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### Mid-program Reflection

In the IES major, there are three main learning goals for students. The first goal is to explain the interconnections among physical, biological, and social/cultural systems of the natural world. The second goal is to develop the ability to collect, organize, and evaluate scientific information through experiential learning. The third goal is to demonstrate the ability to communicate science effectively to diverse audiences. In this reflection, I will discuss my thoughts on my progress towards these goals.

I feel like the courses I have taken so far have helped me achieve the first goal. I've taken courses such as CHEM 112, BIOL 251, ENSC 101, and others that have helped me develop an interconnected understanding of the natural world. For example, I remember being fascinated with learning about chemistry because I believe that chemistry is the field of science that connects all the fields of science together. I learned attentively in CHEM 112 which helped me develop my scientific reasoning and problem solving skills. BIOL 251 was my Ecology and Evolution course in which I learned about how living things interact with each other and their surroundings. In my BIOL 251 course, we learned more about the connection between social/cultural systems and environmental issues. For example, we examined how systemic racism impacts urban ecology and how marginalized communities are affected. ENSC 101 was my first environmental science course that I've taken and it provided me with a solid foundation of understanding the concepts of major environmental issues. By combining what I've learned in

the courses that I've taken so far, I am now able to explain the interconnections between physical, biological, and social/cultural systems of the natural world. Therefore, I think that I am progressing towards the first goal well.

The courses ENSC 201, BIOL 288, and BIOL 250 have prepared me for the second goal. In my ENSC 201 course, I learned how to create and design a scientific study on soil microbes as part of my coursework. I also learned how to analyze data in order to help me create my scientific study on soil microbes. This experience has provided me with valuable knowledge on creating and designing a scientific study and analyzing data. In my BIOL 288, I critically read and analyzed scientific articles and discussed my conclusions with my class members. These assignments allowed me to practice and refine my critical analysis skills and it made me more confident with analyzing the findings of scientific articles. BIOL 250 was definitely important for me because it helped me evaluate scientific information through hands-on experience. I learned several concepts in BIOL 250 that were connected to my lab work which helped me connect what I was learning in the classroom with what I was doing in the lab. These courses and several others have helped me develop my skills as a scientist. Because of this, I think that I am progressing toward the second goal well.

For the third goal, I feel like my classes in high school and at Longwood have helped me reach this goal. I took a lot of English and science classes in high school which allowed me to develop my writing skills and become a proficient writer. Therefore, when I got to Longwood, I already had a solid understanding on how to write an effective research paper. I do think that classes such as ENGL 165 and BIOL 120 have helped me further develop my writing skills and now I feel very confident in my writing abilities. Longwood has also really helped me develop my presentation skills as well. At Longwood, I've taken several classes where I have created and

given presentations for my classes and even in the Fall Research Symposium. I feel like these experiences have helped me refine my presentation skills and I feel like I am very capable of giving presentations now. Therefore, I am progressing toward the third goal well.

In conclusion, this reflection has helped me organize my thoughts on my progress in the Integrated Environmental Science program at Longwood. Overall, I think that I am doing well and I am making good progress towards the three main goals of the IES program.