

CMMB 343 Course Profile

The course description and winter 2020 syllabus for Cellular, Molecular and Microbial Biology 343 (**Microbiology**) can be [found here](#).

Generally offered in: Winter semester

Prerequisite(s): Chemistry 351 and one of Biology 311 or Medical Science 341

Antirequisite(s): N/A

Interview with Dr. Peter Dunfield

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

This is an introduction to everything in microbiology, so it is very broad. We cover topics from microbial ecology to systematics to genetics to pathogenesis. We hope to provide students with a solid base in diverse aspects of microbiology. **This course is the gateway to everything else in the field of microbiology, so it is critical to take it if you want to go on to more specialized courses** in pathogenesis, microbial genetics, environmental microbiology, microbiomes, or other areas. However, it is also intended for any students who are only generally interested in microbiology. **If you want to take only one course in microbiology, this would obviously be the one.**

Does this course have a lab or tutorial component?

There is a **lab component**. The lab introduces fundamental **microbiological lab techniques** like how to **handle, culture, and describe microbes**. It also develops some soft scientific skills, including how to present, analyze and discuss data in microbiology.

What is the main skill you want students to take away from this course? What skills should students expect to be learning in the lab?

The course is about two things: in the lectures you are developing a general knowledge base in all areas of microbiology, and in the lab you are learning the most fundamental skills like aseptic handling of microbes. **Intellectual and practical skills**- these are the two main things I would like students to get out of the course.

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

The exams. **The exams are entirely multiple-choice**. Because there are so many students, it's really all we can do. Students tend to do very well on laboratories, which are set up so they can devote more time to them. Obviously, during exams students are under more stress, so it's sort of a "can I time-manage and pull the information out of my head?" situation. So, certainly the exams tend to be harder for students.

With that being said, are there other resources that students can use for studying, besides lecture notes?

We have a textbook. **The lectures do follow the textbook quite closely**, so students can always get background information for lectures. We also have a certain number of other resources (videos, animations) that we will point students to. However, if you closely follow the lectures and the textbook, **that should be enough to do well** on the exams.

What type of lecture notes do you provide?

We usually post all the lecture slides, except where prohibited by copyright. As most things come from the textbook, I would say that 90-95% of the slides are posted directly. But these are posted with minimal commentary or annotations. They are usually just figures, so students really should come to class and take notes on the lecture material that we cover.

How are students evaluated in this course?

There are **two midterms, a final, and the laboratory component**. The lecture material is purely tested through exams, there are no lecture assignments. The lab material is tested through lab submissions and practical examinations.

What advice would you give to students who want to do well in this course?

Attend the lectures and the laboratories. If students follow along carefully and do the readings, they should be fine.

Do you have any interesting memories about teaching this course, or anything else that you want to say about this course in general?

Microbiology is something that affects everyone, sometimes we notice it and sometimes not. Every year I start off the course by looking for recent news headlines in microbiology that students may have noticed. Most are panic headlines about virus outbreaks or about food poisoning in our favorite fast food restaurants. But some are more fascinating, such as: Is there microbial life on Mars? How did microbes clean up the Deepwater Horizon oil spill? How can they be used in biofuel development, etc. Microbes are not only bad!

This interview transcript was edited for clarity and brevity