

BIOL 241 Course Profile

The course description for Biology 241 (**[Energy Flow in Biological Systems](#)**) can be [found here](#).

Generally offered in: Fall semester, spring semester

Prerequisite(s): None

Antirequisite(s): Credit for Biology 205 and Biology 241, or Biology 202 and Biology 241, will not be allowed

Answered by Mr. William Huddleston

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

Biology 241 is framed around the concept of energy and energy transformations. We typically start at the molecular level, talking about thermodynamics, then move through the cellular level to the organismal level and we end the course at the ecological level. So, we're talking about how energy is transformed at each of those different levels and how life on Earth needs and uses that energy.

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

It's really about how to process information. Lots of students come into the course and they're really good at memorizing facts, and as long as the facts all line up they're good at that "recall" stage. We want them to move beyond that, so not only are they learning the language and using the language properly, but they are then using facts to help problem-solve.

With that being said, is "applying knowledge" the area that most students in this course struggle with?

Yes, absolutely. It would be a good idea for students to get into groups and test each other, not only on factual recall and use of vocabulary, but also on using that knowledge to solve higher order problems.

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

Revisiting the lecture notes. We have learning objectives for this course, and the approach that we have taken is reading the textbook and other resources, and making some notes from them. Then, during lecture, we're sharing those notes with the students. All of our learning objectives and the way we approach those learning objectives can be seen through the lecture notes.

Students benefit from coming to lecture and getting the notes, and reviewing the notes soon and often. Not only does the content become familiar and understandable, but the lecture material from the notes can then be used to solve problems.

Does this course have a lab or tutorial component?

There is a lab component.

What should students expect to be doing in these labs?

A lot of the labs are about learning how to use standard equipment properly. Another focus is how to not only acquire data, but how to summarize and express it, and interpret what the data is telling you.

How are students evaluated in this course?

Mostly it's through exams. There are two lecture exams: the midterm and final, each worth 30% of the course grade. There is a lab exam at the end of the term, worth 10%. Throughout the term another 20% is from the labs, where there are usually weekly assignments. There are also some lecture activities throughout the term as well, which make up the last 10%.

What resources would you recommend students use to prepare for an exam in this course? Do exams solely cover lecture material, or both the lecture and lab material?

We have exams for both components of the course, but they are exclusive. So, only lab questions on the lab exam and only lecture questions on the lecture exam. Students can expect a thorough examination of everything they've covered throughout the term.

On the lab exam, there are typically ten questions. There are ten labs, so there's going to be a question set from each lab. The lecture exam is usually distributed equally, so the number of questions from each lecture topic are about the same.

Are there other resources that students can use besides the textbook and lecture notes?

For Biology 241, we put lots of material on the course D2L site, like practice questions, supplementary readings, and other related things. We have looked at and approved these resources for the breadth of knowledge and the focus that we want for this course. Sometimes students will go off on their own and look things up on the Internet, and get taken down the wrong path in terms of what we want them to know.

Do you have any advice for students about what to expect, coming into university-level biology?

Time management is going to be key. Things get out of hand really quickly, so not only do they have to keep on top of everything that's going on in lecture and lab, but also in their other courses. A lot of students will ask about extensions, make-up assignments, or exam retakes, and none of that exists in this course, and in university biology.

The last question is, do you have any funny or interesting stories from teaching this course, or anything else that you want to say about the course?

I've had lots of stories, but none of them are coming to mind right now. There's a huge diverse set of students that take Biology 241. For example, I've talked to students who haven't taken biology in a long time, students who are biology majors, some who are non-majors. I think all of us that are involved in teaching this course love that diversity. Students can talk to those around them and take part in that experience.

This interview transcript was edited for clarity and brevity.