetheless, occasionally (so I've heard) students do not get around to doing this, cram the night before the exam instead, and then are disappointed to find that the exam was not full of giveaway questions. I'm sure that none of you are like this (just as I wasn't ...), but just in case, I thought I would give you an added reason to do the right thing. Second, educational research has shown that concept mapping and mind mapping (the two ideas are very similar) lecture material is an effective review method, especially for scientific subjects, so I thought I would introduce you to the technique if you are unfamiliar with it.

The assignment is to produce a one page (no more) “concept /mind map” summarizing the material from class so far. Lectures 1 and 2 included a lot of introductory material that may not fit with what we've covered since, so it is optional whether you include that or not.

What are concept maps and mind maps?

I will go over this in class, and provide examples, but the idea is to produce a graphical summary of all the concepts covered and the links between them. A lot of this should be intuitive from the hierarchical structure of the lectures and lecture notes, but you should not feel constrained by the way I have organized the information. Developing your own organization of the material and making new connections is part of what helps people to learn material. In particular, a mind map helps people get away from the simple linear hierarchy that is required in a lecture or a set of linear notes, and see connections between different parts of a course.

To create a map you should work through the following steps:

1. Identify approximately 10-20 key concepts that we have covered in the class so far. Organize these into groups of related ideas, and think about how you might organize them hierarchically within those groups.
2. From this list, identify 1 (or maybe 2, not more) overarching idea(s) that everything else relates to; this will go at the top or the center of the map. For example, the major concept could be *biodiversity* or *extinction* or *conservation biology*. Whatever you choose it should be something that makes sense to you as the central concept of the class so far (i.e., don't just pick what I suggested, unless it really works for you).
3. Identify approximately 4-6 secondary concepts that everything else we have covered can be fitted into. These are likely to correspond to the groups of related ideas that you generated in step 1. The exact number of groups does not matter, but if it is too few there will be no structure to your map and if there are too many the process will not help you organize the material. Both of these things will likely reduce the learning value of the exercise.

4. Draw a “map” connecting the overarching idea to the secondary concepts. This can be hierarchical, with the central idea at the top, or you can put the central idea in the center and have secondary concepts radiating out from it. If you think your secondary concepts are likely to have links between them, put them next to each other. I will show an example of each approach in class and have posted some examples on huskyct (see also the Wikipedia links below).

5. For each secondary concept, identify ~6 subtopics – these could be factual details (say, an equation or an estimated number), concepts, examples, etc. If, once you’ve done this, you feel you need to add a 4th layer of ideas, then go for it. But, remember, the map is supposed to be a summary of key ideas – it does not (and should not) include every bit of information covered so far.

6. Next, look for any additional connections (cross-links) between different parts of the hierarchy you have created. E.g., I may have mentioned a particular case study in two different lectures, while talking about two different things. If so, you might want to connect that case study to both concepts.

7. Finally, if you think it will help you, you can color code the diagram – e.g., put each secondary topic in a different color. Or, draw little symbols on each section to give you a visual connection to the information. This approach is not required and does not work for everyone. For a lot of people, though, it seems to help. (When I do this – and I often do something similar to organize ideas when conducting research – I find colors helpful, but symbols do nothing for me.)

More info on the two approaches here:

http://en.wikipedia.org/wiki/Mind_map

http://en.wikipedia.org/wiki/Concept_map

The map should be submitted as an attachment in huskyct before midnight on the due date (see homework overview document for detailed instructions). To complete the assignment and get the homework point, your map must:

- a) **Include at least 3 hierarchical layers (i.e., tertiary ideas nested within secondary, nested within your overarching concept).**
- b) **Include at least some material from each lecture topic (3-7). How much material is completely up to you, but the better the job you do, the better prepared you will be for the midterm.**

Beyond these basic requirements, we will not grade based on how much information is included, how pretty the map is (as long as it is legible), what approach you took, etc. For this assignment the main goal is simply to do the review.

You can create the map in any way that works for you. You can draw it on a piece of paper, scan it, and send it (if you have a smart phone there are free apps that turn the phone into a scanner and allow you to make a .pdf – I use one called CamScanner, which works well and allows you to email directly from the app). You can also just take a photograph of the drawing and email that as a .jpg. Or you can create the map electronically (e.g., with boxes and arrows in Word or PowerPoint). There’s even software available specifically for this purpose that you are welcome to use (though not required). Here is one site that some people have told me is easy to use: <https://www.text2mindmap.com/>.

IMPORTANT: Note that you must send your file in a commonly used format (.pdf, .jpg, .ppt, .pptx, .doc, .docx are acceptable). It is not the TA’s job to spend a lot of time trying to read files and I’ve specifically told her not to do so.

You are welcome to work with others in the class to come up with an organization (working in groups also has been shown to promote learning). But each individual should submit their own map.