Florida Atlantic University

Biological Sciences Department

Program Review

March 22, 2015

Review Team:

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OVERVIEW

The team of Dr. Lynne Fieber, Dr. Donald Edwards, and Dr. Michael Horswell reviewed) $ 8 ¶ Department of Biological Sciences on March 15-17, 2015. Ms. Lynn Sargent, Executive Assistant to the Dean of the College of Science provided the reviewers with a self-study and a detailed itinerary. Ms. Marjorie Cazeau provided logistical support. Additionally the review team met (in approximate order) with:

- Rod Murphey, Chair of Biologi1s
- Ingrid Johanson, Senior Associate Dean for Student Affairs
- Evonne Rezler, Assistant Dean for Assessment
- Ed Pratt, Dean of Undergraduate Studies
- A group of senior (tenured) faculty
- A group of non-tenure track faculty and junior faculty
- Michele Hawkins, Associate Provost for Planning and Budget
- Deborah Floyd, Dean of the Graduate College
- Daniel Flynn, Vice President for Research
- Graduate students in Biological Scienc es
- Undergraduate majors in Biological Sciences.

For the names of all the individuals met, see ³People Met O Lin ´ Appendix.

More formally, the review team was asked to identify the steps needed for significant L P S U R Y H P H Q W L Q W K H G H S D U W P H Q W ¶ V H I I H F W L Y H Q H V V D instruction. We were also asked to respond to the points raised towards the end of the self-study, in the sections on Strengths and Opportunities, Weaknesses and Threats, and Resources, and Future Directions. We have attempted to address these in the context of the discussions we had on these issues with the students, faculty, and administrators whom we met.

Department and University Strengths

Collegiality. Progress in developing the strengths of the department and university

Retention rates. A primary challenge facing the Department is the failure to retain Biology majors until graduation. According to Fig. 4 in the self-study, the number of Biology majors in 2013 was lowest among the second-year students, and greatest among the fourth-year class. If these numbers reflect the trend of each student class over time, the data show that the number of Biology majors who start at FAU as freshmen falls by 50% over three years, while transfer students account for the later rise. We were told that many of the students who drop the major also leave the university; the university is then penalized by the state for the lower retention rate.

Two reasons for the loss of students who begin their career at FAU were suggested to us: failure to progress in the major and personal plans to spend only a year or two at FAU before transferring elsewhere. The undergraduates we interviewed told us that many students begin their career at FAU already planning to transfer to the University of Florida or Florida State University. There are many possible reasons for these plans, including the family tradition, and differences in campus life, reputation, and tuition and research opportunities.

We were told that many students may fail to progress in the major because they are either not prepared for or simply not enthusiastic about the series of chemistry, physics and mathematics courses required early in the career of a biology major. A large fraction of Biology majors declare their pre-med status, and the Biology curriculum is arranged to accommodate them. Premedical student

RECOMMENDATIONS

1. Continue to build research and instruction on the Boca, Jupiter and Davie campuses along the lines already established.

2. As soon as possible, develop a reliable, efficient transportation system between the different campuses for students and faculty.

3. Support the sense of community in the Biology department by developing institutional habits and traditions that support it, such as a monthly departmental day on the Boca campus that all are expected to attend.

4. Do not offer admission to underprepared students. Consider limiting future University growth in the largest undergraduate major to enable the faculty to plan for orderly instruction in this discipline.

5. Develop a first semester, 1 credit course that introduces first year students to exciting developments in the life sciences, explains the need for tools and concepts from the hard sciences and mathematics, and identifies careers pathways in the life sciences other than pre-medicine.

6. Create course sequences and major/minor combinations that lead to degrees in Biology/public policy, Biology/law, Biology/business and finance and non-profits.

7. Hire additional faculty or non-tenure track instructors to reduce the student/faculty ratio. Create a formal faculty mentoring program.

8. Consider course structures that increase the interaction of students and instructors; the µ U H F L W D W L R Q V H F W L R Q ¶ L V R Q H S R V V L E O H P R

9. Bring advisement for sophomores and upper class students back to the department.

10. Engage the better students in peer support activities by developing an undergraduate interest/service club.

11. Consult the better graduating seniors about what did and did not work for them, and how it can be improved.

12. Supplement the anecdotal accounts of students with data from the university to identify the roadblocks to timely graduation and how they might be cleared.

13. Strengthen research productivity by encouraging more interdisciplinary ties with other departments and colleges and by improving the graduate student support package offered to PhD and MA/MS students.

CONCLUSION

The Department of Biology accomplishes remarkable feats of instruction, research, and external funding across campus distances with limited resources and little control over the growth of the undergraduate major. Our recommendations for the future are to promote a sense of inclusion for Biology faculty, staff and students on all campuses by regularly exercising their common bonds. We further urge The University to enable Biology to create ownership practices for early undergraduate enrollment, advising, and course content that may improve freshman retention and graduation.

APPENDIX

List of faculty and students with whom review team met. (attached excel spreadsheet)