**ABE 490 Semester Report (1174 words)**

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As I entered this semester, I knew that I wanted to pursue a Ph.D. in bioinformatics focusing on microbial ecology following my graduation from Purdue. What I did not know was how to go about doing this; a variety of visiting lecturers to my ABE 49000 class have helped me make a plan to pursue my goals. Specifically, I was informed on how to best present myself to potential graduate schools via applications and interviews from Veronica Rahim and Anthony Cawdron, what to consider in a graduate school from the graduate student panel, as well as a variety of options for careers that I could pursue after receiving my Ph.D from speakers such as Dr. Ladisch, Mike Cox, and Dr. Mike Veenhuizen. In addition, I learned about the benefits of obtaining a PE license from Dr. Drnevich.

At the very beginning of the semester, Veronica Rahim discussed resume writing and interviews. From her, I learned how to present myself to graduate schools on paper before they have a chance to discuss my potential with me. I was able to edit my resume to be more organized as well as contain more content and less whitespace so as to present more information to deans of admissions on one page. I also learned which experiences to highlight from my time at Purdue as well as any important accolades I received in high school or through community involvement. Ms. Rahim also discussed interviewing for a job. While I do not plan on interviewing with a company any time soon, I am able to apply her advice to my graduate school interviews next semester as well as any negotiations I may have to do in determining which offer is the best for me. I have been told by mentors that I can negotiate my graduate school offers to include moving expenses and new technology to help me in my education but have never been taught to negotiate so this was a valuable lecture.

The lessons I have used the most thus far have come from Anthony Cawdron. His talks on professional etiquette and presenting yourself have proven invaluable. Since his lectures, I have attended a scholarship reception as well as an academic conference which included many networking opportunities and meals. At each of these events, I have employed the lessons he spoke of, including the correct way to introduce oneself and hold objects during a networking or cocktail hour as well as the polite way to conduct oneself at a professional meal from arriving at the table to eating and sharing the food on the table to excusing yourself to leave.

The graduate student panel was the most interesting to me as it directly related to my post-graduation plans. The students provided great advice for taking the next steps in my applications as well as what to consider when applying to and selecting a graduate school. I learned a lot about how to reach out to potential mentors and what to look for in a mentor. As a hopeful Ph.D. candidate, I found Gabe Wilfong’s advice most applicable to my experience.

Aside from academia, I learned about two potential career opportunities that I could pursue following my graduate education: working for the government and creating my own private consulting business. Mike Cox’s talk about working for the government in environmental preservation was interesting as I have considered pursuing a career in a government agency related to the environment such as the EPA. While Mr. Cox’s career did not exactly line up with my interests, I was curious to know more about the opportunities for internships and careers in the government as well as any opportunities related to environmental policy that I could look into. He provided additional information regarding these opportunities at the end of his presentation which I have researched and plan to apply to during my time in graduate school. In addition, Mr. Cox talked about the importance of environmental preservation and restoration, specifically following natural events such as large storms. With even greater events looming over our heads due to climate change, I learned that environmental preservation and restoration is not just necessary for the wildlife of an area, it is necessary for humans and society of the area as well. These events have a massive impact on the agricultural efficiency and transportation as well as many other aspects of daily life that we take for granted. By studying microbial ecology, I can learn about the effects of these events on the microscopic communities within ecosystems and learn how to reverse any large changes to these communities in order to best help the ecosystem recover via restoring nutrients like carbon and nitrogen to the soil and water.

Dr. Mike Veenhuizen discussed his practice as an engineering consultant. I was interested to hear his talk as my father has also recently started his own consulting company. I am interested in learning about how I can apply my graduate education to this career path because I would enjoy the flexibility and empowerment of being my own boss and taking on projects that excite me and can make an impact on an issue that I care about. Dr. Veenhuizen discussed his dissent toward government regulation regarding his work with respect to the environment and the treatment of the animals he works with. While I understand his concerns, I feel that regulations are important for environmental preservation, which as I discussed previously, are important for human communities and the wildlife in an ecosystem, as well as ethical standards for the treatment of living things. I learned in this lecture that ethics and regulations might clash with my research and career goals, but that I must come up with another route which satisfies these restrictions.

Finally, one lecture that made me think more about the application of my engineering education following my graduation from Purdue was that of Dr. Drnevich about obtaining a Professional Engineering license. I do not envision myself in a career that would require a PE license, but I now understand the benefits of receiving one. It would be a great qualification to have if I decide that research is not for me and taking the first steps toward obtaining it now is ideal. I also like that the PE encourages lifelong learning. It is something that I plan on working toward whether I pursue an engineering career or not and I think that it is important for all people in all careers and industries.

Overall, this semester I learned how to present myself properly on paper and in person, I learned about different career paths I can take following my graduate education as well as the challenges that these careers may have me face, and I learned about the importance and advantage in pursuing my Professional Engineering license now while I still have my engineering education fresh in my mind. ABE 49000 has been a valuable class this semester and I look forward to applying all of the lessons I learned through the wonderful guest lecturers.