Learning Outcomes

Q: Describe 2-3 things you learned this term, or how you changed and grew due to this course.

1. I learned a lot of really interesting things about the interactions between mammals and bacteria. This class has added another facet to my understanding of the world.

2. I learned many things about the microbial communities of many mammals. I don't know if I can narrow it down to simple descriptions, but I've found that I can draw on the information I've learned in this class and use it in real life. For example, when I feel unwell, I might think about how something I've done could've impacted my microbial communities, and I think it's cool that this class has caused me to start thinking in this way and wondering why my body reacts to things in certain ways.

3. I feel like I learned so much this term and the microbiome is something that affects us on an every day basis so I feel like the stuff I learned is stuff that I will always remember because it feels really relevant.

4. Personally, I have always struggled with scientific literacy, and my ability to read and interpret studies in STEM fields has always been a weak spot. Over the course of this term, I feel the assignments helped me practice this skill, to the point that I feel I could comfortably read, interpret, and communicate a scientific article to lay audiences.

-Much of the material focused on microbiomes, which I had no experience studying. However, over this term, I have learned much more about how these small environments function, how bacterial disease is spread, and how small changes in microbiome makeup can have drastic effects on one's body.

5. I learned how to read and decipher scientific journals and documents. I also learned the relationships of microbes in different host related communities and how microbial communities affects the health of the host.

6. I gained an understanding of how our environment and the things we come in contact with impact human health and the differences in microbial communities on different parts of the human body.

7. This course made me much more aware of the small ways in which our daily lives are influenced by microorganisms and healthy ways for me to engage and interact with them.

8. I learned the basics of the mammalian microbiome and grew to gain a better understanding of the field of science.

9. This course helped close the gap for me between science and everyday life, and what I learned I can apply to other classes outside of science and my life in general.

10. I learned that science can actually be fun and interesting. I have always disliked studying science, and expected to dislike this class but instead I greatly enjoyed going to this class every time. I also learned that a good way to comprehend science is to attempt to put it into terms that everyone, no matter their experience, could understand.

11. I learned about how the microbiome can impact overall health, the science behind how animal microbiomes are studied, and the different technology that is used to sequence these samples.

Teaching and Learning Elements

Inclusiveness - The degree to which I felt welcome and respected was:

- Beneficial to my learning: 92% (12)
- Neutral: 8% (1)
- In need of improvement: 0% (0)
Instructions and Grading - The degree to which I understood instructions for assignments and how I was graded was:

- Beneficial to my learning: 100% (13)
- Neutral: 0% (0)
- In need of improvement: 0% (0)

Feedback - The degree to which I received feedback on my work in an accessible format and in time for me to make changes and improvements was:

- Beneficial to my learning: 92% (12)
- Neutral: 8% (1)
- In need of improvement: 0% (0)

Challenge of the Course - The degree to which I felt challenged to dig in and learn a lot in this course was:

- Beneficial to my learning: 62% (8)
- Neutral: 38% (5)
- In need of improvement: 0% (0)

Quality and Accessibility - The degree to which the course texts, notes, slides, videos, exams, projects, etc. were high quality and accessible was:

- Beneficial to my learning: 92% (12)
- Neutral: 8% (1)
- In need of improvement: 0% (0)

Support - The degree to which I felt supported by the instructor was:

- Beneficial to my learning: 100% (13)
- Neutral: 0% (0)
- In need of improvement: 0% (0)

Engagement - The degree to which I was regularly engaged in my learning was:

- Beneficial to my learning: 77% (10)
- Neutral: 15% (2)
- In need of improvement: 8% (1)
Active Learning - The degree to which I was invited to be an active participant in my learning during either face-to-face classes or online was:

- Beneficial to my learning: 54% (7)
- Neutral: 46% (6)
- In need of improvement: 0% (0)

Interactions between Students - The degree to which I had opportunities for high quality and collaborative interactions with other students was:

- Beneficial to my learning: 62% (8)
- Neutral: 38% (5)
- In need of improvement: 0% (0)

Instructor Communication - The degree to which communication with the instructor (during office hours, or via email, phone, discussion board or other interactions) was positive, timely...

- Beneficial to my learning: 92% (12)
- Neutral: 8% (1)
- In need of improvement: 0% (0)

Most Beneficial
Select the one teaching element below that was most beneficial for your learning this term.

<table>
<thead>
<tr>
<th>Element</th>
<th>Percent of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusiveness: I felt w...</td>
<td></td>
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<tr>
<td>Instructions &amp; gradin...</td>
<td>15% (2)</td>
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<tr>
<td>Feedback: I received...</td>
<td>15% (2)</td>
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<tr>
<td>Challenge of the cour...</td>
<td>23% (3)</td>
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<td>Quality and accessib...</td>
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<td>Support: I felt suppor...</td>
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<td>Engagement: I was r...</td>
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<td>Active learning: I was...</td>
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<td>Student interactions:...</td>
<td>0% (0)</td>
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<tr>
<td>Instructor communic...</td>
<td>8% (1)</td>
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<tr>
<td>Other: I think that _...</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Not applicable</td>
<td>0% (0)</td>
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Percent of Responses

Most Beneficial

What's Been Beneficial to Your Learning? (10 comments)

Q: How have the transparent instructions and grading practices been beneficial to your learning?

