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MEMORANDUM

DATE: April 28, 2016

TO: Dean Goodwin

FROM: Steven J. Sandler, Department Head

RE: Strategic Planning for Undergraduate Advising and Student Experience

Introduction

Microbiology is a diverse field comprising many aspects of multiple disciplines. These include virology, bacteriology, parasitology, infection & immunology, host-microbe interactions, ecology, environmental science, physiology, genetics, evolution, and bioinformatics. While the microbial aspects of these disciplines are often stressed in Microbiology, it is often their relationship to human and animal health, biotechnology, and the environment as well as basic eukaryotic and prokaryotic biology that is the focus of our research. Providing students with the right balance of these is constantly being revisited and re-adjusted.

The Department of Microbiology recognizes the diversity of our students, their different backgrounds, their interests, and their future goals. We want our students to graduate within four years and then be equipped to “hit the ground running” in graduate school, medical school, government positions, or the labor force. We want our students to graduate confident in their Microbiology education and training.

The field of microbiology has grown for the past two decades due to technological improvements and new discoveries. Examples include emerging infectious diseases around the globe (SARS, MERS, Ebola, Bird Flu), new medical treatments (virotherapy), biotechnology (biofuels, industrial precursors), climate change, and the search for life beyond Earth. The visibility of microbiology in society and its value to industry and medicine have risen such that high school students are now noticing microbial science as a field of study at increasing levels. The number of Microbiology majors has risen steadily over the past five years to ~200 with room to grow if the conditions are right. 15% of first-year students choose Microbiology as their major, 35% choose it during their second year, and the remainder either choose it later or are transfer

students from other institutions. The majority of our graduates go into biotechnology, medicine, graduate school, and public policy.

For most of our majors, microbiology is a hands-on laboratory or field experience. Our students getting experience with cutting-edge techniques is paramount for our training. Therefore, laboratory classes are extremely important and are the focus of our action plan described herein. While most of our students are on a “laboratory trajectory”, we also recognize that a few students are seeking a different trajectory that will take them into public policy, journalism, and community health. We try to provide these students with some educational options.

Description of Current Advising

Our current method of advising is historical. We have a single advisor, Shelley Thibodo, that has been doing the Departmental advising for more than 25 years. Our current number of majors is about 250. Shelley advises this number of students with some help from office staff for scheduling. Shelley Thibodo is a microbiologist by training. This is advantageous because she can understand many of the problems the students deal with progressing through the major. The vast majority of Microbiology majors graduate after 4 years.

When students initially choose Microbiology as a major or come in as transfer students, they are given a welcoming email to come and speak with the Microbiology advisor. At this meeting, their general plan is gone over. Shelley meets with the students every semester to review their progress. She not only spends times trying to identify students that are not doing well scholastically and tries to help them, but also tries to identify students who are doing well and tries to give them extra advice to take their experience to a higher level. Her discussions with students often involve life issues. When appropriate, she is very adept at pointing students to College Level and University Health Services.

While the Department advising effort is largely aimed at helping the students navigate the University and Microbiology major, some time is also devoted to career training and career advising. Our Junior Writing Class helps students learn to write CVs and cover letters. Shelley also spends with students on how to interview for jobs. She directs students to Nessin Watson and Rick Robar at the College to help find Internships and Co-ops. Students who are working in labs often get excellent advice from the faculty concerning jobs and graduate programs. While we are sure the faculty would be available to talk with any interested students, the ones getting this advice seem to be mostly the ones that are in laboratories of these faculty.

Shelley also has a self-made recording system of students after they have graduated. Many graduates of our program who are now in industry, email Shelley and ask her to refer students to their companies. Unfortunately, a lot this recording and networking is carried around in Shelley’s head and needs to be formalized.

The Senior Exit Survey offered a few opinions that that our methods of advising were generally positive and worked well for them. Unfortunately, there were not enough replies of a constructive nature to use in developing future plans.

Analysis of Advising

In our discussions for this “Looking in the Mirror Strategic Planning Exercise”, we envisioned at least two extreme models of advising: 1) where all the student advising is done by a dedicated advisor(s) and 2) where the faculty take on a set of students and do the advising. Hybrid models are also possible where a dedicated advisor aids the faculty in their advising of their set of students. While our Department has only followed the former model in recent years, we took this opportunity to consider both positive and negative aspects of both models. We concluded:

1. The Single Advisor Model allowed for a more consistent flow of information to the student. This includes enforcing the rules, making the interpretations of the rules and making exceptions to the rules. It is often difficult to get consistency across many different faculty because they think differently and solve problems in different ways (this is what faculty do best).
2. The Single Advisor Model is more efficient. This works on many levels. There are many meetings that advisors now attend at University and College Level. It is difficult to see how many faculty could attend all of those meetings. They can see trend in students that may be missed by having many Faculty advisors.
3. The Single Advisor become expert at serving the students. While faculty can be groomed for this, they are burdened with other duties (teaching, research and other types of service). It is also easy to see that faculty will need to “re-create the wheel” many times solving a single type of problem.
4. The Single Advisor becomes a focal point for recording student information and tracking. With multiple faculty this can be more burdensome.
5. Faculty have strengths in advising for career choices and graduate programs. If one has a Single Advisor though, it is important that they have a degree in Microbiology. This way they will be very familiar with student’s problems because they themselves have had to transverse similar issues.
6. When talking about advising there is no substitute for the personal touch whether it be faculty or a Single Advisor.
7. It is possible that a faculty coordinator could help with some of the consistencies problems mentioned above.

We also thought about “Peer” advising as model for advising. This could be done with faculty or a Single Advisor training these students. This is time consuming and not efficient because Peer advisors do not stay long (they graduate) and cannot take responsibility for the advice they give. At some point the students who get peer advice must consult with a “real” advisor to get information that they can rely on.

Our analysis of our Single Advisor model is that it has worked well for us in past. This has been true, however, because of a few very important reasons: 1) We had an excellent Single Advisor who had the appropriate people skills to be able to talk to the students and advise them, 2) She was a microbiologist by training, and 3) We had a small enough small enough numbers of Microbiology Majors such that a single person could advise all of them with some help from the office staff. Our advising program, however,

was not strong in development and recording of metrics that might help predict students with problems or track students after graduation.

Will the Single Advisor Model work for us in the future? We will have an increasing number of majors as there has been consistent growth in the number of majors and our Single Advisor who has been very successful in the past will be retiring in a few years.

Action Plan –No Additional Resources

We feel we can do more to reach out to our majors both before they graduate and afterwards. We can do this by creating an Advising Tab on our website where basic advising information can be listed and updated. We can also make an Alumni Tab put on our website that will encourage people to update their information after they graduate. We can also sponsor a Microbiology Facebook page where just people who have graduated from the Department can network. We plan to start taking advantage of more of the online systems that University has instituted like SSC (Student Success Collaborative).

We need to start grooming a new Single Advisor to replace Shelley Thibodo when she retires. A person who is currently will to do this has been identified. Her name is Heather Reed and she is currently a part-time lecturer in the Department. A current office staffer will have to be trained in recording some of the metrics needed to track the students before and after graduation.

Action Plan – With Additional Resources

As the numbers of majors grow, we will no longer be able to adequately advise the number of students that we will likely have in a few short years. It will be necessary to hire either a second advisor or a part-time or full-time staff person to aid the advisor.