ECOL 419 Course Profile

The course description for ECOL 419 (**Terrestrial Communities and Ecosystems**) can be found here.

Generally offered in: Winter semester

Prerequisite(s): Biology 313; and Biology 315 or Environmental Science 401

Antirequisite(s): N/A

Interview with Dr. Marco Musiani

In your own words, can you give a brief summary about what this course is about?

This course is about terrestrial communities and ecosystems. It has a lab component and lecture component. The lab component is practical, and the lecture component is more theoretical. The topics we will be dealing with include: structure of ecological communities, food webs, predator-prey systems, flux of energy or matter through ecosystems, and biodiversity and conservation. These topics build on what was learned in the prerequisite course, Biology 313. I will further expand on these topics, so as not to overlap with Biology 313 topics.

What is the main skill you want students to take away from this course?

To think in ecological terms. This is the idea of understanding interactions of species in an ecological system, as well as interactions with other environmental features of the landscape. Finally, another skill is to be able to figure out how those conclusions were achieved. This is not just through qualitative understanding, but also quantitative understanding of these interactions.
To summarize, understanding systems in ecological terms, which basically means figuring out interactions of species with each other and with the environment as well as understanding qualitative and quantitative bases for those concepts.

What aspect of the course do you think students struggle with the most?

What students struggle with the most is the quantitative aspect of this course. Some students struggle because they need to first understand the conceptual relationships between species and the ecosystem before they can understand the quantitative aspects of this. I try to have a nice blend between theory and example, so the quantitative aspects are less challenging.

What can students do to be successful in this course besides attending lectures?

Being curious, inquisitive, and contributing to dialogue we try to have during class time. Speaking with the instructors of labs would be helpful too. Finally, do not focus on memorizing the principles alone, try to understand them. Sometimes, doing your own research on Google Scholar helps you go deeper on certain topics.

When students have questions, they can ask the instructor and get an answer. However, instructors should not be considered as the only solution. When students search for an answer themselves, then they retain more knowledge because they have figured out a solution. Being inquisitive and figuring out answers yourself will help you retain knowledge.

Does this course have a lab or tutorial component? If so, what should students expect from that component of the course?

There is a significant lab component. They will have hands on experience dealing with organisms in a lab environment, and figuring out the same relationships that they will be learning about during lectures. Often times they will be viewing these organisms under microscopes. Students will also employ common techniques for quantifying physical, chemical, and biological characteristics of soils. They will also employ techniques for quantifying various ecosystem processes that occur in soils.

What do you think is the most effective way that students can prepare for an examination in the course?

The best thing they can do is to focus on concepts, not on memorizing. Again, by going deep in their search for answers, students will retain more knowledge and be able to respond to all the questions that will be posed on the assessments.
Often, the questions cannot be identical to the examples in class. They will deal with applications of the same concepts, so as long as they understand the concepts, students will be fine.

Is there a textbook for this course?

There is a textbook, but it is only recommended and not mandatory. I think it is a wonderful book to have. However, I do not think it is appropriate to impose that on the students for this particular course.

Aside from the textbook and lecture notes, are there any other resources that you recommend students use?

Absolutely. Labs are very structured and organized, and reading materials for the labs will be provided.

Do you have any other advice for incoming students taking this course?

Just come with a curious attitude and try to enjoy the course.

What is your favorite part about teaching this course?

I'm learning new things myself. This course gives me an opportunity to acquire current knowledge on these topics, which I am enjoying.

This interview transcript was edited for clarity and brevity