1. Every assignment was very clear and well laid out in what was expected from us. I also felt that I got beneficial feedback when needed. The teacher was also fully accessible and flexible when giving help.

Q: How has the timing, format (online comments, rubric, handwriting feedback, audio, etc.) and accessibility of the feedback provided on your work been beneficial to your learning?

Q: How has the level of challenge of the course been beneficial to your learning?

1. I had to be actively engaged in the texts and information to understand what was going on which made me more interested in the subject.

2. I learned about a lot of information that could be applied in the rest of my life.

Q: How has the quality and accessibility of the course content, materials and assessments (texts, notes, slides, videos, exams, projects, etc.) been beneficial to your learning, or your ability to demonstrate your learning?

1. There was such a plethora of information, and being able to refer back to specific pieces of lectures was incredibly helpful in solidifying that knowledge. It was clear how much effort was put into the learning materials.

2. Dr. Pellegrini was charged with the very difficult task of designing an entire curriculum around a class of scientifically illiterate students. Despite our collective shortcoming though, I always felt the lectures, powerpoints, discussions were accessible, even if they challenged me.
Q: How has the support provided by the instructor been beneficial to your learning?

1 The instructor took care to understand the knowledge of each student and tailored her lessons and assignments to them. It was a very personalized learning experience that I benefited greatly from.

2 They understood each student's position in the class, and worked hard to make the course enjoyable and accessible for everyone, regardless of previous science background.

Q: How have the engaging assignments, projects, etc. been beneficial to your learning?

1 I feel as though while I'm not a "science person" the lectures were really interesting to me, and I actively listened and wanted to understand course material. This interest that the lectures generated motivated me to try and understand everything.

2 As a non-science person, I would get lost during lectures sometimes since I didn't always fully understand a topic. When I had to summarize article, I actually had to understand them and communicate their findings—it was a good way to force myself to understand the material and my ability to understand scientific research improved a lot.

Q: How has active learning during either face-to-face sessions or online been beneficial?

Q: How have the high quality and collaborative interactions with other students been beneficial to your learning?

Q: How have positive, timely and meaningful instructor communications (during office hours, or via email, phone or discussion boards or other interaction) been beneficial to your learning?

1 I knew what things to prioritize during the class which proved to be very beneficial in taking in the information that the professor thought was necessary for me to learn.

Q: What other component of the course has been beneficial to your learning?

Needs Improvement
Select the one teaching element below that could most use some improvement to increase learning?

- **Inclusiveness:** I did not...
- **Instructions & grading:** I did not r...
- **Feedback:** I did not r...
- **Challenge of course:**...
- **Quality and accessibility:**...
- **Support:** I did not fee...
- **Engagement:** I was n...
- **Active learning:** I was...
- **Student interactions:**...
- **Instructor communication:**...
- **Other:** I think that __...
- **Not applicable**

Percent of Responses

**Needs Improvement**

**What Could Use Some Improvement?** (9 comments)

**Q: How can the environment of the course be improved to be more inclusive?**

**Q: How could the instructions for assignments and the clarity of grading practices be improved?**

1. The mind-map assignment could have used slightly more clear directions.

**Q: How could the timing, format (online comments, rubric, handwriting feedback, audio, etc.) and accessibility of the feedback on your work be improved?**

**Q: Was the course too challenging or not challenging enough? How could it be improved?**

1. It was very challenging at first, because it was initially made for biology students, but now as I'm grasping the material, I wish it was a little more challenging in that more was demanded of me. I wish there were more connections to the real world and more questions that required scientific knowledge and critical thinking.

2. I think that there could have been some small quizzes in the class and not just assignments since I felt like I didn't need to have a good understanding of the course material in order to get an A in the class.

3. Despite me not being very good at science, I felt like I could have been a tiny bit more challenged by this course.

**Q: How could the quality and accessibility of the course content, materials and assessments (texts, notes, slides, videos, exams, projects, etc.) be improved?**
Q: What additional support could the instructor provide to help you learn?

Q: How could your engagement in assignments and projects be improved?

Q: How could active learning during either face-to-face sessions or online be improved?

1. There were in class discussions but I personally have difficulty at times putting myself out there in larger class discussions and would have liked some smaller group discussions at times as well.

2. Perhaps have more in lecture activities or discussions?

Q: How could the interactions with other students be improved?

1. I learned the most from our discussions and would liked to have had one or two more during the term!

2. Some type of group work or project.

Q: How could instructor communication (during office hours, or via email, phone or discussion board or other interaction) with students be improved in regard to positivity, timeliness or meaningfulness?

Q: What other aspect of the course could use some improvement?

1. I kind of struggled with the concept maps, but in the end I think they helped me wrap my head around the information we learned in class as well as the homework really well, so I think maybe making a concept map at the end of every unit or just having students write little summaries of not only the articles but the overarching topics in general might help to bring everything together and make it cohesive.